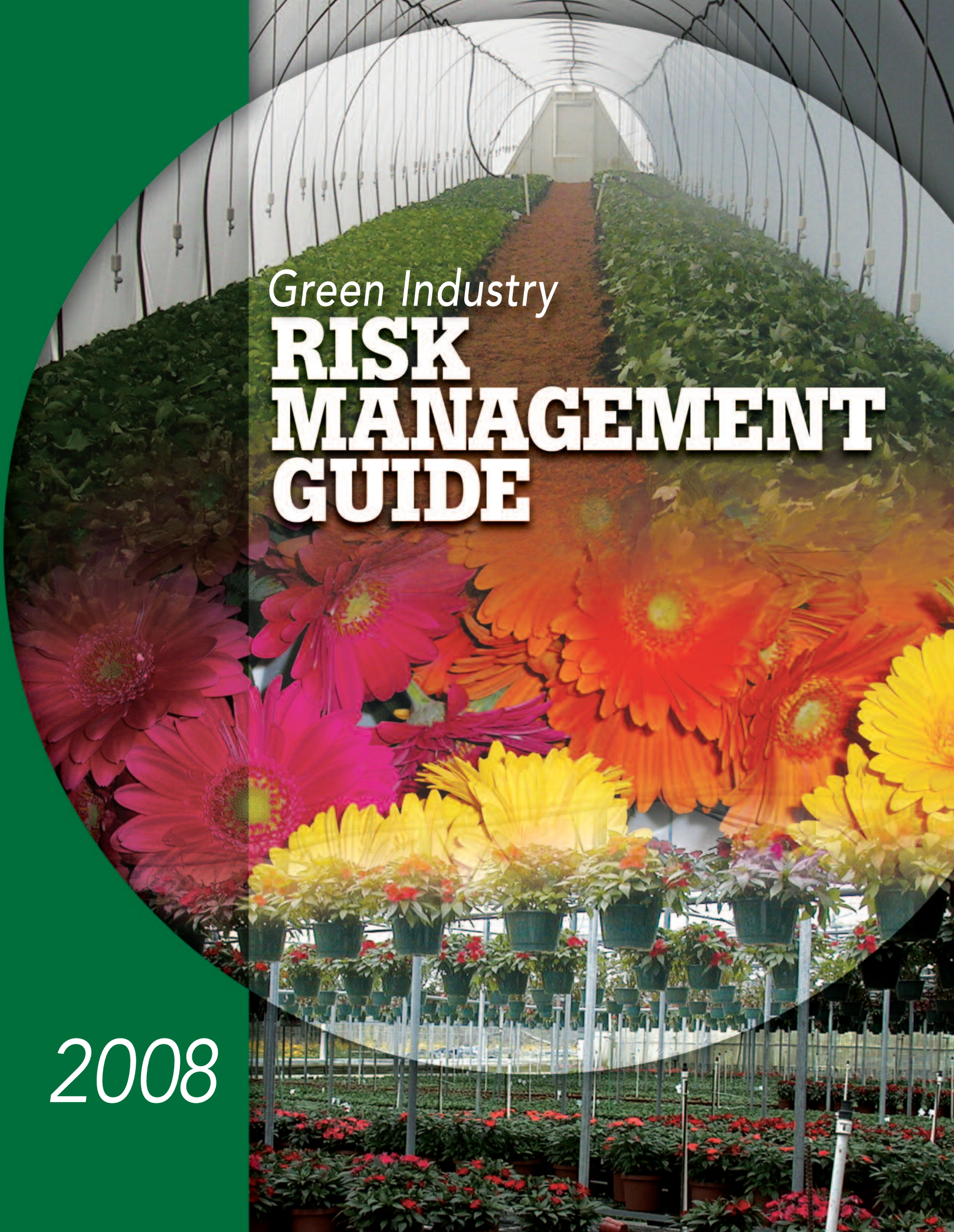

Green Industry

RISK MANAGEMENT GUIDE

2008

Green Industry RISK MANAGEMENT GUIDE

PUBLICATION OF
NATIONAL CROP INSURANCE SERVICES®

National Crop Insurance Services (NCIS) is a not-for-profit crop insurance industry trade association located in Overland Park, Kansas.

This *Green Industry GUIDE TO RISK MANAGEMENT* is intended to be a general introduction to risk management principles and practices for participants in the Green Industry. It consists of both new and existing educational materials, edited with the current risk management needs of the Green Industry in mind.

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Editor's Message

Why Risk Management?

By Dr. Laurence M. Crane, NCIS

The purpose of this publication, *Green Industry GUIDE TO RISK MANAGEMENT,* is to help growers in the Green Industry to understand and manage risk. It is intended to provide general introductory information on the types of risks they face and to offer practical guidance in addressing these risks.

Risk is an important topic for growers to understand and manage because risk is what makes profit possible. Choices must be made between alternatives with various levels of risk. Alternatives with minimum risk may generate too little profit, whereas those with high risk will likely generate the greatest return, but may be too risky for the farm to withstand or prudently be exposed to. The optimal choice is to balance potential for profit against risk of loss. It all comes down to management decisions, and there are not always clear and simple answers.

The process for managing risk is really very straightforward. A first step is to identify and classify the risks you face. There is no single best way to do this, but it seems easier if risks are categorized along the lines of what you do. The main areas of farm management are production, marketing, and financing, thus it seems reasonable to categorize some risks into these functional areas. Various risks cut across functional areas. For example, most of the day-to-day activities of growers involve commitments that have legal implications. Moreover, effectively managing human resources is especially important because they are both a source of risk and an important resource for dealing with risk.

This publication is organized into eight general sections: 1) Size and Structure of the Green Industry, 2) Overview of Risk Management Principles, 3) Production Risks and Responses, 4) Risk Management Through Crop Insurance, 5) Marketing Risks and Responses, 6) Financial Risk and Responses, 7) Human Resource Risks and Responses, and 8) Legal Risks and Responses. Three topics (crop insurance, marketing, and human resources—labor management) deserve special notice because of their current importance.

First, crop insurance is a tool that provides protection for many production risks nursery growers face. It is a significant part of the safety net Congress has provided for agricultural producers. For this reason it warrants its own section in this publication. Of special note is the new Adjusted Gross Revenue Lite Insurance (AGR-Lite) plan available in several states covering over 150 additional crops. It offers coverage on almost all crop commodities, including greenhouse production, even those crops not covered by the Multiple Peril Crop Insurance (MPCI) program. Because AGR-Lite offers insurance coverage for crops that were previously uninsurable, there is a real opportunity for producers to benefit from this program.

Second, recent trends indicate the Green Industry has matured to a stage where price becomes very important because products have become standardized with fewer product innovations and discernible differences. Thus the selling emphasis is on price and service. With the dramatic increase in input costs and slowing demand, profit margins have narrowed significantly. These current conditions have heightened the need for improved marketing acumen. For these reasons the section on marketing risks is longer than some other sections.

Lastly, there are several articles on labor management, including a summary of immigration and migrant labor issues, and complying with equal employment legislation. Securing and retaining farm labor is a significant human resource and legal risk management issue. The legal risks and responsibilities associated with owning and operating a farm continue to grow at a rapid pace. The only way to cope and succeed is to be willing to learn, adapt, and apply correct management principles.

I hope you find this publication helpful in understanding and managing the production, marketing, financial, human resource, and legal risks you face in your farming operation.

U.S. Green Industry's **Economic Contributions**

By Dr. Alan W. Hodges, University of Florida, Dr. Charles R. Hall, Texas A&M University and Dr. John J. Haydu, Planet First Resources

Introduction

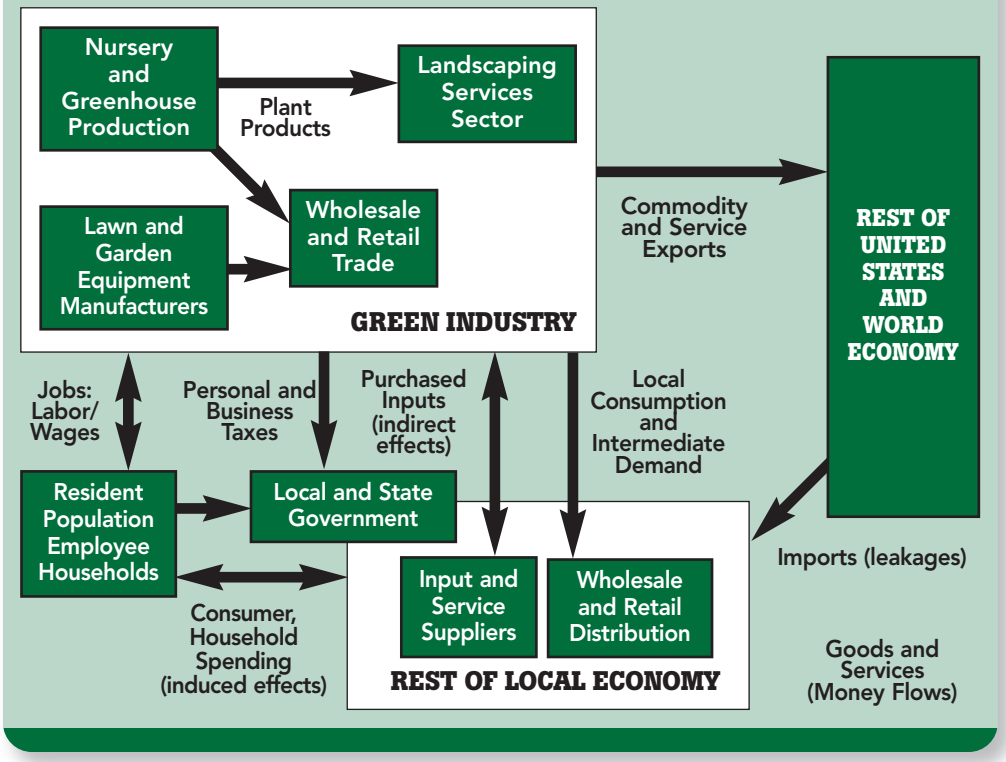
The U.S. environmental horticulture industry, also known as the Green Industry, is comprised of wholesale nursery and sod growers, landscape architects, designers/builders, contractors and maintenance firms, retail garden centers, home centers and mass merchandisers with lawn and garden departments, and marketing intermediaries such as brokers and horticultural distribution centers (re-wholesalers). This industry is one of the fastest growing sectors in the nation's agricultural economy, often experiencing growth and expansion even during recessionary periods.

In spite of the magnitude and recent growth and interest in the Green Industry, there is surprisingly little information available regarding the economic impact of the Green Industry at the national level. The USDA conducts floriculture and nursery crop surveys to collect information at the grower level, but data are often incomplete for some states, do not include small growers, and cash receipts reported do not reflect the broad regional economic impacts generated. The Census of Agriculture is subject to the same limitations, and for firms downstream in the supply chain, such as landscapers, re-wholesalers, and retailers, there is only employment data. Recognizing the critical need for this type of economic impact data, numerous state nursery and landscape associations have sponsored and developed their own economic impact studies for their respective states. These organizations have found these studies to be useful in communicating the importance of the Green Industry to decision makers, and in combating proposed legislation that would have had severe negative impacts on the Green Industry, such as labor regulations, constraints on water usage, etc. However, there have not been similar analyses conducted at the national level. Additionally, these studies have used differing methodologies and included different industry sectors, which make difficult the comparison of these studies across states. The objective of this study was to estimate the economic impacts of the Green Industry at the national level through analysis of primary and secondary data sources.

Methods

The economic sectors associated with the Green Industry were identified based on their primary product or service activity as described in the North American Industry Classification System. Production and manufacturing sectors include nursery and greenhouse growers, lawn and garden equipment manufacturers, and

FIGURE 1.
Market structure and economic linkages of the Green Industry.



greenhouse manufacturers. The horticultural services sector includes lawn and landscape service firms and landscape architects. Wholesale and retail trade of horticultural goods includes sectors for flower, nursery stock and florist supplies wholesalers, lawn and garden stores, florists, building material and supplies dealers, food and beverage stores, general merchandise stores, and farm and garden equipment wholesalers, which all have significant sales of horticultural merchandise as part of their overall business.

Economic information on the Green Industry in the United States was compiled from a variety of sources. For the nursery and greenhouse sector, national and state information on number of farms and value of sales were taken from the Census of Agriculture for 2002 (USDA, 2004). For the services and trade sectors, information was taken from the 2002 Economic Census Industry Report Series and County Business Patterns (US Census Bureau). For the sectors whose primary business is not in horticulture, such as general merchandise stores, employment and payroll were estimated in proportion to horticulture merchandise or product line sales as a share of total sales, which ranged from one percent for food and beverage stores to 27 percent for garden equipment wholesalers. For the wholesale and retail trade sectors, output was taken as the gross margin on sales according to national averages (Census Bureau, 2004).

Primary market research data on the value of the Nursery Industry was generated by the *National Nursery Industry Survey* conducted by the Green Industry Research Consortium (S290 Multi-state Research Committee of land-grant University economists and horticulturists). A total of 44 states participated in this survey, and a total of 2,485 usable questionnaires were returned, representing an overall response rate of 15.9 percent.

To evaluate the broad economic impacts of the Green Industry in the United States, economic models were developed for each state using the *IMPLAN* software system and associated state datasets (MIG, 2004). Input-output models represent the structure of a regional economy in terms of transactions between industries, employees, households, and government institutions. The structure of the Green Industry is diagrammed in Figure 1, indicating the linkages giving rise to indirect and induced

TABLE 1.
Number of establishments, employment, payroll, and sales receipts in the U.S. Green Industry, 2002.

Sector (NAICS code)	Number Establishments	Paid Employees	Annual Payroll (million $)	Sales Receipts (million $)
Production and Manufacturing	**56,233**	**173,403**	**26,896**	**23,000**
Nursery and greenhouse (1114)	56,070	150,543	4,459	16,362
Lawn and garden equipment manufacturing (33311)	145	22,201	681	6,517
Greenhouse manufacturing (332311)*	18	659	21,756	121
Horticultural Services	**82,683**	**551,641**	**12,839**	**38,804**
Landscaping services (56173)	76,458	514,962	11,509	35,235
Landscape architectural services (54132)	6,225	36,679	1,330	3,569
Wholesale and Retail Trade of Horticulture Products	**116,473**	**510,512**	**10,676**	**85,305**
Flower, nursery stock and florist wholesalers (42493)	4,816	60,010	1,580	10,022
Lawn and garden equipment and supplies stores (4442)	21,065	171,149	3,769	30,953
Florists (4531)	22,753	113,929	1,489	6,597
Building material and supplies dealers (4441)*	18,623	60,450	1,608	13,201
Food and beverage stores (445)*	22,465	19,222	330	3,090
General merchandise stores (452)*	22,710	56,651	955	9,898
Farm and garden equipment wholesalers (42382)*	4,041	29,102	945	11,541
Total All Sectors	**255,389**	**1,235,557**	**50,410**	**147,109**

*Payroll and employment estimated in proportion to merchandise line sales as share of total sales.

TABLE 2.
Economic contributions of the U.S. Green Industry, 2002.

Industry Group/Sector	Output (revenue)	Value Added	Labor Income	Indirect Business Taxes	Employment Jobs
	Million Dollars*				
Production and Manufacturing	**34,578**	**20,796**	**11,037**	**784**	**300,677**
Nursery and greenhouse	26,053	18,076	9,612	647	261,408
Lawn and garden equipment manuf.	8,281	2,610	1,346	129	37,343
Greenhouse manuf.	244	110	78	7	1,927
Horticultural Services	**57,774**	**39,013**	**30,269**	**1,387**	**753,557**
Landscaping services	52,971	35,564	27,719	1,312	704,875
Landscape architecture	4,803	3,449	2,549	74	48,683
Wholesale and Retail Trade	**55,475**	**35,275**	**23,044**	**4,701**	**910,104**
Nursery and florist supplies	2,879	1,907	1,130	440	68,969
Garden equipment wholesalers	4,146	2,737	1,601	657	40,617
Lawn and garden stores	22,859	14,806	9,747	1,810	347,916
Building material supply stores	9,982	6,491	4,258	789	123,591
Florists	7,195	3,977	2,725	401	200,451
Food and beverage stores	2,263	1,385	944	156	35,117
General merchandise stores	6,150	3,973	2,639	448	93,443
Total All Sectors	**147,828**	**95,084**	**64,349**	**6,872**	**1,964,339**

*Values expressed in 2004 dollars.

impacts. According to the logic of input-output analysis, changes in local final demand or exports cause a change in direct output or employment, which leads to a corresponding change in the activity of input supply firms (indirect effects), and to changes in employee income and spending (induced effects). Economic multipliers derived from the models were used to estimate the total economic impacts of the Green Industry in each state. This analysis assumes that only the export portion of output is sold to final demand, while the remainder of in-state sales represents intermediate demand from other business sectors. All results were stated in 2004 dollars by adjusting values using the Gross Domestic Product implicit price deflator (U.S. Commerce Department).

Results

The number of establishments, employment, payroll, and sales receipts for each sector of the Green Industry in the United States in 2002 are shown in Table 1. There were a total of 255,389 business establishments involved in the industry, including 56,233 nursery producers or manufacturers, 82,683 horticultural services firms, and 116,473 wholesale/retail trade firms. Total reported employment was 1.085 million employees, and total payroll was $46 billion, excluding the nursery and greenhouse sector. Total sales receipts in 2002 were $147.1 billion, including $23 billion for producers, $38.8 billion for horticultural services, and $85.3 billion for wholesale/retail trade.

Economic contribution estimates for each group and sector of the U.S. Green Industry are summarized in Table 2. Contributions for all states were $147.8 billion in output, 1,964,339 jobs, $95.1 billion in value added, $64.3 billion in labor income, and $6.9 billion in indirect business taxes. Again, note that these values for 2002 were stated in 2004 dollars, or approximately 4.1 percent higher. The value added impact represents the net change in value of

TABLE 3.
Economic contributions of the U.S. Green Industry by region, state and industry group, 2002.

Region/State	Output (million $)*				Employment (jobs)				Value Added (million $)*			
	All Sectors	Production & Manuf.	Service	Trade	All Sectors	Production & Manuf.	Service	Trade	All Sectors	Production & Manuf.	Service	Trade
Northeast	**26,568**	**4,283**	**11,993**	**10,292**	**336,027**	**43,799**	**131,563**	**160,664**	**17,867**	**2,986**	**8,250**	**6,632**
Connecticut	2,350	453	1,143	754	27,026	4,807	11,213	11,006	1,659	375	787	496
Delaware	448	53	228	166	6,359	375	3,194	2,789	297	44	148	104
Maine	509	56	253	201	7,825	665	3,252	3,908	331	39	166	126
Maryland	3,524	605	1,807	1,112	46,725	5,666	22,596	18,463	2,440	478	1,230	732
Massachusetts	3,239	199	1,787	1,252	37,553	3,411	16,549	17,593	2,159	122	1,225	811
New Hampshire	729	104	316	309	10,153	1,470	3,584	5,099	465	63	208	194
New Jersey	4,210	580	2,128	1,502	52,929	7,042	23,219	22,668	2,875	436	1,459	980
New York	5,265	751	1,887	2,627	62,113	5,344	18,704	38,065	3,511	437	1,363	1,711
Pennsylvania	5,589	1,377	2,091	2,120	75,829	13,803	25,433	36,593	3,672	924	1,430	1,319
Rhode Island	403	67	233	103	5,289	895	2,474	1,920	262	41	156	65
Vermont	302	37	119	146	4,225	322	1,344	2,559	196	25	78	93
Appalachian	**14,550**	**4,260**	**5,289**	**5,001**	**204,469**	**38,398**	**76,871**	**89,200**	**9,166**	**2,508**	**3,500**	**3,159**
Kentucky	1,257	138	373	746	21,649	1,941	5,644	14,065	821	112	245	464
North Carolina	5,155	1,756	1,925	1,473	67,472	12,992	29,072	25,408	3,583	1,387	1,261	935
Tennessee	3,854	1,741	975	1,138	50,812	16,603	13,793	20,416	2,050	689	648	713
Virginia	3,914	584	1,869	1,460	56,905	5,771	26,059	25,074	2,493	308	1,249	936
West Virginia	371	40	147	183	7,631	1,091	2,303	4,237	220	13	96	111
Midwest	**31,825**	**6,663**	**11,179**	**13,984**	**397,099**	**44,061**	**127,054**	**225,984**	**19,243**	**2,994**	**7,494**	**8,754**
Illinois	6,897	958	2,876	3,063	75,110	4,666	26,727	43,718	4,335	430	1,972	1,933
Indiana	3,010	522	1,140	1,348	41,714	3,407	14,632	23,676	1,804	229	745	830
Iowa	1,459	134	329	996	20,820	823	4,371	15,627	906	62	216	627
Michigan	4,845	1,122	1,796	1,927	58,745	9,269	18,110	31,365	2,991	564	1,221	1,205
Minnesota	3,099	557	932	1,610	37,696	3,152	10,080	24,465	1,864	237	616	1,010
Missouri	2,488	363	704	1,422	37,690	2,539	9,994	25,157	1,495	134	470	890
Ohio	5,855	1,303	2,354	2,198	79,841	10,077	31,493	38,271	3,532	607	1,556	1,369
Wisconsin	4,170	1,704	1,046	1,420	45,483	10,130	11,647	23,706	2,317	731	697	890
Great Plains	**2,999**	**355**	**708**	**1,936**	**42,855**	**2,053**	**9,770**	**31,032**	**1,827**	**147**	**463**	**1,216**
Kansas	1,362	231	417	714	19,316	1,395	5,837	12,084	813	93	274	446
Nebraska	961	75	214	672	13,383	385	2,783	10,215	596	32	141	424
North Dakota	307	22	32	254	4,500	138	452	3,910	189	9	21	160
South Dakota	369	27	46	297	5,657	135	699	4,823	228	13	28	187
Southcentral	**13,992**	**3,644**	**4,601**	**5,746**	**209,935**	**36,629**	**70,909**	**102,397**	**8,615**	**1,974**	**3,039**	**3,602**
Arkansas	1,395	628	255	513	16,680	3,349	4,135	9,197	675	195	166	315
Louisiana	1,069	157	265	647	19,617	1,762	4,785	13,070	679	100	173	406
New Mexico	520	87	207	226	8,739	660	3,437	4,642	353	72	137	145
Oklahoma	1,352	449	322	580	24,603	5,498	7,158	11,947	819	247	212	359
Texas	9,656	2,324	3,551	3,781	140,295	25,360	51,394	63,541	6,088	1,360	2,351	2,377
Southeast	**20,568**	**6,545**	**7,669**	**6,354**	**288,486**	**57,124**	**117,511**	**113,850**	**13,535**	**4,327**	**5,155**	**4,054**
Alabama	1,681	437	668	576	26,804	4,521	10,617	11,666	1,148	353	434	360
Florida	9,997	3,025	4,051	2,921	147,795	32,966	62,632	52,197	7,076	2,463	2,747	1,866
Georgia	4,726	1,143	1,782	1,800	62,493	7,362	25,620	29,511	3,020	644	1,213	1,162
Mississippi	977	296	190	491	14,236	1,789	3,309	9,138	548	120	122	306
South Carolina	3,187	1,644	978	565	37,157	10,486	15,333	11,337	1,745	747	638	359
Mountain	**9,824**	**1,473**	**4,750**	**3,601**	**132,982**	**10,557**	**64,279**	**58,146**	**6,449**	**954**	**3,185**	**2,309**
Arizona	3,206	826	1,508	873	43,882	5,796	23,198	14,888	2,081	506	1,013	563
Colorado	3,085	294	1,612	1,179	37,630	1,554	19,059	17,017	2,019	178	1,083	758
Idaho	853	107	250	496	12,000	923	3,534	7,543	576	91	164	320
Montana	357	57	68	232	5,988	492	931	4,564	219	31	43	145
Nevada	1,248	16	929	303	17,324	121	12,433	4,770	844	13	633	198
Utah	901	165	316	420	13,577	1,614	4,388	7,575	600	130	206	264
Wyoming	174	8	68	98	2,581	57	736	1,788	109	4	44	61
Pacific	**27,502**	**7,356**	**11,585**	**8,561**	**352,485**	**68,055**	**155,600**	**128,830**	**18,382**	**4,905**	**7,927**	**5,550**
Alaska	159	18	53	88	2,110	146	467	1,497	104	10	36	58
California	20,362	4,736	9,371	6,255	253,977	36,236	126,428	91,313	13,656	3,165	6,429	4,063
Hawaii	745	254	320	171	11,166	3,394	4,492	3,281	531	200	220	112
Oregon	3,173	1,711	660	802	43,980	21,632	9,171	13,177	2,010	1,048	448	515
Washington	3,064	636	1,181	1,246	41,251	6,647	15,042	19,561	2,080	482	795	803
Total All Regions	**147,828**	**34,578**	**57,774**	**55,475**	**1,964,339**	**300,677**	**753,557**	**910,104**	**95,084**	**20,796**	**39,013**	**35,275**

*Values expressed in 2004 dollars.

commodities and services after deducting the cost of inputs purchased from other businesses, and is a broad measure of income generated by the industry. The employment impact estimate includes all jobs, both full-time and part-time. The labor or "earned" income impact includes employee wages and salaries and proprietor's income to business owners.

For the production and manufacturing sectors, including nurseries and greenhouses, lawn and garden equipment manufacturers, and greenhouse manufacturers, total output impacts were $34.6 billion, employment impacts were 300,677 jobs, and value-added impacts were $20.8 billion. For the horticultural services sectors, including landscape services and landscape architects, total output impacts were $57.8 billion, employment impacts were 753,557 jobs, and value-added impacts were $39.0 billion. For the wholesale/retail trade sectors, total output impacts were $55.5 billion, employment impacts were 910,104 jobs, and value-added impacts were $35.3 billion.

The largest individual sectors in terms of output impact were landscaping services ($53 billion), nurseries and greenhouses ($26.1 billion), retail lawn and garden stores ($22.9 billion), building material supply stores ($10 billion), lawn and garden equipment manufacturers ($8.3 billion), and florists ($7.2 billion). In terms of employment impacts, the largest individual sectors were landscaping services (704,875 jobs), lawn and garden stores (347,916 jobs), nurseries and greenhouses (261,408 jobs), florists (200,451 jobs), and building material supply stores (123,591 jobs). Value added impacts by sectors were as follows: landscaping services ($35.6 billion); nurseries and greenhouses ($18.1 billion); lawn & garden stores ($14.8 billion); building material and supply stores ($6.5 billion); general merchandise stores ($4 billion); florists ($4 billion); landscape architects ($3.4 billion); lawn and garden equipment manufacturers ($2.6 billion); lawn and garden equipment wholesalers ($2.7 billion); wholesale flower, nursery stock, and florist supplies ($1.9 billion); and food & beverage stores ($1.4 billion).

Total economic contributions are summarized by state and region in Table 3. The largest individual states in terms of output impacts, all exceeding $4 billion, were California ($20.4 billion), Florida ($9.9 billion), Texas ($9.7 billion), Illinois ($6.9 billion), Ohio ($5.9 billion), Pennsylvania ($5.6 billion), New York ($5.3 billion), North Carolina ($5.2 billion), Michigan ($4.8 billion), and Georgia ($4.2 billion). The largest individual states in terms of employment, all exceeding 60,000 employees, were California (253,977), Florida (147,795), Texas (140,295), Ohio (79,841), Pennsylvania (75,829), Illinois (75,110), North Carolina (67,472), Georgia (62,493), and New York (62,113). Total value-added impacts were largest in the Midwest region ($19.2 billion), followed by the Pacific region ($18.4 billion), Northeast ($17.9 billion), and Southeast ($13.5 billion). The largest individual states in terms of value-added impacts, all exceeding $3 billion, were California ($13.7 billion), Florida ($7.1 billion), Texas ($6.1 billion), Illinois ($4.3 billion), Pennsylvania ($3.7 billion), New York ($3.5 billion) and Ohio ($3.5 billion).

The Green Industry share of gross state product (GSP) is an important indicator of the relative importance of the industry in each state. In concept, GSP represents total value added of all industry sectors, and is equivalent to its gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus intermediate inputs purchased from other U.S. industries or imported. Thus, GSP is comparable to the nation's Gross Domestic Product as the broadest measure of the economy. In the U.S., the total value added of the Green Industry ($95.1 billion) represented slightly less than one percent of the sum of GSP for all states. The top five states with the highest percentage contribution of the Green Industry to GSP were Oregon (1.7 percent), Idaho (1.4 percent), South Carolina (1.4 percent), Florida (1.3 percent) and Wisconsin (1.2 percent).

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Mega Trends In the Green Industry

By Dr. Charles R. Hall, Texas A&M University, Dr. John J. Haydu, Planet First Resources and Dr. Alan W. Hodges, University of Florida

Competitive rivalry in the Green Industry is intensifying, especially at the retail level. Lowe's, Home Depot, and Wal-Mart, the mass merchandising stores [often referred to as box store or chain stores] that sell truckloads of plants at "every-day-low-prices," are continuing to ramp up their presence in the lawn and gardening industry. Their largest competitors include thousands of independent garden centers across the nation that charge higher prices but typically provide far more service and variety.

Box stores recognize that knowledge and service are key success factors and are attempting to reconcile deficiencies in that arena. For example, Home Depot Inc., North America's largest seller of lawn and garden products, has embraced a computerized gardening and landscaping training course organized by the University of Georgia's horticulture department to help increase the level of horticultural acumen their employees can provide to customers. These trained salespeople, in turn, offer workshops on such topics as weed control and garden planting much like the chain offers clinics on laying tile or hanging wall paper.

Home Depot is also installing larger garden center formats in new stores and expanding centers at some of their older, established stores. And in a move to help it overcome its traditionally poor care of its plants, Home Depot is changing its relationship with its plant vendors through "pay-by-scan" compensation systems where vendors now will get paid only for plants that actually sell (much like a consignment system), putting the onus on them to make sure the flowers and shrubs sitting on the chain's shelves are attractive and in good shape. They will be expected to visit its 2,000+ stores daily with fresh deliveries if need be.

The other large player in lawn and garden goods, Lowe's Companies, Inc., also has developed aggressive strategies for capturing for market share. Lowe's is working with selected breeders to devise exclusive plant varieties for its own premium plant brand, Garden Club Select. It also has joined with rose-industry pioneer Jackson & Perkins to sell J&P-branded roses, a relationship it hopes to broaden by obtaining rights to "cause" roses, such as the Lady Diana rose, that would be unique to the 1,225-store chain.

While big box stores and mass merchants have captured over half of the amount Americans spend a year on lawn and garden plants, the independent garden centers aren't surrendering. They do not have the volume to compete effectively on price, so they attempt to compete with better selection and more value-added services, which are especially attractive to new gardeners. They are introducing their own branded plants sold under house names or nationally available labels such as Proven Winners, Simply Beautiful, Flower Fields, Miracle Grow, and Plants that Work. Specific products have also reached national brand status like the Wave Rave petunia campaign by Pan American Seed. Notable gardening personalities such as Martha Stewart and P. Allen Smith are marketing their own collection of gardening products and plants. Some garden centers are going further, adding cafes, coffee bars, meeting spaces, or other amenities. Others offer extensive how-to workshops or provide free landscaping advice and/or designs or plant shrubs for customers (though usually at an extra charge) and should a plant have problems, in-house "experts" will assist in diagnosing what went wrong.

Structural Changes In The Industry—There is little doubt that the impacts of mass marketers on the Nursery and Green Industry are far-reaching. To their credit, many would argue that the box store chains have exposed many more consumers to nursery and floral products, thereby increasing the "size of the pie." Undoubtedly this is true, as the presence of mass marketers has opened not only the consumers' eyes to the industry's products but provided additional marketing opportunities for growers as well.

Obviously, earlier discussion leads to conclusion that one of the impacts of the mass marketing of nursery and floricultural crops has been to promulgate an increase in overall size of growing operations. The capital requirements needed to afford the greenhouse infrastructures required to produce mass quantities of product in a confined marketing window exceeds those that this Industry has historically managed. Most firms have been able to generate the capital on their own, but the Industry also has seen examples of investment brokers entering the Industry to help finance some of these production operations. However, the financial returns of many of these venture capital acquisitions have seldom met Wall Street expectations.

In some instances, chain store buyers have limited the number of approved vendors with whom they deal in any market area, as chains have come to realize certain procurement and merchandising efficiencies if fewer vendors are utilized. Chains have begun asking vendors to provide plant care for in-store displays, especially during the peak of the bedding/garden plant season, something that is easier to request if there are only a few firms handling most of the merchandise. Whether or not producers are adequately rewarded for the additional expense of providing fully managed retail displays is debatable, but some growers report that the improved

product care leads to additional product turns, which in turn provide the needed financial (gross margin) results.

There are also several instances of large producers partnering (usually on a contract basis) with several smaller firms in order to handle the volumes required to supply large retail chains. In some instances, there may be several dozen growers involved in cross-docking activities to satisfy one chain's product supply needs in one market area. Depending upon the arrangements, this helps to spread the risk among several producers. Still, there are numerous examples of producers who supply 50 to 75 percent of their output to one chain. When asked about the market risk, these growers often respond with discussions about production efficiencies, economies of scale, and questions about what they could do even if they wanted to change, noting that their competitors would be more than happy to take over the account.

In contrast, the focus on mass marketers by large growers has created opportunities for smaller growers to develop niches serving independent retailers/landscapers or to go into retailing themselves, selling directly to the consumer. In a recent national survey of growers, it was found that 59 percent of several thousand producers surveyed did retail some portion of their product mix on their own, ranging from one to 80 percent of their production. Smaller growers appeared to sell higher percentages, on average, of their production on a retail basis either from drive-in customer traffic at the nursery/greenhouse or at wholly-owned retail sales yards. Yet, some larger producers have also used their own retail outlets as a tactic for risk diversification.

The other impact of mass marketers has been consolidation within the production sector. In recent years, grower numbers have appeared to decline from year to year, or at best, remain stable. One could debate as to the reasons producer numbers are diminishing, but many would argue that the stresses of either supplying mass marketers or competing with them as an independent grower-retailer are taking their toll. The capitalization requirements, increased input costs (e.g. fuel), reduced margins, increased demands from buyers, and the market power associated with fewer numbers of buyers have all created intense market pressures and heightened competitive rivalry among larger producers. The struggle to remain competitive in a viable niche for smaller producers can be equally trying in markets being inundated by competing chains.

The long-term consequences are uncertain, but the need to recognize and closely monitor consumer expectations, tastes, and preferences is imperative. If consumers were, for some reason, to develop a negative impression of the industry's products or for how those products are presented by a particular retail giant, this could have dire consequences for future growth in the entire industry. Keeping the consumer intrigued and sufficiently motivated is important, and will likely require collaborative efforts among participants in each sector of the industry-wide value chain.

Is the Industry Showing Signs of Maturing?

A maturing industry is one that is moving from rapid growth to significantly slower growth. An industry is said to be mature when nearly all potential buyers are already users of the industry's products. Market demand consists mainly of replacement sales to existing users, with growth hinging on the industry's ability to attract new buyers and convince existing buyers to increase their usage. In the case of consumer goods industries, maturity means that they typically have a growth rate under five percent—roughly equal to the growth of the customer base or economy as a whole.

An industry's transition to maturity does not begin on an easily predicted schedule. Industry maturity can be forestalled by the emergence of new technological advances, frequent product innovations, or other driving forces that keep rejuvenating market demand. Nonetheless, when growth rates do slacken, the onset of market maturity usually produces fundamental changes in the industry's competitive environment including some of which we are seeing in the Green Industry:

- Slowing growth in demand is generating more head-to-head competition for market share. Firms that want to continue on a rapid-growth track are starting to look for ways to entice customers away from competitors. In such situations, price cutting, increased advertising, and other aggressive tactics to gain market share are common.
- Buyers are becoming more sophisticated, often driving a harder bargain or requiring additional services in order to repeat purchases. Since buyers have experience with the product and are familiar with competing brands, they are better able to evaluate different brands and can use their market power (knowledge) to negotiate a better deal with vendors.
- Competition is producing a greater emphasis on cost and service. As growers all begin to offer the product attributes buyers prefer, buyer choices increasingly depend on which grower offers the best combination of price and service.
- Growers are experiencing a topping-out problem in adding new facilities. Reduced rates on industry growth mean slowdowns in capacity expansion for input manufacturers and slowdowns in new store growth for retail chains. With slower industry growth, adding too much capacity too soon can create oversupply conditions that adversely affect company profits well into the future.
- Product innovation and new end-user applications are becoming harder to come by. Breeders/growers find it increasingly difficult to create new product features and sustain buyer excitement.
- International competition continues to increase. Growth-minded domestic firms are starting to seek out sales opportunities in foreign markets. Some companies, looking for ways to cut costs, relocate growing operations to countries with lower wage rates. Industry leadership passes to companies that succeed in building strong competitive positions in most of the world's major geographic markets and in winning the biggest global market shares.
- Industry profitability is being influenced by tighter margins. Slower growth, increased competition, more sophisticated [and maybe fewer] buyers that place greater demands on their vendors, stagnant price levels, and occasional periods of overcapacity have put pressure on industry profit margins. Weaker, less-efficient firms are usually the hardest hit.
- Stiffening competition has induced a number of mergers and acquisitions among former competitors, driving the weakest firms out of the industry, and producing industry consolidation in general. Inefficient firms, and firms with weak competitive strategies, can achieve

respectable results in a fast-growing industry with booming sales. But the intensifying competition of a maturing market throws second-and-third-tier competitors into a survival-of-the-fittest contest.

Strategic Moves in a Maturing Industry

As the new competitive character of Green Industry maturity begins to hit full force, any of several strategic moves can strengthen a growers' competitive position, including pruning the product line, improving value chain efficiency, trimming costs, accelerating marketing and sales promotion efforts, and acquiring struggling competitors.

Pruning Marginal Products and Sizes—A wide selection of plant materials and sizes sometimes has competitive value during the growth stage, when buyers needs are still evolving. But such variety can become too costly as price competition stiffens and profit margins are squeezed. Maintaining many product "versions" works against achieving production economies at the growing level and can increase inventory stocking costs for re-wholesale distributors and retailers. In addition, the prices of slow-selling plants may not cover their true costs. Pruning marginal products from the product mix opens the door for cost savings and permits more concentration on items whose margins are highest and/or where the firm has a competitive advantage.

More Emphasis on Value Chain Innovation—Efforts to reinvent the industry value chain can have a fourfold payoff: Lower costs, better product or service quality, greater capability to turn out multiple or customized product variations (upgrades), and shorter design-to-market cycles. Growers can mechanize high-cost activities, re-design production practices to improve labor efficiency, build flexibility into the "assembly" process so that customized product versions can be easily produced, and increase use of advanced technology (robotics, computerized controls, and automated/guided vehicles.) Suppliers of parts and components, input manufacturers, distributors, and buyers can collaborate on the use of internet technology and e-commerce techniques to streamline various value chain activities and implement cost-saving innovations.

A Stronger Focus on Cost Reduction—Stiffening price competition gives growers extra incentive to drive down unit costs. Company cost-reduction initiatives can cover a broad front. Some of the most frequently pursued options are pushing suppliers for better prices, implementing tighter supply chain management practices, cutting low-value activities out of the value chain, developing more economical product designs, streamline order processing and pulling, reengineering internal processes using e-commerce technology, and shifting to more economical distribution arrangements and systems (e.g. racking systems).

Increasing Sales To Present Customers—In a mature market, growing by taking customers away from rivals may not be as appealing as expanding sales to existing customers. Strategies to increase purchases by existing customers can involve providing complementary items and ancillary services, and finding more ways for customers to use the product. Developing deeper relationships with key buyers (through personal visits, customized mailings, etc.) will more often than not pay big dividends.

Purchasing Rival Firms at Bargain Prices—In a maturing market, sometimes a firm can acquire the facilities and assets of struggling rivals quite cheaply. Bargain-priced acquisitions can help create a low-cost position if they also present opportunities for greater operating efficiency. In addition, an acquired firm's customer base can provide expanded market coverage and opportunities for greater scale economies. The most desirable acquisitions are those that will significantly enhance the acquiring firm's competitive strength.

Building New or More Flexible Capabilities—The stiffening pressures of competition in a maturing or already mature market can often be combated by strengthening the company's resource base and competitive capabilities. This can mean adding new competencies or capabilities (by either making or buying them), deepening existing competencies to make them harder to imitate, or striving to make core competencies more adaptable to changing customer requirements and expectations.

Strategic Pitfalls in Maturing Industries

Perhaps the biggest strategic mistake a company can make as the Green Industry matures is steering a middle course between low cost, differentiation, and focusing; blending efforts to achieve low cost with efforts to incorporate differentiating features and efforts to focus on a limited (niche or cache) target market. Such strategic compromises typically result in a firm ending up stuck in the middle, with a fuzzy strategy, too little commitment to winning a competitive advantage, an average image with buyers, and little chance of springing into the leading ranks of the Industry.

Other strategic pitfalls include being slow to adapt existing competencies and capabilities to defend against stiffening competitive pressures, concentrating more on protecting short-term profitability than on building or maintaining long-term competitive position, waiting too long to respond to price cutting by rivals, over-expanding in the face of slowing growth, overspending on advertising and sales promotion efforts in a losing effort to combat the growth slowdown, and failing to pursue cost reductions and/or production efficiencies soon enough or aggressively enough.

Summary

There is little doubt that the Green Industry has been characterized with unprecedented growth, innovation, and change over the last couple of decades. Yes, the fact that the Green Industry in the United States represents $148 billion in economic impacts and almost two million jobs nationally is impressive. The fact that nursery and floral production still represents one of the fast growing sectors in agriculture means profitability in the Industry has been evidenced otherwise such growth would not have occurred. However, slowing growth in demand and tighter profit margins (along with other aforementioned factors) point to a maturing market. Survival in the next decade will require a progressive mindset and perhaps a willingness to strengthen existing, or develop new core competencies (which may incur greater risk). While the crystal ball may be somewhat fuzzy in terms of the growth and nature of consumer demand, there is little doubt that innovativeness will continue to be a requisite skill in ensuring the survivability and profitability of Green Industry firms in the future.

Risk Overview

By Dr. Laurence M. Crane, NCIS

Risk can be defined as the chance of loss or an unfavorable outcome associated with an action. Uncertainty is not knowing what will happen in the future. The greater the uncertainty, the greater the risk.

The most important role for a farmer is that of manager. For an individual farmer (manager), risk management involves finding the preferred combination of activities with uncertain outcomes and varying levels of expected returns.

Risk Management can then be defined as choosing among alternatives to reduce the effects of risk.

Agricultural producers make decisions in a risky environment every day. The consequences of their decisions are generally not known when the decisions are made. Furthermore, the outcome may be better or worse than expected. Variability of prices and yields is the biggest source of risk in agriculture. Technology changes, legal and social concerns, and the human factor itself also contributes to the risk environment for agriculture producers. The two situations that most concern agriculture producers are: 1) is there a high probability of adverse consequences, and 2) would those adverse consequences significantly disrupt the business?

Basic Economic Principles

There is a return to every factor of production—land, labor, capital, and management. These returns may be either positive or negative, depending upon the use to which they are put. One of the returns to management is the ability to successfully manage risk. Risk is what makes it possible to make a profit. If there was no risk, there would be no return to the ability to successfully manage it. That is to say, there is a risk-return trade-off. This means that anytime there is an opportunity for loss (risk), there is also an opportunity for profit. Because of uncertainty, profits are never certain. Growers must decide between different alternatives with various levels of risk. Those alternatives with minimum risk may generate too little profit. Those alternatives with high risk will likely generate the greatest return but may be more risky than the nursery can stand or the grower wishes to bear. The preferred and optimum choice must balance potential for profit against risk of loss. It all comes down to management, and there are no easy answers.

Steps to Risk Management

Risk Identification

The process for managing risk is really very straightforward. First you need to identify and classify the risks you face. There is no single way to do this, but it seems easier if risks are classified along the lines of what you do. The main areas of farm management are production, marketing, and financing, thus it seems reasonable to categorize risks in these areas. There are other areas of risk such as managing human resources, coping with government change, and complying with environmental regulation.

Production Risk

Agricultural production implies an expected outcome or yield. Variability in outcomes from those that are expected poses risks to your ability to achieve financial goals. Any production related activity or event that is uncertain is a production risk. The major sources of production risks are weather, pests, diseases, the interaction of technology with other farm and management characteristics, genetics, machinery efficiency, and the quality of inputs. Fire, wind, theft, and other casualties are also sources of production risk.

Marketing Risk

Marketing is that part of your business that transforms production activities into financial success. Unanticipated forces, such as weather or government action, can lead to dramatic changes in crop and input prices. As agriculture moves towards a more global market, these forces stem increasingly from world factors. Other farmers' weather and other governments can affect your prices. When these forces are understood, they can become important considerations for the skilled marketer.

Marketing risk is any marketing related activity or event that is uncertain leading to the variability and unpredictability of prices that growers both receive for their products, and pay for production inputs.

Financial Risk

Financial risk covers those risks that threaten the financial health of the nursery business and has three basic components: 1) the cost and availability of debt capital; 2) the ability to meet cash flow needs in a timely manner; and, 3) the ability to maintain and grow equity. Cash flows

are especially important because of the variety of ongoing obligations, such as cash input costs, cash lease payments, tax payments, debt repayment, and family living expenses.

Human Resource Risk

Human resources are both a source of risk and an important part of the strategy for dealing with risk. At the core of dealing with that risk, and that potential, is the ability to manage people.

Human resource calamities can hamper even the most carefully made and appropriate risk management decisions. Those calamities include divorce, chronic illness, and accidental death.

Legal Risk

Many of the day-to-day activities of nursery growers involve commitments that have legal implications. Understanding these issues can lead to better risk management decisions.

Legal issues cut across other risk areas. For example, acquiring an operating loan has legal implications if not repaid in the specified manner. Production activities involving the use of pesticides have legal implications if appropriate safety precautions are not taken. Marketing of agricultural products involves contract law. Human resource issues associated with agriculture also have legal implications, ranging from employer/employee rules and regulations, to inheritance laws. The legal issues most commonly associated with agriculture fall into four broad categories: 1) appropriate legal business structure, and tax and estate planning; 2) contractual arrangements; 3) tort liability, and, 4) statutory compliance, including environmental issues.

Risk Measurement

Probabilities are simply a way of expressing the chances of various outcomes. Weather forecasts use probabilities. For example, they may indicate a 20 percent chance of rain or a 40 percent chance of snow. At the start of a football game, a coin is flipped. What are the chances or probabilities that it will come up "heads?" Fifty percent, or one half. The chances for "tails" are exactly the same.

Variability of outcomes is generally associated with risk, and typically riskier situations have greater variability of outcomes. The average outcome is the most frequent or most likely if outcomes are normally distributed, but the average does not provide information about variability. The range—the highest and lowest values—combined with the average does provide some information about variability. However, it is difficult to make comparisons of variability between crops or prices.

Risk Capacity

Risk management strategies are also affected by an individual's capacity or ability to bear (or to take) risk. Simply stated, risk bearing capacity is directly related to the solvency and liquidity of one's financial position.

Risk bearing ability is also affected by cash flow requirements. Cash flow requirements are the obligations for cash costs, taxes, loan repayment, and family living expenses that must be met each year. The higher these obligations as a percentage of total cash flow, the less able the nursery business is to assume risk. The best source of historical production and marketing information is (or should be) the records maintained for the nursery business. The records may be supplemented and complemented by off-farm information, forecasts, and predictions. But there is no substitute for actual nursery data.

Risk Willingness (Preference)

Risk averse growers are the most cautious risk takers, but they do take some risks. They lose because they miss economic opportunities to profit.

Risk neutral growers understand they must take some chances to get ahead, but recognize that there are degrees of risk in every situation. Before making a decision or taking action they gather information and analyze the odds. They try to be realistic, recognize the risks, and try to reduce risks to acceptable levels.

Risk lovers are individuals who enjoy risks as challenging and exciting and look for the chance to take risks. Many growers may be in this category with respect to their marketing plans. As long as financial survival is not at stake, they may enjoy the adventure of playing the market. Many speculators are in this category. Some close their eyes to risk, ignore facts, and go ahead, and commonly fail because they refuse to take precautions.

Set Risk Goals

A meaningful goal is specific, measurable, challenging but realistic, time specific, written, and is performance based. If one achieves all conditions of a specific measurable goal, confidence increases and satisfaction results. If a measurable goal is consistently missed, objective analysis can occur and adjustments can be made to improve the likelihood of success.

It is important to set performance, not outcome goals. Care should be taken to set goals

TABLE 1.

Risk Management Checklist

Production

_____ 1. Have you recently evaluated your risk in the event of the loss of your crops?
_____ 2. Have you investigated other alternative production methods and their consequences?
_____ 3. Do you have the necessary knowledge to consider an additional or alternative enterprise?
_____ 4. Is your crop insurance protection adequate to cover a severe crop loss?
_____ 5. Have you reviewed all of your crop insurance options with your agent?
_____ 6. Have you conducted a Strengths,Weaknesses, Opportunities, and Threats (SWOT) analysis for your operation?
_____ 7. Are you in an area capable of supporting irrigation?

Marketing

_____ 1. Do you have a current, written marketing plan?
_____ 2. Have you coordinated your marketing plan with your goals and objectives and your financial and production plans?
3. Managing marketing risks:
_____ a) Are you comfortable with your knowledge of marketing opportunities?
_____ b) Have you reviewed your marketing options within the past 6 months?
_____ c) Do you understand how crop insurance revenue guarantees can enhance marketing opportunities?

Financial

_____ 1. Do you have a current business plan?
_____ 2. Have you planned for a best-case scenario and developed a plan for how additional income will be used?
_____ 3. Have you planned for a worst-case scenario and considered an alternative plan?
_____ 4. Do you know your cost of production?
_____ 5. Do you know your break-even costs?
_____ 6. Do you have the knowledge to create a balance sheet, cash flow, and income statements?
_____ 7. Do you have the knowledge to interpret important financial ratios?
_____ 8. What is your debt-to-asset ratio?
_____ 9. Is the growth of your net worth exceeding inflation?
_____ 10. Have you reviewed your ratio trends with your lender?
11. Is your crop insurance protection adequate to:
_____ a) Repay current operating loans?
_____ b) Allow you to take advantage of marketing opportunities?
_____ 12. Have you reviewed your tax liability within the past three months to determine your tax strategies?
_____ 13. Have you investigated all of your potential financing options?
_____ 14. Have you investigated all available government programs?
_____ 15. Have you considered the trade-offs between maintaining your current investments
_____ (certificates of deposit/savings/etc.) and/or reinvesting in expanding your own operation?
_____ 16. Do you consult a financial management consultant, lender, accountant, insurance provider, or other professional when making major financial decisions?
_____ 17. Are you comfortable with your level of debt?

Legal

This list does not cover every legal risk exposure faced by nursery growers, and is not meant as legal advice. You should consult an attorney to review your legal risk exposure.

_____ 1. Is your will up to date?
_____ 2. Do you have a living will?
_____ 3. Do you have a farm transfer plan or exit strategy that has been reviewed within the past three years?
_____ 4. Have you recently reviewed your nursery owner's insurance policy?
5. Have you recently evaluated your risk exposure to:
_____ a) Liability covering the public entering your property?

TABLE 1. continued

Risk Management Checklist

_____ b) Liability of direct marketing?

_____ c) Your State department of agriculture's direct marketing regulations?

_____ d) Environmental and pesticide issues?

_____ e) Land use issues with neighbors?

_____ 6. Do you understand the provisions of all of your contracts, leases, and loans?

_____ 7. Have you recently evaluated all the different business entity options for your operation?

_____ 8. Do you have a working relationship with your attorney and accountant and have you reviewed your goals and objectives with each?

_____ 9. Are you in compliance with such regulations as worker protection, pesticide use records, vehicle registrations, and necessary safety inspections?

Human

1. Is your personal insurance coverage current:

_____ a) Do you have adequate medical and disability insurance?

_____ b) Do you have adequate life insurance to cover your wishes and farm transfer at current values?

_____ 2. Have you calculated your risk exposure to employee accidents or dishonesty?

_____ 3. Have you provided all employees with comprehensive safety training?

_____ 4. Do you have an employee handbook?

_____ 5. Are your goals Specific, Measurable, Attainable, Reasonable, and Timed (SMART)?

_____ 6. Have you conveyed the goals and objectives of the business to all family members, business team, and employees?

_____ 7. Are your goals written?

_____ 8. Is everyone in your family (or on your team) employed to the full extent of his or her education, training, and experience?

over areas where one has as much control as possible. Nothing is as discouraging and counterproductive to goal setting as failing to achieve a goal for reasons beyond your control. If goals are set on performance or skills to be acquired, then control over achievement is maintained.

Identify Tools

Because of the multiple sources of risk, comprehensive strategies that integrate several responses to variability are often necessary for effective risk management. The particular combination used by an individual grower will depend on the individual's circumstances, type of risks faced, and risk attitudes. Some risk responses act primarily to reduce the chance that an adverse event will occur, while other responses have the effect of providing protection against adverse consequences should the unfavorable event occur. Producers find many different ways to implement these principal risk responses.

Select Professional Assistance

Even though risk management is sometimes challenging, there are many professional resources available and no farmer should feel isolated. Extension educators are expected to provide the educational programs and leadership to help all those who desire to learn. Others are available and well qualified to help, depending upon the specific need.

Use common sense in selecting professional help and ask for references and credentials as appropriate. Rely on the experience of other growers, allied professionals, trade association recommendations, and/or trusted friends/clergy in seeking recommendations of who to use.

Ask Questions

To effectively make risk management decisions, a grower needs to be able to answer a series of questions about his own risk taking ability and that of his nursery business. The list of questions in Table 1 is provided as an example of the types of questions that nursery business owners need to consider. This is not an exhaustive list, but is representative. Only they can determine what the correct answers are. It is the role of the allied agricultural professional (crop insurance agent, lender, crop consultant, etc.) to provide technical assistance where needed, enabling the grower to perform the analysis and make the decision. For example, only the insurance agent can provide the necessary rate and policy information needed to make the crop insurance purchase decision. Lenders can provide interest rate and repayment requirement information. Crop insurance agents, who possess a thorough understanding of nursery records and their use in risk decision-making, are in a strong position of being able to provide the service demanded by today's successful growers.

References

There are numerous sources of outstanding materials on all aspects of farm risk management. Contact your local Cooperative Extension office for assistance and direction.

The Risk Management Education website maintained by the University of Minnesota is an excellent starting point. The University of Minnesota developed and maintains this website with the support from USDA-CSREES and USDA-RMA. This vast and current library of information can be accessed at: **www.agrisk.umn.edu**.

Risk Attitudes

Of Nursery Growers and Allied Professionals

By Dr. Alan W. Hodges, University of Florida

Attitudes towards risk vary widely among people; some are extremely risk averse while others are risk takers. Risk attitudes have far reaching consequences for business decision making. It is important to understand your own risk tolerance when evaluating risky business opportunities to know how much risk is acceptable in relation to the potential returns. Business professionals also have divergent opinions about the relative importance of different kinds of risk facing a business. To-date, very little information has been published about risk attitudes of nursery growers and allied Green Industry professionals.

As part of a project sponsored by USDA-RMA to educate Green Industry managers about basic concepts of risk management through a series of workshops, we gathered data on attitudes and perceptions held about risks among workshop participants. These data were collected in seven separate sessions during late 2007 through mid-year 2008, at various locations throughout the eastern U.S., including Knoxville, TN, Little Rock, AR, Dallas, TX, Austin, TX, Houston, TX, Norman, OK, and Providence, RI. A total of 77 people participated in these sessions, including growers (51 percent), landscapers (nine percent), retailers, educators (22 percent), and allied trades professionals.

Among the basic categories of risk, the one most commonly identified as the greatest threat to Green Industry businesses was marketing, selected by 33 percent of respondents, as shown in Figure 1. Human resource related risks were identified as the biggest threat by the second largest share of respondents (26 percent). Other general types of risks were indicated as the greatest threat by smaller percentages of respondents, including finance (18 percent), production (15 percent), and legal (four percent), while about four percent did not know or were not sure.

Production risks are often the most familiar to nursery growers, many of whom come to the business from a technical background in horticulture. The most threatening production risk

FIGURE 1.
Categories of risk identified as the greatest threat.

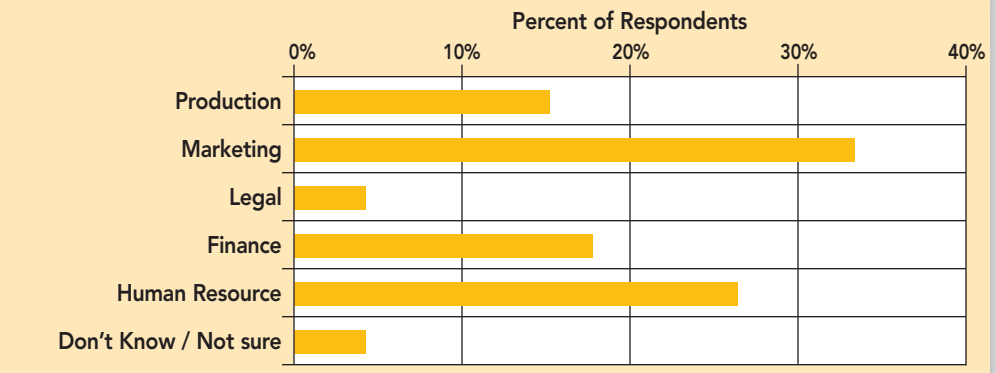
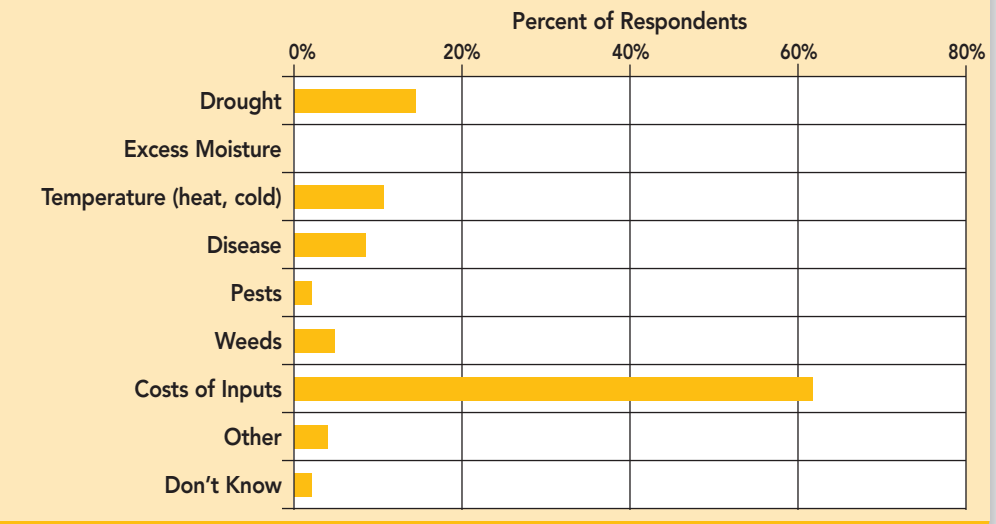


FIGURE 2.
Production risks identified as the greatest threat.



by far was the cost of inputs, which was identified by 62 percent of respondents (Figure 2). Drought was identified as the greatest production risk by 12 percent of respondents. This would apply to mainly field production systems where irrigation is not available, or where water use restrictions may be imposed. Temperature extremes were the chief production risk for 10 percent of respondents, with the possibility for damage by both freeze events and heat waves. Disease was the top risk for 10 percent. Other production risks, such as pests, weeds, and excessive moisture were a serious threat for a relatively small share of respondents, reflecting the dramatic improvements that have been achieved through better chemical pest and weed controls and integrated pest management.

As the Green Industry has matured and become more competitive, with consolidation in the retail sector, concerns about marketing have come to the forefront. Among specific market risks, a majority of respondents (52 percent) indicated that low prices is the greatest risk (Figure 3). In general, it is safe to say that prices for Green Industry products have not kept up with inflation during recent times. Also, consolidation in the retail sector has given retailers greater market power to gain price concessions from producers. Given the overall importance of market risks noted above, together with the overwhelming concern about prices, we may conclude that this is the single most important risk issue in the Industry. Meeting customer demand was the biggest market risk for 14 percent of respondents. Many growers who enter into contractual arrangements to supply plants for wholesalers or retailers may face difficulty in meeting the demand when the customer grows rapidly. Lack of market access was the biggest market risk for 12 percent of respondents. This can be an issue for small to medium-sized growers who lack sufficient scale to compete for supply contracts with large retailers, and are thereby excluded from these markets. Seasonal limitations were the chief threat cited by nine percent of respondents. The nursery business remains very seasonal in many parts of the U.S., due to both cold winters and extremely hot summers, which limit opportunities for end users to purchase plants. Market proximity, or distance to market, was the top threat for seven percent of respondents; however, this item may become more of an issue if fuel prices continue to rise. Meeting quality requirements was a top concern for only four percent, reflecting the generally very high level of plant quality in the Industry today.

In our litigious society, legal risks are often an overriding concern. The legal risk most often cited by respondents (47 percent) as the greatest threat was employee liability (Figure 4). Presumably, this would include risks for employee safety, as well as risks associated with hiring or termination of employees, and the potential for discrimination complaints and unemployment compensation claims. Another legal risk commonly cited was environmental regulations (28 percent). In many places, nurseries are becoming subject to ever more environmental regulations due to heightened concerns for protection of natural resources, with very severe penalties for violations in some cases. Related to this is the issue of urban/rural differences, which was cited as a chief threat by eight percent of respondents. As urban areas grow and encroach upon traditional farming areas, conflicts inevitably arise

FIGURE 3.
Market risks identified as the greatest threat.

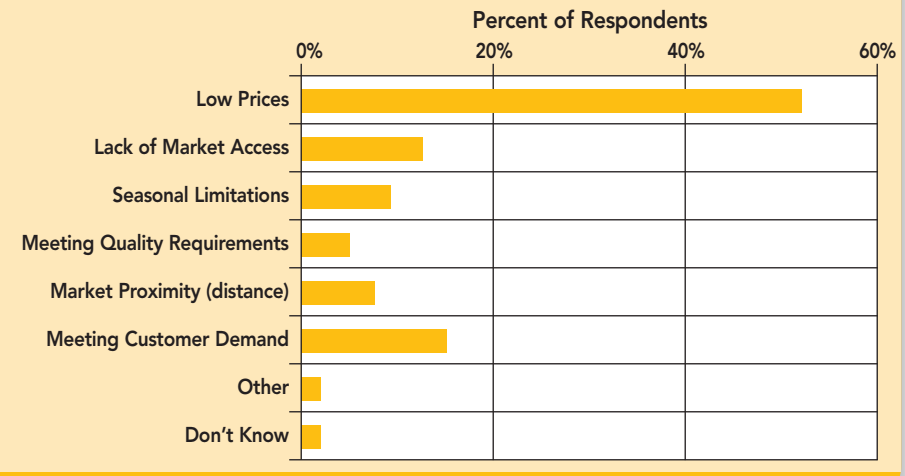


FIGURE 4.
Legal risks identified as the greatest threat.

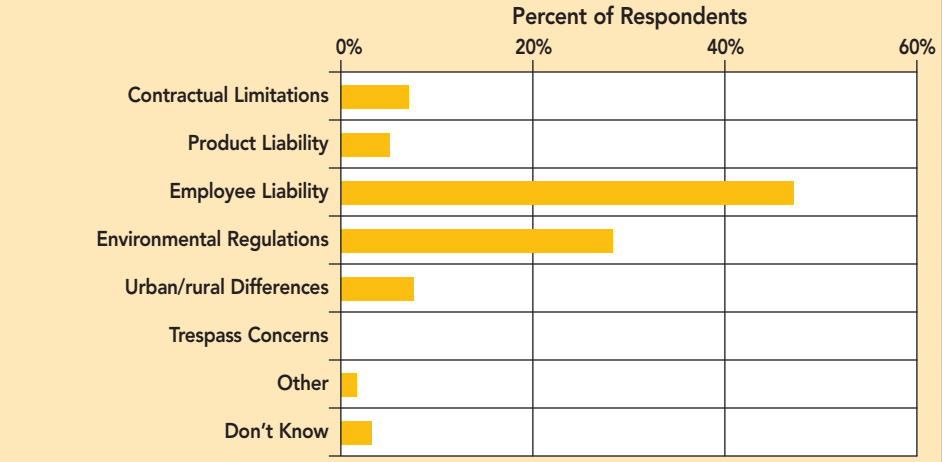


FIGURE 5.
Financial risks identified as the greatest threat.

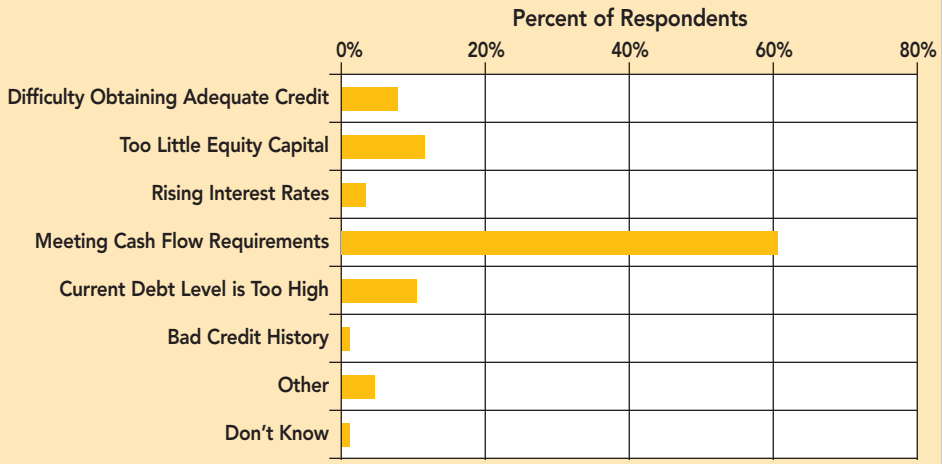
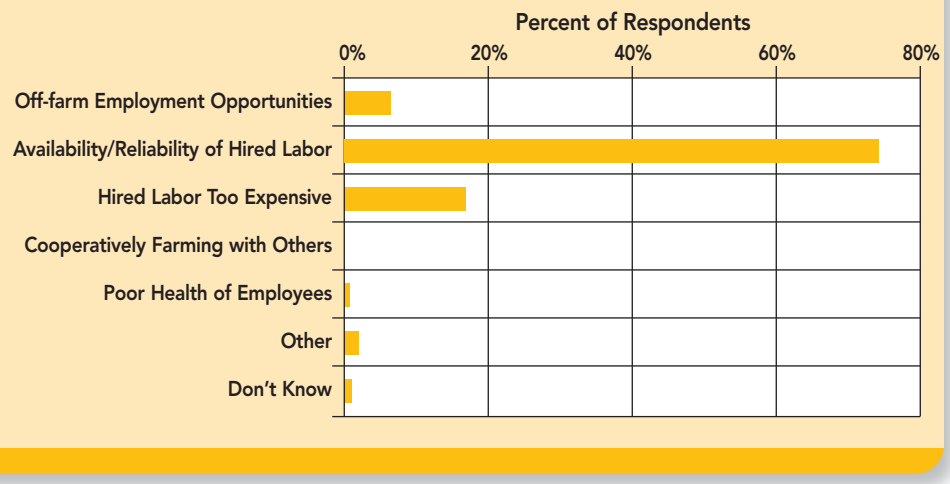


FIGURE 6.
Human risks identified as the greatest threat.



between growers and local residents who may not understand the nature of agricultural operations, such as spraying pesticides, loading trucks for shipping during nighttime hours, or slow-moving machinery on roads. Contractual limitations were also cited as a major threat by eight percent of respondents, again reflecting difficulties in managing relationships with large buyers who often have greater market power. Product liability was cited by only five percent of respondents as an important legal risk, since most plants sold do not carry a guarantee.

Financial risk is a fact of life for all individuals and businesses, and managing financial risks is critical for long-term survival of a business. The specific financial risk most often identified by workshop participants was meeting cash flow requirements (61 percent, Figure 5). Slow-paying customers can lead to ballooning accounts receivable, and difficulty in meeting expenses for employees and vendors. Next in importance among financial risks was lack of equity capital for investment in the business (11 percent). High debt level was indicated as the biggest financial risk by 10 percent of respondents. The related problems of difficulty obtaining credit, and bad credit history, which can make it difficult to obtain loans, were cited as top financial risks for eight percent and five percent of respondents, respectively. Rising interest rates was a risk for only three percent.

Because the Nursery Industry is highly labor intensive, it is beset with risk in managing human resources. Chief among the human resource risks identified was availability or reliability of hired labor, cited by 73 percent of respondents, the highest of any item in this survey (Figure 6). Of course, agriculture must compete with other industries for its supply of labor, such as construction, retail, and hospitality; industries that typically can afford to pay higher wages and benefits. A shortage of qualified American workers has lead to the current situation where most unskilled workers in agriculture are immigrants. By some estimates, as much as 70 to 90 percent of the workforce in the Green Industry may be illegal. Other human resource problems cited by respondents were the high cost of hired labor (16 percent), off-farm employment opportunities (five percent), and poor health of employees (three percent).

Risk Management

For Greenhouse and Nursery Growers

By Dr. Charles R. Hall, Texas A&M University

Sources of Risk

Compared to many agricultural crops, greenhouse or nursery crops offer the opportunity to produce a much higher amount of income on small acreage. With this income potential, however, come sizable risks. Risk results from the inability to predict the future accurately. Sources of risks that may affect the grower's income are production, marketing, financial, legal, environmental, and human resource risks.

- Production risk concerns variation in output arising from many uncontrollable events such as weather (wind, rain, hail, etc.) insects and pests, technical challenges, diseases, input quality, and availability. Fire, theft, and other casualties are also sources of production risk.
- Marketing risk concerns price risk and the availability of markets. Price risk is related to the variability of the price of commodities or the price of inputs, and to unanticipated forces that lead to dramatic changes in retail and wholesale prices.
- Financial risk has three basic components: interest rate risk, liquidity, and solvency. Interest rate risk concerns the cost of short-term, intermediate, and long-term debts. Liquidity concerns the ability of a business to pay its cash obligations in a timely fashion. Solvency concerns protecting the equity in a greenhouse business at adequate levels. Financial risks interact with other risks.
- Legal and environmental risk results from changes in policies and regulations that affect greenhouse and nursery business. For example, changes in government rules regarding the use of pesticides, tax, trade, environmental, or credit policy may alter the cost of production.
- Human resources risks may result from events associated with greenhouse operators and their families, professional consultants, and employees (e.g., theft, accidents, death, divorce, injury, seasonal labor needs, or poor health of key personnel).

Risk Analysis

How do you analyze risk? Chances are you have already analyzed some risks associated with your greenhouse or nursery operation. To be systematic about risk analysis you should:

- Identify the nature and importance of various sources of risk (e.g., production, marketing, financial, legal and environmental, and human resource risk) that may be present in your business. In other words, identify what causes you to earn lower profits or incur a loss instead of a profit.
- Evaluate your risk-management strategies and practices (e.g., work force training programs, implementation of safety programs and devices, insuring crop yields and crop revenues, enterprise diversification, organizational changes, risk-reducing input use, alternative marketing channels, vertical integration, production and marketing contracts, maintaining financial reserves and liquidity, leasing inputs, and hiring custom work, etc.).
- Identify the cost effectiveness of various risk-management alternatives on overall and targeted risk reduction.
- Evaluate the impacts of different types of risk on decision making and performance, and on efficiency and profitability of the greenhouse or nursery business.

Risk Management Strategies

Risk management strategies consist of a variety of responses that may reduce the probability of an unfavorable event occurring and may reduce the adverse consequences if the event occurs. Some risk management options available in conventional farming are not available to nursery and greenhouse producers. For instance, growers producing ornamental horticultural and floricultural products do not have the ability to shift risks via futures and options markets, and Green Industry crops do not have price supports.

Management Responses to Production Risks

Examples of management responses to production risk include crop insurance, enterprise diversification, input use, contract production, and evaluation of new technologies.

Many types of federal **crop insurance** programs offer a variety of insurance products to protect against yield and revenue risks: Multiple peril crop insurance (MPCI), crop revenue coverage (CRC), income protection (IP), revenue assurance (RA), group risk plan (GRP), group risk income protection (GRIP), crop-hail insurance, and adjusted gross revenue insurance

(AGR). Several questions to ask when considering a crop insurance plan:

- Should I buy crop insurance?
- Which crop insurance product will best compliment my marketing plan?
- What are the major sources of production risk and what type of coverage is needed?
- What amount of coverage is needed in terms of cash flow needs?
- What are the implications of a crop loss on my ability to meet my debt obligations?
- What are the costs of the various types of coverage and which offers the best protection for the level of coverage needed?

Diversification concerns producing combinations of crops whose production is not directly related under variations in weather. Several questions to consider when planning to diversify an activity:

- What knowledge and management capabilities are needed for enterprise diversification?
- What additional capital investments would I need to diversify?
- What is the added labor needs of a diversified enterprise?
- Where are potential new markets?
- What are the income relationships between the diversified enterprise and the existing enterprise?
- Will diversification spread management and labor too thin and impact the existing business negatively?

Input use is a major production risk management practice. Insect and disease prevention and control are important inputs for all ornamental producers. Pest management strategies are necessary to minimize the risk of insects and disease. Irrigation system and type of equipment are also important inputs for nursery and greenhouse crop production. Having excess machinery will allow growers to extend the size and scope of their operations and gain economies of scale, but may increase overhead costs. Several questions to consider that are related to input use and availability:

- Should I increase the size and the scope of my greenhouse operation?
- Should I lease or buy equipment?
- Should I produce my own plugs or buy plugs?
- Should I buy pre-finished plants?

In some **contracts** (similar to ones used in the poultry industry) an outside company coordinates all aspects of the business from production to consumer (vertical integration). Production contracts usually detail inputs to be supplied by the contractor, the quality and quantity of commodity to be delivered, and the compensation to be paid to the grower. Consider the following questions when you want to be engaged in this type of contract production:

- Which benefits will the production contract provide?
- What flexibility and control will I be giving up?
- Do I understand the conditions of the contract?
- Do I need legal advice?

A **new technology** may lower input costs and improve environmental quality, or may lead to higher crop yields. You may choose low risk technologies; you may reduce the effects of yield risk through irrigation, pest management practices, and site and plant cultivars selection. Several questions to be considered when evaluating new technologies that you would like to adopt:

- What is the economic benefit of adopting a new technology?

  Does the adoption of new technology reduce my risk?

Management Responses to Marketing Risks

The increased variability of commodity prices has increased growers' awareness of price risks and placed a premium on good marketing skills. Developing a marketing strategy or plan requires careful evaluation of the supply and demand for ornamental products and investigation of market alternatives. Many marketing options are available to the ornamental producer: wholesale market, marketing cooperatives, local retail, roadside stands, farmers markets, Internet and/or mail order, pick-your-own operations, and direct delivery. Vertical coordination and marketing contracts are becoming increasingly important. So is the strategy of spreading sales to reduce dependence on buyers or market segments. Consider these questions when developing a marketing plan:

- What are the potential costs and returns associated with alternative marketing strategies?
- Does my marketing plan cover the entire calendar or crop year?
- Have I checked my marketing plan against my financial plan to make sure that income from marketing covers cash flow needs?
- Have I calculated production costs and estimated my yield to determine my break-even point?

Management Responses to Financial Risks

The preventive approach to managing financial risk is accurate, up-to-date financial records and financial analysis of key ratios and cash flow projections and statements. By using a financial analysis system, growers can be aware of the magnitude of emerging financial management problems so that they can react to them. Maintaining emergency lines of credit with lenders, delaying or reducing business and personal expenditures are responses to managing cash flow. Insurance is a financial response to risk, which provides a specialized source of liquidity. Pacing investments, limiting credit, and leverage and accepting another job in addition to managing the greenhouse are financial responses to risk. The capital structure of your business or your debt management are likely to affect the risk exposure of your business and may force you to operate at sub-optimal levels leading to inefficiency. You also need to investigate how to spread depreciation, interest, taxes, insurance, rental or advertising costs that are fixed in the short run over several commodities. Several questions should be considered when you want to implement these responses:

- What are my short-term and long-term goals? How do they affect my financial planning?
- Should I consult with a bank or other lending institution?
- Should I consider hiring a financial planner or accountant?
- Which records will I need to monitor the financial status of my greenhouse business?
- Which financial packages and computer software might help me?
- What have been the trends in my business' key performance indicators?
- How do the ratios for my operation compare to those of similar operations?
- What are the alternative sources of financing and their terms and conditions?

Management Responses to Legal and Environmental Risk

Two salient risks are tort liability and environmental regulations. Tort liability arises from civil law suits filed because of negligent or unintentional injury to property or people by the grower, employees, or family members in the course of the firm's business activities. The general response to this risk is to carry business liability insurance. Avoiding environmental risks in part is consistent with some of the production risk management practices. Accurate records should be kept on the applications of herbicides, pesticides, fertilizers, and water usage. Consider these questions when you want to implement responses to legal and environmental risks:

- How much liability insurance do I need?
- When do I need to consult an attorney?
- What regulatory agencies are involved? What permits do I need?
- Do I need to perform an environmental audit?
- Have I reviewed my property and liability insurance policies?

Management Responses to Human Resource Risks

Responses to risks such as illness, injuries, death, and divorce are health, disability, and life insurance. Have plans in place for how you will manage the loss of an employee. Maintain an appropriate insurance program, and plan for estate transfer. Good labor management is a key to your business' profitability. Understanding the labor market and planning for adequate and experienced labor is critical to having a high quality product ready for the market. You also must provide training to employees. You must understand several federal and state regulations that apply to farm labor and are administered by a number of agencies and create a set of compliance documents that can eliminate and/or prevent penalties and loss of labor. Consider these questions when you want to deal with human resources issues:

- Does everyone understand your business plans and decision-making structure?
- Do I understand the goals of other family members?
- Do I have an employee handbook?
- Do I have incentives in place for employees?

Summary

Sources of risks that may affect the grower's income are production, marketing, financial, legal, environmental, and human resources. You need to be systematic about risk analysis. First, identify the nature and importance of various sources of risk that may be present in your business. In other words, identify what causes you to earn lower profits or incur a loss instead of a profit. Secondly, evaluate your risk management strategies and practices. Then, identify the cost effectiveness of various risk-management alternatives on overall and targeted risk reduction. Finally, evaluate the impacts of different types of risk on decision-making and performance, and on efficiency and profitability of the greenhouse or nursery business.

RECORD-KEEPING
Essential to Risk Management

By Dr. Laurence M. Crane, NCIS

Information is power! Think of the power and money one could command with perfect information. Think of all the regulatory statutes used to prevent the misuse of "insider" information. Unfortunately, we live in a world of imperfect information. Still, think of all the available information not being properly used that potentially could be transferred into power and money. A major management challenge is to collect, sort out and use accurate and pertinent information for decision-making, while ignoring volumes of useless, time-consuming and erroneous information, and at the same time not overlook essential helpful information.

Record-keeping is not particularly exciting work. In fact, it is usually quite boring. It is time consuming, often tedious and has few immediate tangible benefits. The benefits come from being able to make correct decisions based on credible, documented information; and remember, information is power. Power to make the right decision with confidence, or at least as much confidence as is humanly possible in an imperfect world.

Effective management depends on accurate measurement. In fact, if it can't be meas-

TABLE 1.
Farm management records.

Production Records

Enterprise Budgets* (Crop Budgets):
Project costs and returns over a production period including direct costs (seed, chemicals, fertilizer, crop insurance, fuel, repairs, hired labor, irrigation, etc.), indirect costs (marketing overhead, depreciation, investment and land taxes), returns to management and labor; and yield records including both quantity and quality.

Resources Flow Budgets:
Similar to cash flow in concept, each limiting resource should have a flow budget that reflects sources and uses over time. Examples of limited resources include labor, machinery (by function—seeding, potting, harvesting, etc.).

Financial Records

Income Statement:
Reports the amount of profit the business generates on an annual basis. An accrual statement provides a better measure of the firm's performance because it considers changes in inventories, rather than cash transactions.

Balance Sheet:
Summarizes the values of the firm's owned assets and liabilities. The difference between the two totals is the owner's equity (net worth).

Cash Flow Budget:
Reports the sources and uses of the business' cash resources reflecting both the change in cash, and the timing of when the cash was spent or received.

"Sweet Sixteen" Measures:
Liquidity (current ratio, working capital), Solvency (debt/asset ratio, equity/asset ratio, leverage ratio), Profitability (rate of return on farm assets, rate of return on farm equity, net farm income), Financial Efficiency (asset turnover ratio, operating profit margin, operating expense ratio, depreciation expense ratio, interest expense ratio, net farm income from operations ratio), Repayment Capacity (term debt and capital lease coverage ratio, capital replacement and term debt repayment margin).

Family Living:
A complete listing of family living expenses to include sources of off-farm income and cash withdrawals from the farm to meet living expenses. In-kind contributions from the farm operation to the family should be included.

Ownership/Personal Records

Asset Inventory:
A complete listing of all assets controlled by the business including ownership type and/or control arrangements including leases and terms of agreement. For each asset an estimation of its productive capacity, and its opportunity cost.

Ownership Arrangements:
Listing of all partnership, landlord/tenant, resource sharing (machinery, labor, etc.) agreements explaining how each owner/party is compensated and what the responsibilities and authorities of each are.

Estate Plan:
Describes the exit/entry and retirement plans of the business owners including all transfer investments (will, trusts, insurance, annuities, buy-sell agreements, etc.), and documenting all property ownership. Also should include instructions regarding health, disability, and other personal matters.

Statement of Goals:
A description of business objectives covering both short and long term horizons. Personal goals relating to the business should be listed for each "stakeholder" in the farm and with alternative plans to reconcile competing goals.

**An enterprise budget is a projection of costs and returns based on projected yields and prices, whereas, an enterprise account is a historic summary based on actual yields and prices.*

ured, it can't be effectively managed. With risk management, the rub comes because measurement of many important variables is often subjective, and extremely difficult if not impossible. For this reason it is important to accurately measure those variables that can be objectively measured. Thus, you have the answer to the question for why detailed farm records are necessary and important.

What types of information should growers keep, how much should they collect and what is the best way to organize it? These are legitimate questions. As with most activities, there are numerous ways to successfully accomplish the same goal. Table 1 is one representation of the categories and types of records that most successful growers maintain for their nurseries.

Developing probability distributions of risky events using farm level data, is immensely valuable in risk analysis. The longer the series of data the better; however, ten years of data would be a minimum requirement.

The popular expression made famous in the computer world, GIGO (garbage in-garbage out) applies to farm record-keeping. Any analysis is only as accurate and strong as the information used to support it. Farmers typically concentrate on activities exhibiting tangible results. Record-keeping for the sake of record-keeping is a waste of time. However, recording important information that can aid in the decision process and the effective management of risk is viewed as a worthwhile activity.

Many record-keeping and accounting software packages are commercially available. Typical features include double entry accounting, preparing enterprise budgets, generating complete coordinated financial statements and calculating the "sweet sixteen" financial performance measures. These packages are relatively inexpensive. Moreover, professional assistance is available from a multitude of private companies and institutions that specialize in helping growers with their record-keeping and accounting activities.

In conclusion, remember it takes time to document enterprise performance. Time is a precious resource. So is accurate information about enterprise productivity. As profit margins narrow, survival depends on all resources available to the nursery manager being put to their most productive use. Grower records are an important resource too often ignored and not used effectively. Enterprise level accounting and activity documentation are basic record-keeping functions essential to effective information management. And remember, information is power!

Business Planning for Nursery Managers

Charting a Course Toward Profitability

Dr. John J. Haydu, Planet First Resources and Dr. Alan W. Hodges, University of Florida

Managing a business is similar to charting a course for a ship. The manager does the charting. To be effective, he must have goals. He must continually gather and analyze facts. On the basis of his analysis, he must make decisions and carry them out. The process is never-ending. New information and analyses require alterations just as a change in wind and weather requires the captain of the ship to make frequent changes in guiding his vessel.
(L.H. Brown, J.A. Speicher, 1970)

Overview

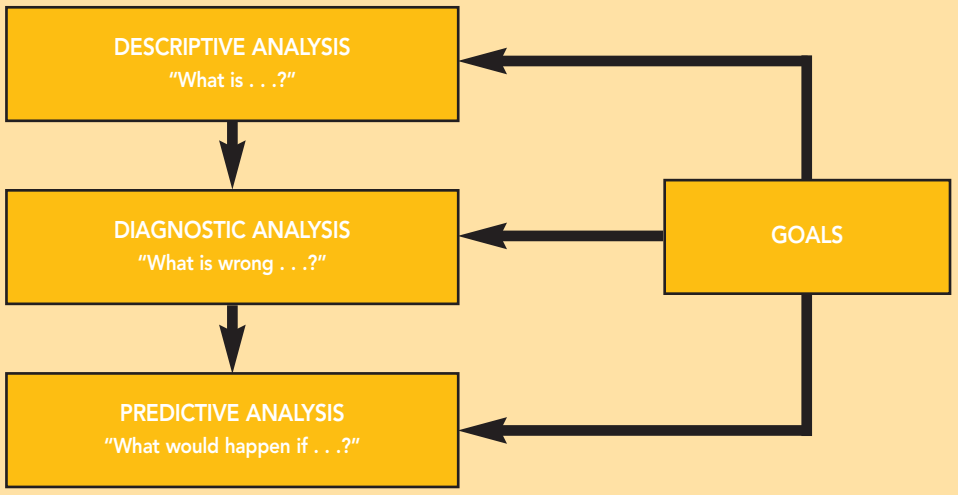
Regardless of the type of enterprise one has, any business is subject to a continuous stream of changing circumstances. This dynamic environment includes price fluctuations, new technologies, natural disasters, changes in consumer preferences, rising input prices, and an unpredictable economy. This constant uncertainty impacting the business world underscores the need for improved management skills. Some changes confronting managers may occur daily or weekly; others may happen monthly or annually. Regardless of the frequency, effective managers determine how the more important changes will likely impact their business. To do this, decision makers must address four critical questions: 1) if adjustments are needed; 2) **when** the adjustments should be made; 3) **what** type of adjustments to make; and, 4) **how large** an adjustment is needed.

To answer these questions, managers can draw upon specialized forward planning tools. These tools allow a person to predict the expected outcomes of various business adjustments under alternative assumptions about the future. The process of estimating possible consequences of future events is important and highly encouraged. The alternative is to implement business changes based on hunches, or simply to maintain the *status quo* and observe the actual outcome. The risk of this approach is obvious—one bad "shot-in-the-dark" correction can spell financial disaster. Although financial planning does not eliminate this outcome, it can certainly reduce the likelihood of its occurrence.

The various activities that enhance the decision-making process can be grouped under three major categories: 1) a **descriptive** analysis to determine "what is . . .?" 2) a **diagnostic** analysis ascertaining "what is wrong . . .?" and, 3) a **predictive** analysis which explores the future "What would happen if . . .?" This process as it relates to goal setting and decision-making, is conceptualized in Figure 1.

Descriptive analysis generally involves accounting information which spells out in clear fashion the current financial position of the business. Very simply, the primary emphasis is placed on the process of collecting and recording data in an organized fashion. Perhaps the most compelling reason to maintain good records is to comply with current tax regulations. Accurate records are also crucial for obtaining credit and are the foundation for evaluating business performance.

FIGURE 1.
A Step-wise process of analyzing the business for decision-making purposes.



Diagnostic information goes one step further by translating recorded data into meaningful information necessary for analyzing the business. The analysis process comprises two inter-related and complimentary components—*comparative* analysis and *trend* analysis. As the name implies, comparative analysis is the process of comparing the financial performance of your business with similar types of business operations. This type of information shows a manager how well the business stacks up against others with similar characteristics, including type of product or service offered, size of business, and perhaps market focus. Trend analysis evaluates the business by comparing its performance from one period to the next. In other words, what is the business' performance over time—is it improving, remaining stagnant, or declining? With this information, a firm is able to evaluate its own financial progress and compare performance with similar firms.

The remainder of this paper addresses the basic concepts of predictive analysis to answer the *"what happens if . . .?"* questions. Necessarily, it builds on the results of the descriptive and diagnostic analyses. How thoroughly and effectively these previous two have been addressed will influence the relative precision of the predictive analysis. Stated differently, if a firm doesn't know its present financial position, reaching a desired destination will be nearly impossible. Understanding basic forward planning concepts not only helps managers make decisions regarding future direction, but it also aids in the application of

more sophisticated management tools for "fine-tuning" the business over time.

Forward planning involves four basic and interrelated steps:

1. Appraisal of goals and objectives
2. Inventory of resource availability
3. Selection of alternatives to be analyzed
4. Methods for analyzing alternatives

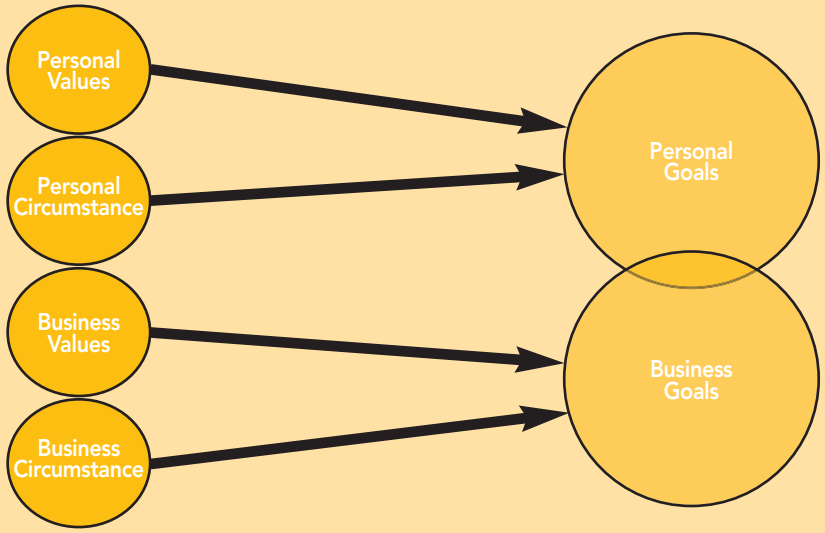
Step 1: Appraisal of Goals and Objectives

Identifying business goals and objectives—the firm's long range vision of itself—is perhaps the most difficult but crucial component of the planning process. Goals are outcome statements that define what the organization is trying to accomplish. Goals put strategic focus into the organization and, ideally, specific ownership of the goal should be assigned to someone in the business. Objectives should be very precise, time-based, and measurable actions that support the completion of the goal. Objectives should compel the organization into action, be simple and easy to understand, realistic, attainable and acceptable to those who are responsible for its execution.

Some managers make decisions with little thought as to how actions might impact the business and the people involved. To ensure that the full consequences of decisions are accounted for, it is useful to incorporate both a short- and a long-term view. Harmonizing these two perspectives, that is, making sure they are not working at cross-purposes, is essential. Many of the current ills facing corporate America are the result of over-emphasizing short-run profitability (keeping shareholders happy with high dividends) at the long-run expense of the firm's competitive position.

All businesses regardless of size should develop a comprehensive goal-oriented program that reconciles *both* personal and business goals. The identification of personal-business goals is difficult and multifaceted. Figure 2 illustrates that these goals are influenced by values and circumstances. Personal values are influenced by family and ethnic backgrounds, religious beliefs, and the social value system. Some individuals may have a strong aversion to debt, even though their profit potential may be quite high. Another person may have nearly the opposite feeling toward debt. Social values can also vary widely depending on one's ethnic background. A first generation Asian-American may have a different perspective and hierarchy of values than a fourth generation Anglo-American. Clearly, these disparate views can impact the focus and direction of goals considerably.

FIGURE 2.
The relationship between personal and business goals.



The other component of personal goals is personal circumstances. Personal circumstances include education level, age, health, skills, personality, and income history. These circumstances, when merged with one's personal values, determine an individual's goals as well as the priority among the various goals. For example, older couples generally place a higher priority on having cash reserves than do younger couples. In addition to personal goals, there is a need to identify business goals. Business goals are a composite of business values and business circumstances. Business values might include high profitability, high efficiency, business growth and remaining competitive. Business circumstances relate to the existing conditions under which the business must function. These conditions include resource availability and the environment within which these resources are used and the products or services that are marketed. For example, a young business with a small resource base may place greater emphasis on growth than an older business with a large resource base.

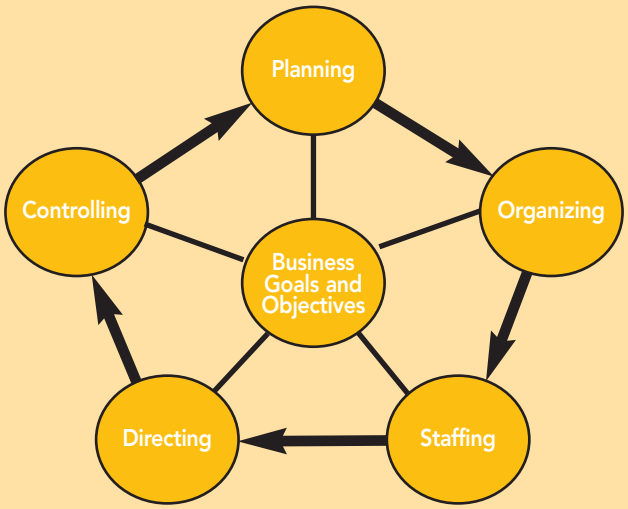
The personal goals that do not conflict with the business goals (the over-lap area in Figure 2) are the relevant personal-business goals that can be used in planning. Once they have been identified, the manager can advance to the remaining steps in forward planning analysis. In cases where one's personal and business goals conflict, the individual should try to resolve them if possible. The influence of family members will, in most instances, be part of the goal-reconciling equation. For instance, a manager may have to choose between spending a limited amount of capital on a new piece of equipment or to remodel one's home. On the positive side, it should be remembered that the business is the means for achieving many of the personal and family goals. Indeed for most businesses, achieving business goals should enhance and complement a family's personal goals.

Step 2: Inventory of Resource Availability

Once personal-business goals have been established, it is necessary to identify resources that can be utilized in meeting these goals. Land, labor, and capital are commonly viewed as primary resources needed for most nursery businesses. A significant amount of effort in managing a business is devoted to acquiring and maintaining a reasonable balance among these resources.

One resource that is often not considered in making plans for the future is management. Management capacity can be acquired from many sources. Management supplied by the owner is of major importance, however other sources should be used when appropriate (e.g., extension service or consulting firms). Advice from external sources is particularly valuable when assessing new technology or when considering a major structural adjustment (e.g., an

FIGURE 3.
All business functions should work towards achieving goals and objectives.



expansion or new product-line) in the business. A common reason for business problems or failures is *an underassessment of management skills* needed to operate the business in an efficient manner. These skills are multi-faceted and complex. A capable and experienced manager makes sure that the numerous daily tasks required of him are in harmony with the businesses goals and objectives. This concept is illustrated in Figure 3.

Other important resources are depreciable assets, such as machinery, equipment, and buildings. Labor requirements should also be evaluated carefully, both in terms of numbers (quantitative needs) and skill or training levels (qualitative requirements). How efficient is your current labor force? Do they accomplish the tasks given them professionally and expeditiously? What type of capital outlays will be required if the business expands? Will debt load become excessive? What level of returns is needed to cover the additional costs of acquiring more debt? How much larger will cash-flow requirements become, particularly if more employees are required? These types of questions should be addressed in this stage of the planning process.

In assessing the availability of resources, a worksheet designed for this purpose can be useful (see Table 1). Basic accounting records of the business can supply much of the information needed to identify resources currently available. For example, they should contain most of the information needed regarding the capital situation of the business, as well as all revenues and expenses incurred during the past year. The itemized list of equipment on the depreciation schedule can aid in establishing the current value of machinery and building-related equipment.

Once the current resource base has been identified, attention should be directed at listing resources that could be acquired in the future. In doing so, it is important to examine all sources, particularly those not currently being used. Too often businesses needlessly confine their business options because they assumed that certain resources were limited when, in reality, additional amounts were available if alternative sources had been explored.

Step 3: Selection of Alternatives to be Analyzed

If a business is going to succeed in forward planning, analyzing alternatives is very important. A common misconception of many mangers is their assumption that the only relevant alternatives for consideration are those currently being employed. Under this assumption, forward planning effectiveness is greatly curtailed. Success in identifying other business alternatives is generally limited by three main factors: 1) lack of interest and initiative; 2) lack of imagination; and, 3) lack of knowledge and information (Warren). The lack of interest or initiative really reflects a manager's desire to make changes in the business. If the business is doing well and the manager simply wishes to maintain the status quo, this may be the proper choice.

Lack of imagination and a lack of knowledge are interrelated. Some managers are inherently creative in approaching problems, whereas others are not. This does not mean that less innovative people cannot improve performance. New ideas can come from several sources. For example, keeping oneself informed of industry developments through trade magazines, conventions, and extension bulletins are good sources of new ideas. Devoting time to "brainstorming" potential opportunities can be particularly effective if key employees are included in the process. The point is, without dedicating time, effort and resources into this process, business alternatives may never materialize.

Step 4: Methods for Analyzing Alternatives

This article has emphasized that making appropriate choices regarding future direction of the business depends largely on the type, and quality of information available. The more reliable the financial records and the longer the firm's history of recordkeeping, the more accurate will be the analytical results. This information can be used to conduct "diagnostic" analysis to determine the firm's efficiency, profitability, solvency, and liquidity. Ultimately, diagnostic information provides an essential "reference point"—similar to a medical check-up, it tells the manager what kind of shape the business is in and whether or not it is reasonable to expand or modify the business focus.

Most forward planning approaches use basic budgeting techniques to organize the financial information. Budgeting techniques can be classified into two groups: total business budgeting or partial budgeting. Total budgeting addresses the problem of projecting cost and returns of an entire business. On the other hand, partial budgeting is primarily concerned with projecting costs and returns of only a segment of the total business. This is useful to obtain a quick look as to whether or not a new venture is feasible. If it does look feasible, a total business budget will then be necessary. For purposes of this article, the partial budgeting approach will be examined.

Partial budgeting examines only those costs, returns, and resource needs that change with a proposed adjustment in the business. The costs, returns, and resource needs of the business that are not affected by the proposed adjustment are ignored. This procedure is illustrated in a simplified example in Table 2. Partial budgeting is a three-step process. The first step identifies those

TABLE 1.
Resource inventory workshop.

Resource	Availability	
	Current	Future
1. Capital		
Owner equity Short-term debt		
(a) Private		
(b) Public (common stocks)		
(c) Other		
Intermediate debt		
(a) Private		
(b) Public (common stocks)		
(c) Other		
Long-term debt		
(a) Private		
(b) Public (common stocks)		
(c) Other		
2. Land		
(a) Owned		
(b Cash rental or lease		
(c) Share rental or lease		
3. Labor		
(a) Operator		
(b) Family		
(c) Full-time hired		
(d) Part-time hired		
(e) Seasonal		
4. Management		
(a) Operator		
(b) Management services		
*Extension services		
*Consulting firms		
*Professional mgt firms		
*Farm input suppliers		
5. Depreciable assets		
(a) Equipment/machinery		
*Owned		
*Short-term rental		
*Lease purchase option		
*Custom hire		
(b) Buildings		
*Owned		
*Short-term rental		
*Lease purchase option		
6. Supply Inventory		
(a) Pesticides & chemicals		
(b) Fertilizers		
(c) Packing/shipping supplies		
(d) Other		
7. Other Resources		

factors that will 1) increase income or, 2) reduce costs. The second step is concerned with those factors that 1) decrease business income or, 2) increase costs. The third step evaluates the adjustment by comparing the gains identified in step 1 in relation to those listed in step 2.

Let us use *The Green Thumb Nursery* to illustrate the usefulness of this technique. Let us assume Larry Laughlin, the owner and manager of Green Thumb Nursery is considering diversifying into landscaping. Nursery sales have slowed so Larry wants to know if he should reduce his nursery operation and add a lawn and garden installation service. From various business contacts, Larry has learned there are opportunities to sub-contract with local developers to install irrigation and landscape systems for new homes. He has also observed a growing trend with homeowners converting existing landscapes into "green" landscapes. His market niche will be to concentrate on subdivisions with upper middle-income homeowners. Between irrigation installation contracts and green landscaping conversions, Larry believes he can improve his monthly cash flow.

To minimize initial expenses, Larry plans on starting slow and substituting existing nursery resources for the new business line. Most resources necessary for the changes are already available from the nursery, including buildings (e.g., administration, storage of equipment and supplies), equipment (trucks, tractors, sprayers, hand tools), and labor (administration, sales, accounting, installers). We will assume that Larry has professional experience in landscape design and installation from a previous job. However, as this is a new business venture, we must assume he will have to invest management time in addition to his regular nursery responsibilities. Some of the plant material to be used in the landscapes will also be available from the nursery. Sod will have to be purchased, as will irrigation supplies, mulches, and any additional landscape material requested by the customers.

Larry needs reliable information on the potential success of this business venture. What will happen to costs and returns if he cuts back on his nursery operation and diversifies into a small-scale lawn and garden installation service? To answer this question, it is necessary to determine how the profits of the business will be affected by this change. This is presented in a simple example in Table 2. (Please note that the figures shown in the table are not intended to

reflect actual conditions; they are for illustrative purposes only. In reality it would be necessary to provide more detail on costs and returns for both the nursery and landscape business components.)

Step 1 in the table identifies specific activities that will increase monthly revenues to the business. Revenues can be enhanced in two ways—through the new landscape business and through reduced costs of the nursery operation. The landscape business has two components—an irrigation installation component and a landscape design and installation (plant material and sod). The partial budget assumes two contracts per month for each activity. The irrigation component will increase gross revenues by $8,880 per month. The landscape design and installation component will increase gross revenues by $16,320 per month (Table 2). Revenues will also be enhanced through reduced nursery expenditures on equipment ($350/month) and labor ($2,400/month). These resources will be diverted to the landscape component. Combined, gross revenues will increase $27,950 monthly.

Step 2 identifies activities that will decrease monthly revenues to the business. Lower revenues stem from two sources—reduced output from nursery production as equipment and labor resources are diverted to the landscape operation. Larry calculates that he will have to scale back production of two plant lines (bougainvillaea and crape myrtle) by 350 units each, for a combined loss of $15,400 per month. In addition, the firm will be realizing additional costs from the new landscape business. These new monthly costs include: 1) irrigation labor and materials at $2,940; 2) landscape design service and installation (materials and labor) at $5,440; 3) equipment operating costs at $350; and 4) increased management expense from the new business at $1,400. Combined, these four cost categories amount to $25,550 per month.

Step 3 is the net economic gain or loss from the venture and is calculated by subtracting Step 2 from Step 1. As is clear from Table 2, the new venture could realize a net gain of $2,400 per month. However, this result rests on the assumption that Larry will be able to acquire two contracts per month for the installation service. Hopefully Larry has investigated business opportunities adequately and is confident that this assumption is reasonable. Now that preliminary indications are positive, Larry should take the next major step and conduct a full business plan that accounts for all costs and returns for both the nursery and landscape division. At this stage it might be advisable to obtain outside expertise from a consultant to be certain that final results are accurate and objective.

TABLE 2.
Illustration of partial budgeting as applied to a lawn & garden installation service.

LARRY LAUGHLIN'S GREEN THUMB NURSERY
General Case: *Should Larry diversify his nursery to include a small scale lawn & garden installation service?*[1]

Step I: Determine What Increases Revenues (Monthly)	
1. Increased revenue	
a)Irrigation installation (materials, equipment, labor)[2]	
$2,960 x 2 contracts/month x 1.5 mark-up	$8,880
b)Landscape design and installation (plant material, sod, equipment, labor)[3]	
$5,440 x 2 contracts x 1.5 mark-up	$16,320
2. Reduced Nursery Costs	
a)Equipment operating costs (gas, oil, repairs)	$350
b)Labor (Irrigation—12 man days; Landscape—18 man days) = 240 hrs	$2,400
3. Subtotals (lines 1 + 2)	$27,950
Step II: Determine What Decreases Revenues (Monthly)	
4. Reduced Production (Income) from Nursery (Monthly	
a)bougainvillaea (–350, 7 gallon @ $22ea)	$7,700
b)Crape Myrtle (–350, 7 gallon @ $22ea)	$7,700
5. Increased Costs from lawn & garden service	
a)Irrigation labor & materials	$2,960
b)Landscape design and installation (labor & materials)	$5,440
c)Equipment operating costs (gas, oil, repairs)	$350
d)Increased management expense from new business (7 days @$200/day)	$1,400
6. Subtotal (4 + 5)	$25,550
Step III: Determine Net Dollar Change (Profits—Monthly)	
7. Net Gain or Loss (line 3 - 6)	$2,400

[1]Assume Larry averages 2 contracts/month, with full (irrigation + landscape) service provided. Also assumes additional administrative and overhead charges from the new business line will be negated by reduced nursery activity.
[2]Assume 3 people @ $10/hour at 2 days/job and 2 contracts/month=12 man-days (md) =96hrs x $10/hr =$960. Irrigation materials (sprinklers, PVC pipe and fittings, valves, controllers, solenoids, etc.) $1,000/job x 2 = $2,000.
[3]Assume 3 people at $10/hour @ 3 days/job and 2 contracts/month=18 md = 144hrs x $10/hr = $1,440. Assumes sod used every other job. Plant material, fertilizer, mulch, sod = $2,000/job x 2 = $4,000).

Summary

A basic understanding of forward planning concepts and techniques and their application in analyzing problems is essential for removing some of the risk and uncertainty associated with decision-making. Having this understanding, a manager or owner is able to derive information that can be used to address those "what if I made this type of change" questions. Partial budget is one tool examined which can help answer this question. Partial budgeting's unique advantage is that it allows for isolating and analyzing effects of a proposed adjustment and ignoring other aspects of the business. However, if results of the partial budget are positive, the manager is advised to consider conducting a comprehensive business plan, ideally from an outside consultant if the project involves considerable capital and risk.

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Production Risks and Responses

Production RISK

By Dr. Laurence M. Crane, NCIS

Any production related activity or event that is uncertain is a production risk. Agricultural production implies an expected outcome or yield. Variability in outcomes from those expected creates risks to your ability to achieve financial goals.

Growers have three choices in dealing successfully with production risks. One, they can control or minimize risk through management practices by doing a better job of what they currently do. Two, they can reduce production variability by making changes such as diversifying, integrating, applying technology, etc. Or three, they can transfer production risk to someone else through contracting, purchasing insurance, etc.

For decades, agricultural risk has been synonymous with production risk. Reducing variability in expected yields has been a major focus of nursery managers. Over time, improvements in technology and production practices have helped decrease agronomic risks and increase yields. For example, genetic engineering has produced new plant varieties that are disease and drought resistant, commercial petroleum-based fertilizers were manufactured increasing yields, effective herbicides and insecticides were developed controlling weeds and bugs, and a whole host of improved production and management practices have been disseminated.

The same underlying changes that are driving the increase in economic risks are also changing the nature of production risks. Not only is yield variability still a formidable production risk, but also the industrialization of agriculture is impacting the entire agricultural production sector. Changes that initially started in the livestock sector are now starting to revolutionize the Nursery Industry. These structural shifts mean that farmers are vulnerable not only to the vagaries of weather and Mother Nature, but are vulnerable to economic forces that exacerbate traditional production risks.

Management Alternatives

Farmers have three choices in dealing with production risks.

The first is to essentially continue farming as before, but try to control or minimize risk through management practices. This includes such things as being more timely in performing operations, practicing preventative maintenance, and monitoring production activities more closely to ensure problems are detected early enough to take corrective measures.

The second choice is to reduce production variability. Generally, this means reconfiguring the operation by adding or changing enterprises through diversification or integration, and applying improved technology as appropriate. Remaining flexible is essential to being able to respond to changing economic conditions more easily. A big part of reducing production variability is to actively plan for the future and prepare a contingency plan so one knows what to do when undesirable events take place.

The third alternative in managing production risk is to transfer some or all of the risk

to someone else. Contracting and insurance are two effective tools to transfer risk.

Control or Minimize Risk

There are numerous examples of how risk can be minimized or controlled through improved management practices. Chemical and fertilizer use is all about controlling (or reducing) the variability in production. Irrigation is very effective in minimizing the effects of low rainfall or drought.

Timeliness of operations has a very large impact on most production activities. Frequently, about the only difference between successful farmers and less successful farmers, who engage in the same production enterprises, is that the successful farmer is more timely in getting things done.

Practicing preventative maintenance is typical of farmers who do a good job of managing production risks through minimizing or controlling as best as possible the likelihood of negative events taking place. Because some risks are so difficult to anticipate and control, controlling those risks one can, takes on added importance.

Reduce Variability

Diversification

Diversification is an effective way of reducing income variability. It is the combining of different production processes. Effective diversification occurs when low income from one enterprise is offset by satisfactory or high incomes from other enterprises. It typically reduces large year-to-year variations in income and may ensure adequate cash flow for meeting production costs, debt obligations, and family living needs. However, acquiring new overall knowledge about an alternative business, new crop production expertise, and new equipment for a new crop may be costly. Expanding into new areas or experimenting with new plants will increase capital investment requirements. For instance, diversification can include different plant types, combinations of plants and services, different end points in the same production process (such as different selling sizes), or different varieties of the same plant.

Through crop diversification, as a production risk management tool, growers may acquire another marketing tool, providing another way to enhance profitability. Direct marketing of the diversified crop to consumers is becoming much more common, including farmers' markets, roadside stands, and community-supported agriculture arrangements.

The benefits of diversifying income sources depend on the variability of returns faced by a producer. Diversification can also be achieved by having several income sources, such as on-farm businesses, landscaping services, and off-farm income (employment, investments or savings), to help counter negative fluctuations in farm income.

Flexibility

Farmers commonly attempt to maintain flex-

ibility in their operations as a production response to variability. Increasing specialization of production facilities and equipment sometimes limits flexibility among types of plants, and may also limit services provided. Growers are likely to maintain flexibility more in their marketing and financial decisions than in the type and size of production activities. Often the costs associated with flexibility in production are higher than most farmers are willing to incur.

Integration

Vertical integration includes all of the ways that output from one stage of production is transferred to another. Vertical integration in the Green Industry is accomplished by altering the mix of enterprises the nursery is engaged in. For example, a nursery that also provides landscaping services using their own nursery stock is vertically integrated. Cost effective integration is often difficult to achieve except on a large scale.

To a certain degree, vertical integration runs counter to the concept of specialization. The early farms of pioneer settlers were in essence totally vertically integrated. Every aspect of the production process was connected and performed on the single farm. Most farms today are a blend of integration and specialization. For example, a modern family dairy farm typically engages in the integrated enterprises of feed production, milk production, and replacement heifer production. These enterprises are easy to integrate and generally make sense. However, some dairy farmers may specialize to a greater degree on milk production and elect to purchase all of their feed and replacement heifers.

Apply Technology

There are countless opportunities to apply new technology in managing production risk on the farm. This includes the physical technology (high tech) often referred to as precision agriculture. Precision agriculture takes advantage of advances in computers and mechanical engineering to make better, more efficient, machines and equipment.

Biotechnology research continues to advance on many fronts with the goal of making crop production more efficient. Scientists are developing plant varieties that can withstand environmental stresses such as drought, flood, frost, or extreme temperatures. A related area of research is adapting crops to regions where they are not normally grown because of climate, altitude, or rainfall. Biotechnology is also being used against plant pests such as weeds, insects, and diseases. Biotechnology is being used to develop diagnostic tests for a wide range of diseases and viruses.

The key to applying technology in managing risk is to do so in a way to lower total farm risk Sometimes new technology may increase risk, or the increased cost for the corresponding reduction in risk is prohibitive.

Transfer Risk to Someone Else

Contracting

A contract is usually defined as a written or oral agreement between two or more parties involving an enforceable commitment to do or refrain from doing something. In agriculture, contracts between farmers and agribusinesses specify certain conditions associated with producing and/or marketing an agricultural product. By combining various market functions, contracting generally reduces participants' exposure to risk. In addition to specifying certain quality requirements, contracts also can specify price, quantities to be produced, and services to be provided.

Growers enter into contracts for various reasons, including income stability, improved efficiency, market security, and access to capital. Retailers enter into contracts to control input supplies, improve responses to consumer demand, and expand and diversify operations. All of these reasons reflect efforts to bring a more uniform product to market.

Production contracts can take many forms, depending upon the commodities being contracted and the economic needs of the parties entering into the contract. Generally, producers give up some management independence and decision making for a more stable income and less variability.

Insurance

Insurance can be an effective mechanism of transferring large risks to someone else. To be insurable, objects must be important enough to cause economic hardship to the insured if they are damaged and of sufficient number and quality to allow a reasonably close calculation of probable loss. Also, the potential loss must be accidental and unintentional, and, when an adverse event occurs, the amount of the loss must be capable of being determined and measured.

By definition, insurance is the means of protecting against unexpected loss. Everyone has insurance; either you buy insurance from an insurance company, or you insure yourself. When you self-insure there are no premiums to pay, but in the event of a loss you pay the full amount. In other words, with self-insurance you have a policy with a 100 percent deductible.

The three types of insurance that all growers should carry are: 1) property and casualty insurance; 2) health, life, and disability insurance; and, 3) liability insurance.

Crop insurance is a very important type of property insurance that can be used very effectively in conjunction with marketing plans to also reduce marketing risk. Crop insurance can guarantee a level of production, thus removing the risk associated with forward pricing or selling products that are yet to be produced. Crop insurance will provide the money to deliver on a commitment should the insured nursery suffer a loss prior to harvest.

Medical expenses due to a serious illness or injury can wreak economic havoc on a family. Farmers are more likely to be disabled than killed in accidents and a good disability policy is as important as life insurance and is a good risk management tool.

A liability policy protects a farmer against claims or lawsuits brought by persons whose property or person has allegedly been injured by the farmer's negligence.

References

There are numerous sources of outstanding materials on all aspects of farm production and managing production risk. Contact your local Cooperative Extension office for assistance and direction.

The Risk Management Education web site maintained by the University of Minnesota is an excellent starting point. This vast and current library of information can be accessed at: **www.agrisk.umn.edu**.

The Pros and Cons of **Diversifying the Nursery Business**

By Dr. John J. Haydu, Planet First Resources

"Shoemaker, shoemaker stick to your last!" This cliche emphasizing simplicity still has a compelling ring. The less complex a business is, the easier it is to manage and the less there is likely to go wrong. Simplicity makes for clarity of purpose. Employees can more easily understand their job, its relationship to the whole and to business performance. Efforts tend to be more concentrated, expectations are defined with less effort and results can be assessed and measured more accurately. Managers have a much clearer understanding of what needs to be done and how to do it. If problems do occur, they can be readily identified and addressed.

The more complex a business becomes, the more problems can occur in both organization and communication. More layers of management may be required, more forms and procedures to accomplish tasks, and longer delays may occur in decision-making. In the early days of the Nursery Industry—prior to major technological advances in tissue culture, liner production, plastic containers and slow release fertilizers—most growers focused on a few product lines and limited their markets accordingly. The Industry and the firms that comprised it were simple and uncomplicated and served very basic market niches. The Industry today bears little resemblance to the one that existed in the 1960s and 1970s as do the many markets now in proliferation. Today many nursery managers feel as if there are caught between a "rock and a hard place"—the market seems to push them relentlessly towards being bigger and more diversified even if they don't want to. The problem is that there comes a point of complexity when a business no longer is manageable. The late Peter F. Drucker, a world renowned expert on business management, cautioned about the dangers of growing too quickly. The danger is that by becoming large and diversified the manager loses that "hands-on" approach to running the business. As the expansionary process unfolds, managers soon depend on abstractions such as formal reports, figures and large complicated data sets and lose sight of the core business with its people, its customers and its market environment. Unless the manager truly understands what is relevant and can hold this reality against expectations, there is danger of losing control. Problems will become apparent after they have metastasized into "trouble" and opportunities seen only after they have already been missed. Drucker emphasizes that nothing succeeds like *concentration on the right business*—and if the business is not right, no amount of diversification can make the company grow and prosper. So, that being said, what are the compelling arguments for diversification?

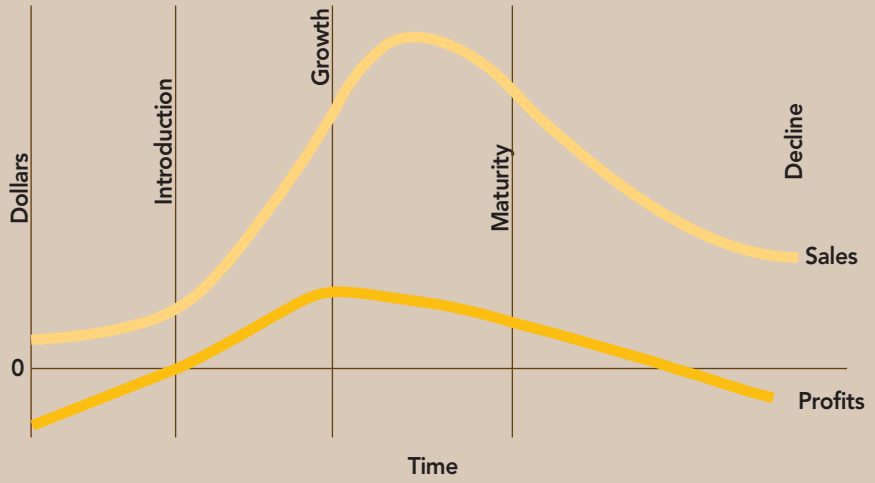
Why Diversify?

In the beginning, most successful businesses find a simple solution to an overlooked opportunity—potential demand existed, it just had to be discovered and satisfied. The cardboard sleeves used by Starbucks and other coffee purveyors were invented by a service station mechanic who was tired of burning his fingers from the paper cups—a simple solution to a nagging problem. But even the best ideas eventually become old or a new concept or product makes it obsolete. Even highly concentrated businesses need to be aware that there are both internal and external pressures for diversification.

Internal Pressures

One of the most compelling reasons to diversify is the *product's lifecycle*. All products, regardless of their initial success in the marketplace, go through four distinct and inevitable phases—introduction, growth, maturity and decline (Figure 1). The Nursery Industry has been hugely successful representing one of the fastest growing sectors in U.S. agriculture. This growth has in large part been due to the introduction of new plant varieties that have met or exceeded market expectations. But the very proliferation of plant materials has also resulted in a shortened lifecycle for these products as

FIGURE 1.
While new products have generated interest, the product life cycle has shortened!



Source: Charles R. Hall, TAMU

the market eagerly awaits the next introduction. So a firm specializing in a few core products will eventually face the reality of declining demand. At this point, one feasible alternative is to diversify into new plant material.

A second internal pressure for diversification is *being the wrong size* for a particular market. Even a fairly large nursery may not have the capacity to serve a big box store, especially if it adds on new branches, a common strategy among chain stores. The grower may be forced to expand beyond its management or resource capability or may decide it is simply too risky a venture. In these cases, backward or forward integration can be an alternative solution. For instance, a nursery could integrate forward by starting a small landscape company or a retail garden center. This will make sense if the grower has close proximity to markets and has the ability to differentiate itself from local competitors.

A third logical reason is to convert a *significant cost center* into a revenue producer. Given the rapidly rising costs of fuels, fertilizers and chemicals, backward integration into a material supply company could be profitable for a nursery. But even a profitable business that develops out of a cost center should do so only if it is compatible with the company's mission, strategic objectives and the marketplace it serves. Remember, even if the company stays in the same industry, it will be moving into a new area where it has little or no experience. Diversifying into new activities require new skills and will be assuming new risks. So these tradeoffs need to be considered carefully, ideally by developing a comprehensive business plan that takes all major factors into account.

External pressures

Of all the external pressures facing nursery firms, the *economy* is currently one of the most significant. This is especially true for states being hardest hit from the housing slowdown, such as California, Florida and Arizona. In these states, producers of landscape plant materials and trees are being impacted severely as new housing starts have slowed dramatically. Growers who have not diversified in some way—through their products, their markets, or geographic location—are currently struggling to survive. Geographic diversity is an important factor because not all states are impacted equally. Some states, such as Texas and Oklahoma have diversified economies and are also riding the wave of high energy prices and so feel much less financial pain.

A *shift in market demand* can be a second compelling reason to diversify. Recently there has been a *new trend in outdoor living.* Many homeowners are expanding their outdoor space and view inside and outside areas as a whole where backyards and patios now serve as playgrounds, living rooms, home offices and kitchens. According to the Garden Media Group, in 2004 the outdoor living products and services reached $62.5 billion and are forecasted to reach nearly $90 billion by 2010. Nurseries should take note that plant material accounted for less than one-third of this total market whereas hard goods comprised the remainder. Some of these "outdoor" items included plasma screen televisions, Viking grills, and fireplaces complete with art over the mantel.

Now most of us are acutely aware that the U.S. is currently experiencing a fairly significant economic downturn. A logical question is—how viable is the market for outdoor living material given this slump? To that I would respond that even though the economy as a whole may be depressed, some market segments are not. For instance, consumers in the higher income brackets have accumulated assets and are strategically diversified so that their income is relatively immune to economic downturns. This market niche should absolutely be targeted by growers interested in diversifying into the outdoor living segment.

Considerations When Weighing Diversification

Clearly there are right ways and wrong ways to diversify. Drucker suggests asking two important questions, the first is: "What is the *least* diversification this business needs to accomplish its mission, obtain its objectives and continue to be viable and prosperous?" The second is: "What is the *most* diversification we can manage, the most complexity this business can bear?" He notes further . . . "the optimum will lie, as a rule, between the two extremes" (p. 692). Although diversification into new markets and production areas can be an exciting and profitable step for a nursery, there are some very core factors one should carefully consider before venturing into a new area.

Firm Financial Health. This is probably the most basic and important consideration. Nursery owners should undertake a comprehensive review of their present fiscal standing—and future prospects—before expanding the business into a new area.

Cost of Entry. This is linked closely to the nursery's basic financial health. Whether through expansion or acquisition, diversification typically requires significant financial outlays. Do you have the means, including the management skill, to meet those requirements while simultaneously keeping the existing business running smoothly?

Adequate Labor. Evaluate and assess the ways in which diversification could impact your current work force. Will your employees be

forced to take on added duties with little or no change in their compensation? Will any of your workers need to relocate their families or place of work as a consequence of the expansion? Does your work force have the necessary skills and knowledge to handle the requirements of the new business, or will your company need to initiate a concerted effort to attract new employees?

Access to Market Channels. A nursery interested in introducing a new product or service should first ensure that it will have adequate access to distribution channels within the target market. If wholesale or retail channels are limited and a substantial pool of competitors is already entrenched, entry could be difficult. Existing competitors may have ties with channels based on long relationships, high-quality service, or even exclusive relationships in which the channel is solely identified with a particular client. Sometimes entry barriers are so high that it is prohibitive for the firm to assume the risk.

Regulatory Issues. Governmental regulatory policies at the local, state, and national level can also have an impact on the diversification decision. For instance, governments can limit or prohibit entry into industries with strict regulations on air and water pollution standards and product safety. Pollution control requirements can increase the capital needed for entry and the required technological sophistication to open a new business. Numerous ordinances at the local level could especially be prohibitive and should be thoroughly checked before any serious investment decisions are made.

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Pot-in-Pot Nursery Production

In-Ground and Above-Ground Systems

By Dr. Allen Owings, Louisiana State University

Growers across the southeastern United States have been implementing pot-in-pot production systems to varying degrees over the last 15-20 years. This practice is widely used in some areas and has not been pursued to any degree in other areas. Some field growers are converting land to pot-in-pot production and growers using traditional container production systems are experimenting with different pot-in-pot systems due to the advantages that they offer. There are "in-ground" pot-in-pot production systems and "above-ground" pot-in-pot production systems. Modifications of these systems also exist.

Production risks can be minimized when a pot-in-pot system is used. Production of some plants can be improved. Better quality can be achieved, production time can be reduced, and fewer production inputs are sometimes required. Nursery workers also benefit from labor savings that are accomplished using a pot-in-pot production system.

Traditional pot-in-pot production attempts to combine field and container growing techniques and offers advantages over these more traditional nursery industry production systems. In pot-in-pot production, a "socket" container is placed in the ground and a second pot containing the plant to be grown is placed into the socket. Advantages of pot-in-pot production when compared to traditional container production include reduced heat stress to the root system during the summer months, elimination of container blow-over, and minimization of root zone temperature fluctuations during the winter months. Irrigation requirements can also be reduced. In-ground pot-in-pot has been shown to produce a larger root mass in plants when compared to conventional container production. Of course, a larger root mass—which leads to an improved root to shoot ratio—

should translate into improved transplant success and faster establishment in the landscape.

A primary requirement for an in-ground pot-in-pot system is a well drained soil base or the installation of a drainage system to remove excess rainfall or irrigation water volume when a poorly drained soil is used. Normally, a sandy soil, or most certainly a soil no finer textured than a sandy or silty loam, is needed if drainage improvements are not made. Additionally, installing an in-ground pot-in-pot system is labor intensive and requires considerable equipment. The system also is permanently located once installed so future production plans and nursery layout needs to be carefully considered prior to installation.

In the mid 1990s work began on the introduction of an above-ground pot-in-pot production system. You may also see these referred to as "nested containers." Seven and 15-gallon containers are most common. This method is intended to overcome some of the disadvantages associated with in-ground pot-in-pot while still taking advantage of the insulation value of a socket container. The above-ground system places a potted container in a socket pot on the surface of a container yard, ground cover clothed area, or field soil. The socket pot has flared sides to prevent blow-over and only needs a little soil or mulch at the base to be held in place.

Advantages of above-ground pot-in-pot compared to in-ground pot-in-pot include significant labor and cost savings at installation. It also allows for adjustment in future container spacings and eliminates the need for ideally drained soils or the need to install a drainage system. Escape roots can sometimes be a problem with in-ground pot-in-pot plants, whereas escape roots are normally less of a problem in the above-ground system. Blow-over may occur once in a while with above-ground pot-in-pot while it never occurs with in-ground pot-in-pot if the socket pots are properly installed. Both of these methods will save significant man hour dollars in picking up plants due to windy growing conditions. Retail garden centers and re-wholesale yards should consider an above-ground pot-in-pot system for short term holding of large trees and shrubs that are prone to blow-over.

Studies comparing root zone temperatures and size of the root mass usually show that a plant properly maintained under an in-ground pot-in-pot production method will have minimal root zone temperature fluctuations and increased root growth compared to an above-ground pot-in-pot system. The insulation capability of the above-ground pot-in-pot system is considerably less than the in-ground pot-in-pot system, but the above-ground method has been shown in some instances to effectively reduce the amount of root stress/kill on the southwest side of containers when compared to traditional container growing. There still, however, is considerable research that could be done to further investigate these issues.

Production Risk Reduction When Using a Pot in Pot System

- Less plant breakage due to container blow-over reduction
- Less labor and worker stress due to reduced blow-over and less handling
- Fertilizer efficiency is improved
- Irrigation volume reduction and efficiency improvement
- Production time can be reduced for some species
- Root zone temperatures decreased in the summer
- Root zone temperature fluctuations reduced in the winter
- Improved root-to-shoot growth ratio
- Significant installation cost savings when an above-ground system is used
- Significant labor savings when an above-ground system is used

Why Should I Buy Crop Insurance?

"... it makes good economic sense!"

By Dr. Laurence M. Crane, NCIS

Insurance is a simple concept, yet a complex subject. The concept of joining together to provide affordable protection against staggering economic loss is simple; understanding the Federal crop insurance program is complex. Thus it is sometimes easy to become confused, discouraged, or worse—to do nothing at all. This article outlines the basic principles of insurance and highlights some of the popular misconceptions of crop insurance that lead to poor decisions and/or inaction.

By definition insurance is the means of protecting against unexpected loss. Everyone has insurance; either you buy insurance from an insurance company, or you insure yourself. When you self-insure there are no premiums to pay, but in the event of a loss you pay the full amount. In other words, with self-insurance you have a policy with a 100 percent deductible. The easy answer then to, "Why should I buy crop insurance?" is: It is better than the alternative. The more complete answer would be that in most cases it makes good economic sense.

To understand why buying crop insurance makes good economic sense and is prudent risk management, one needs to understand the basic principles of insurance.

Principles of Insurance

Pooling of Risks

Insurance is the pooling or combining of enough small unpredictable risks so that the losses over time for the combined group become statistically predictable. The basis of any insurance is the "law of large numbers." This basic law of mathematics means that as the number of exposures or participants increases, or as the size of the pool increases, the average results become more stable. Hence, what is a risky, uncertain, and burdensome possibility for an individual becomes in the combined pool a measurable, relatively constant, and manageable event that can be statistically estimated.

By paying a proportionate share of the loss for the group as a whole, it is possible for an individual to avoid a loss that, if borne alone, potentially could cause major financial problems or complete business failure. The relatively small premium paid by the individual is considered the expense of avoiding the full adverse effects of the particular risk being insured.

Insurable Risks

Unfortunately, not all risks are insurable. To be insurable, objects must be important enough to cause economic hardship to the insured if they are damaged and of sufficient number and quality to allow a reasonably close calculation of probable loss. Also, the potential loss must be accidental and unintentional, and, when an adverse event occurs, the amount of the loss must be capable of being determined and measured.

Economic hardship. What is a serious loss to one person may not be serious to another. A basic principle of purchasing insurance is that the most economic use of insurance premiums is to protect against the most serious loss first, i.e., those losses that cause the greatest business interruptions because one cannot absorb them out of current income or savings. For this reason, most insurance policies have deductible amounts to avoid the expense of small claims. This enables the cost conscious individual to purchase coverage for just the most severe events. Smaller losses can often be handled more cost effectively by the insured, rather than by the insurer.

Sufficient number and quality. To predict probable loss through the law of large numbers, it is essential that a large number of similar, though not necessarily identical, units be exposed to the same peril. The units must be of sufficient number and quality to allow a reasonably close calculation of the probable loss. Generally, the more data—geographical and historical—the more reliable the estimated loss potential and the more actuarially sound the rate structure.

Accidental and unintentional. Although some losses are expected for the combined group (pool), specific individual losses should be unexpected. There must be some uncertainty surrounding the occurrence, size, or timing of the loss, otherwise there would be no risk. There must also be little or no moral hazard. That is, the risk must generally be accidental in nature and the availability of insurance coverage should not reduce the incentive of the insured to prevent the loss, or induce the insured to cause the loss to occur in an effort to fraudulently collect the indemnity payment.

Determined and measured. The loss must

be definite in time and place, and must be capable of being measured with reasonable accuracy. Loss procedures need to be established that determine if a loss occurred and its size before an insurer can safely assume the burden of risk. That is, for a loss to be insurable it also must be difficult to counterfeit so that the true cause can be determined and the true extent of loss can be measured. If this isn't done, the insurer could be exposed to phantom claims that would undermine program stability.

Popular Misconceptions

Crop insurance is a popular risk management tool with farmers and agricultural policy makers. Congress has made crop insurance a major component of the safety net for farmers and continues to appropriate funds to subsidize farmer premiums. Education on crop insurance and risk management has been a major focus of the Cooperative State Research Education and Extension Service (CSREES) and the USDA Risk Management Agency (RMA). In spite of all this, there are still some producers who don't buy crop insurance. Sometimes this is a wise economic decision; other times it is due to common misunderstandings about insurance and/or a lack of understanding economics. Consider the following misconceptions about crop insurance.

"Insurance is a Bad Investment"

Sometimes insureds will say, "Insurance is a bad investment. I have been buying crop insurance and haven't collected a single payment." Insurance is **not an investment** with an associated expected return. However, crop insurance is particularly important from a financial standpoint. It enhances borrowing capacity because it can be assigned to a lender as loan collateral. It opens the door to marketing opportunities that would otherwise be unavailable by providing the means to replace product lost to an insurable cause, thus allowing a producer the ability to guarantee delivery as part of an aggressive marketing plan.

Crop insurance is a way of transferring the actual loss to another party in exchange for a fixed premium in advance of the occurrence of loss. Looked at another way, individuals who purchase automobile insurance and insureds who buy fire insurance on their homes understand that they don't want to collect. They view their insurance as protection against potential loss, not an investment earning an expected return.

Insurance is not purchased to recover losses per se, but is a method of eliminating the uncertainty for an individual as to whether or not a loss will occur that he must completely absorb. Thus, insurance performs its chief function during the period before any potential loss. Insurance has been described as the distribution of losses of the unfortunate few among the fortunate many. The insured has the security of knowing that should he be one of the unfortunate few individuals in the pool who suffer a loss, he will be reimbursed out of the premiums paid by the fortunate many who suffered no loss.

Finally the principle of indemnity means that a person may not collect more than his actual loss in the event of damage caused by an insured peril. This means that even if the coverage purchased is in excess of the value of the crop, the insured cannot make a profit by collecting more than his actual loss if the crop is damaged.

"Crop Insurance Costs Too Much"

The cost of any insurance product is reflective of the size and uncertainty of the underlying risk. As discussed above, there are numerous factors that can affect the predictability and cost of any given uncertain event. The price of crop insurance is based on the historical damages of the units being insured in the same county.

Congress has recognized that crop insurance is a very useful tool in managing risk, but due to the risky nature of production agriculture the full cost of providing insurance is not a trivial expense. Consequently Congress has appropriated sufficient funds to subsidize the cost of buying crop insurance. In fact, the recent farm legislation maintained the subsidy to farmers. Moreover, a growing number of states provide an additional state funded premium subsidy to entice their producers to purchase crop insurance. The bottom line is this: crop insurance is widely recognized as an effective tool in managing crop production risks and is becoming more affordable.

"The Coverage I Need is Not Available"

This is becoming less of an issue all the time. The USDA Risk Management Agency is continually modifying and expanding the Federally reinsured and subsidized insurance products available. Additionally, private companies also offer many other crop insurance products that are not subsidized. Over time the offerings of crop insurance have significantly increased and all indications are that this will continue in the future.

Insurance is one commodity that must be purchased before it is needed. Once the hurricane hits, it is too late to buy insurance. However, it is never too late to learn about crop insurance products and take advantage of this risk management opportunity.

Nursery INSURANCE

By Laurie Langstraat and Dr. Laurence M. Crane, NCIS

What is the nursery crop insurance program?

- *Available in all counties, all states*
- *Covers field-grown and containerized nursery plants*
- *Available for CAT or buy-up coverage*
- *At least 50 percent of gross income must come from wholesale marketing of plants*
- *Plants are insurable if they are on the Eligible Plant List*
- *Christmas trees are not insurable*

Nursery crop insurance is available in all states nationally provided certain criteria are met. The plants must be produced by a business enterprise that derives at least 50 percent of its gross income from the wholesale marketing of plants. Insurance coverage applies to all field-grown and containerized nursery plants in the county that are: 1) shown on the Eligible Plant List; 2) meet all requirements for insurability; and, 3) grown in an appropriate medium using acceptable production practices. Stock plants or plants grown for sale as Christmas trees are not insurable. An inspection of the nursery must be performed before insurance coverage begins.

The Eligible Plant List (EPL) is a listing of insurable plants approved by the USDA Risk Management Agency. Insurance can be purchased for plants listed on the EPL at either the Catastrophic (CAT), or buy-up level for each practice (container or field-grown). CAT level insurance has a 50 percent deductible; once the deductible is met, CAT provides coverage on the remaining 50 percent of your insurable plant inventory at 55 percent of the price. The price for insurance purposes is either, the lesser of your wholesale price or the price listed on the Plant Price Schedule. The Eligible Plant List and Plant Price Schedule (EPL/PPS) is a schedule of prices for insurable nursery plants provided by the USDA Risk Management Agency (RMA) and is available on their website at **www.rma.usda.gov/tools/**.

Buy-up levels vary for 50 to 75 percent, in five percent increments, of your insurable plant inventory at 100 percent of either, the lesser of

your wholesale price or the price listed on the Plant Price Schedule. Different coverage levels may be elected for each plant type. Additionally, your crop year deductible also varies with the level that you chose, for example at the 65 percent level, your deductible is 35 percent.

What is the plant inventory value report?

- *States value of insurable plants*
- *Required for each insured practice*
- *Wholesale catalog must accompany application*

The plant inventory value report, or PIVR, is your report that declares the value of insurable plants in accordance with the policy. You are required to have a plant inventory value report for each insured practice. Two copies of your most recent wholesale catalog or price list must accompany your insurance application. The wholesale catalog must: 1) be type written and legible; 2) show an issue date on the cover page; 3) contain the name, address and telephone number of the nursery; 4) be used for plant sales to customers; and, 5) list plant names, container sizes and wholesale prices.

Important Definitions

- *Eligible Plant List and Plant Price Schedule (EPL/PPS)*
- *Container-Grown Plants*
- *Field-Grown Plants*
- *Liners*
- *Stock Plants*

Important policy definitions you should be familiar with to help you understand your nursery policy include:

The ***Eligible Plant List and Plant Price Schedule (EPL/PPS),*** is a list of the names of insurable plants, including winter protection requirements. The EPL is used to establish insurability, liability, and indemnities. It provides: 1) maximum plant prices by type, practice, and size; 2) identifies insurable plants by name and type; 3) assigns hardiness zones for listed plants; 4) provides storage keys defining over-wintering requirements for listed container plants; 5) designates hardiness zones by county; and, 6) designates plants according to plant types and two production practices (field grown or container grown. The EPL/PPS is available from a licensed crop insurance agent or on the RMA webpage at **www.rma.usda.gov/tools/**.

Container-grown plants are nursery plants planted and grown in standard nursery containers either above ground or placed in the ground, either directly or when placed in another pot in the ground.

Field-grown plants are nursery plants planted and grown in the ground without the use of an artificial root containment device.

Liners are insurable if the containers are equal to or greater than 1 inch in diameter, including trays containing 200 or fewer individual cells, but less than 3 inches in diameter at the widest point of the container or cell interior, have an established root system reaching the sides of the containers, and are able to maintain a firm root ball when lifted from the containers.

Stock plants that are used solely for propagation during the insurance period or plants grown for the harvest of buds, flowers, or greenery are not insurable.

What is an insurance unit for nursery?

- *Value of insurable inventory used to calculate an indemnity*
- *CAT: includes all plant types for the practice (container; field grown)*
- *Buy-up: allows for basic units by plant type*

An insurance unit is the value of the insurable inventory that will be considered for claim calculation. There are two types of units: 1) Basic (by practice and share); and, 2) Additional Basic (by plant type). For CAT coverage a basic unit will consist of all insurable plants, by practice (container and field grown), in which you have a share in the county.

For buy-up coverage a basic unit is by practice/crop (container, field-grown) and share; therefore allowing the practices and shares to be adjusted separately in the event of a loss. Also with buy-up coverage, additional basic units can be established for each insurable plant type. Therefore, you do not have to meet the deductible for the entire practice before a loss payment is triggered—only the deductible for that specific plant type. In addition, coverage levels can be selected on an additional basic unit basis.

There are sixteen plant types as listed below:

- Deciduous trees (shade and flower)
- Broadleaf evergreen trees
- Coniferous evergreen trees
- Fruit and nut trees
- Deciduous shrubs
- Broadleaf evergreen shrubs
- Coniferous evergreen shrubs
- Small fruits
- Herbaceous perennials
- Roses
- Ground cover and vines
- Annuals
- Foliage
- Palms and cycads
- Liners (container grown only and inclusive of all insurable plant types)
- Other plant types as listed in the Special Provisions

What coverage levels are available?

- *Catastrophic level or CAT*
- *Buy-up from 50 percent to 75 percent*

Insurance can be at either the Catastrophic (CAT), or buy-up level for each practice (container, or field-grown). The lowest level of coverage available is Catastrophic, or CAT, coverage which has a 50 percent deductible; once the deductible is met, CAT provides coverage on the remaining 50 percent of your insurable plant inventory at 55 percent of the price. Thus for a total loss, CAT coverage would be a maximum of 27.5 percent of your plant inventory value. The only cost for CAT coverage is an administrative fee of $300.

Buy-up levels vary from 50 to 75 percent, in five percent increments, of your insurable plant inventory at 100 percent of the price. The cost of buy-up coverage depends upon the value of your plant inventory being covered. A crop insurance agent can provide you an insurance quote. You may also go to the RMA website and use the online premium calculator to get an estimate of what insurance would cost.

What does the insurance protect against?

- *Covered:*
  - *Adverse weather*
  - *Wildlife*
  - *Volcanic eruption*
  - *Disease/insects*
  - *Delay in marketing*
  - *Fire*
  - *Earthquake*
  - *Frost/freeze*
  - *Failure of power to irrigation supply*
- *Not Covered:*
  - *Collapse or failure of buildings*
  - *Inadequate power supply*
  - *Small plant growth*
  - *Inability to market*

Covered perils of the nursery program

include adverse weather, fire, wildlife, earthquake, volcanic eruption, frost and freeze if required protection is used, disease and insects for which there is no effective control, failure of power to the irrigation supply which is caused by a covered peril, and delay in marketability if such a delay results in the reduction in the value of the plants due to a covered peril that occurs within the insurance period.

Plant damage or losses in value as a result of the following situations are not covered: Collapse or failure of buildings unless caused by insurable cause of loss; failure of plans to grow to an expected size; inadequate power supply unless caused by an insurable cause of loss; and, inability to market nursery products.

What is the insurance period?

- *The insurance year starts June 1 and ends May 31*
- *Coverage begins 30 days after signed application received, or June 1, whichever is later*
- *Coverage ends on the earliest date of final adjustment; or,*
  - *Removal of bare root material from field; or,*
  - *Removal of all other insured plant material from nursery; or,*
  - *11:59 p.m. May 31*

The insurance year starts on June 1 and ends May 31, with a thirty-day waiting period before insurance attaches. Coverage begins the later of, June 1 or 30 days after the insurance provider receives your signed application, thus you need to make application by May 1st to ensure that you are covered for the whole year. For subsequent crop years, the insurance period begins at 12:01 a.m. each June 1, provided the insured has submitted a new Plant Inventory Value Report and two copies of his catalog.

Insurance ends on the earliest date of final adjustment of a loss when the total indemnities due equal the amount of insurance; removal of bare root nursery plant material from the field; removal of all other insured plant material from the nursery; or 11:59 p.m. on May 31.

How much insurance will I have?

- *Value X Coverage Level X Price Level X Share*
- *May increase insurable value by revising PIVR*
- *Must be made by May 1 of current crop year*
- *30 day acceptance waiting period*
- *Two revisions per basic unit, per year*

Coverage is based on the value reported, times the coverage level elected, times the price level, times the producer's share. A producer may increase the insurable value by revising the Plant Inventory Value Report (decreasing the value is not allowed). Any revision request must be made by May 1 of the current crop year. A 30 day acceptance period applies before the revised coverage attaches. A producer can make up to two revisions per basic unit, per year.

Can I tailor the nursery program to fit my needs?

- *Yes, but on buy-up coverage only*
- *Peak Inventory Endorsement*
- *Rehabilitation Endorsement*

Unlike traditional crop insurance policies, the nursery policy allows you to customize coverage to meet your specific risks. However, none of these are available at the Catastrophic level of coverage.

The Peak Inventory Endorsement provides coverage for additional values as a result of increases in inventory, for example, leading up to holidays, springs sales, et cetera; without paying a full year's premium. This endorsement allows you to pay a premium on a declared additional value only for a specified period. The limit on this endorsement is one per crop year, per basic unit; however, in the event of an insurable loss and restock of inventory you may purchase an additional Peak Season Endorsement. The endorsement is also limited to 200 percent of the basic unit value, and the premium charged on the endorsement is only for the months it is in effect (on a whole month basis).

The Rehabilitation Endorsement is for field grown plants and covers rehabilitation costs, up to 7.5 percent of the plants' value, including pruning, setup labor and material costs.

What do I do if I have a loss and how is my indemnity determined?

- *Notify agent within 72 hours of damage*

Loss Example (65 percent coverage level):

$100,000	Field market value before loss
– $50,000	Field market value after loss
$50,000	Value of loss
– $35,000	Deductible (1 – level)
$15,000	**Indemnity**

Notify your agent within 72 hours of your initial discovery of damage and submit a claim for indemnity no later than 60 days after the end of the insurance period.

To determine the amount of the indemnity owed you, in the event of a loss, you would take, for example, a plant inventory value of $100,000 and multiply that by the coverage level you selected—in this case 65 percent. That gives you $65,000 as the unit amount of insurance. Let's assume the field market value was $100,000 before the loss occurred and only $50,000 after the loss. You will need to subtract your deductible, which is figured by subtracting your coverage level from one and multiplying that times the plant inventory value of $100,000. That equals a deductible of $35,000. If your share of the crop is 100 percent, your indemnity payment would be $15,000. If your share is only 50 percent, your indemnity payment would be $7,500.

How do I get coverage and who can help me?

1. *Visit a crop insurance agent.*
2. *Discuss coverage options with and get help from an agent.*
3. *Complete and submit an application to an agent.*

Obtaining coverage is as easy as 1…2…3…

First, visit a local crop insurance agent. You can purchase nursery insurance anytime, with a thirty-day waiting period before insurance attaches. The insurance year starts on June 1 and ends May 31, thus you need to make application by May 1st to ensure that you are covered for the whole year.

Second, discuss your options with your agent. Your crop insurance agent is there to help you. Your agent is familiar with all of the features of the nursery insurance program, including endorsements, and understands the advantages and disadvantages of each type. Your agent can answer your questions and calculate coverage and cost to help you determine the coverage that is right for you and your operation.

Third, complete an application for coverage and submit it and a copy of you PIVR to your agent on or before May 1st. After this date there is a thirty-day waiting period before insurance attaches. Your agent will submit the application to the insurance company and, when it is accepted, you will receive a copy of your insurance policy.

If you do not currently have a local crop insurance agent, visit the RMA web site or the website of one of the private companies selling crop insurance to find one.

Adjusted Gross Revenue Lite Insurance (AGR-Lite)

By Dr. Laurence M. Crane, NCIS

What and where is AGR-Lite?

Adjusted Gross Revenue-Lite (AGR-Lite) is a relatively new insurance product available in 35 states for the 2009 crop year (Table 1). It is whole farm revenue insurance that covers almost all of the commodities produced on a farm. It is individualized revenue insurance based on individual producer yields, quality and marketing history which equals gross income. It offers coverage on almost all crop commodities, including greenhouse production, even those crops not covered by Multiple Peril Crop Insurance (MPCI). However, AGR-Lite does not cover timber, forest or forest products, animals for sport, show, or pets.

What is covered by AGR-Lite?

Under AGR-Lite, insurance coverage is provided against loss of revenue due to any unavoidable natural disasters, such as adverse weather, fire, insects, disease, wildlife, earthquakes, or volcanic eruption. If a crop is farmed using an irrigated practice, AGR-Lite covers any failure of the irrigation water supply. It covers perils occurring during the current or previous insurance year that cause a reduction in your gross revenue. It also guards against a loss of revenue during the current insurance year due to market fluctuation.

Almost all farm commodities are eligible for AGR-Lite coverage. Most crops may be insured.

TABLE 1.
AGR-Lite is available in the following states for the 2009 crop year:

Alabama	New Hampshire
Alaska	New Jersey
Arizona	New Mexico
Colorado	New York
Connecticut	North Carolina
Delaware	Oregon
Florida	Pennsylvania
Georgia	Rhode Island
Hawaii	South Carolina
Idaho	Tennessee
Illinois (new for 2009)	Utah
Kansas	Vermont
Maine	Virginia
Maryland	Washington
Massachusetts	West Virginia
Minnesota	Wisconsin
Montana	Wyoming
Nevada	

Production of animals from land walkers to aquiculture are also covered, as are animal products such as milk, honey, or wool. Greenhouse production and even organic production is covered under AGR-Lite without an additional charge in premium.

AGR-Lite is individualized protection based on your whole farm revenue from farm commodities (yield, quality and marketing skills) and provides low price protection.

Coverage exclusions include, but are not limited to, negligence, mismanagement, abandonment, or failure to follow recognized farming practices. Theft, vandalism, and mysterious disappearance are also excluded from coverage. AGR-Lite does not protect against lack of labor, inability to market commodities because of quarantines, boycotts, etc., or failure of a buyer to pay for the commodities.

How does AGR-Lite work?

AGR-Lite uses a producer's five-year historical farm average revenue reported on the IRS 1040 Schedule F tax form, other IRS farm tax forms, and an annual Farm Report as a basis to provide a level of guaranteed revenue for the insurance period. The producer selects a level of coverage and a payment rate percentage that will apply to all commodities covered by the policy. The coverage level determines when the policy will begin to pay an indemnity. The payment rate determines how much a producer is paid for each dollar lost under the coverage level. Coverage levels and payment rates may vary with the number of commodities producing revenue.

Do I qualify for AGR-Lite?

To find out if you qualify for AGR-Lite, check the boxes for the statements below if they are true for you and your operation.

☐ 1. I am a U.S. citizen or a legal resident.

☐ 2. I file a calendar year or fiscal year tax return which includes agricultural commodities.

☐ 3. I have IRS tax forms for the previous five years that were filed for the same entity.

☐ 4. The adjusted gross income for my operation for the current year is projected at less than $2,051,282.

☐ 5. No more than 50 percent of my total revenue comes from commodities purchased for resale as shown on the Annual Farm Report.

FIGURE 1.
Part 1, Schedule F.

Part I **Farm Income—Cash Method.** Complete Parts I and II (Accrual method. Complete Parts II and III, and Part I, line 11.) Do not include sales of livestock held for draft, breeding, sport, or dairy purposes. Report these sales on Form 4797.

1	Sales of livestock and other items you bought for resale		1			
2	Cost or other basis of livestock and other items reported on line 1		2			
3	Subtract line 2 from line 1				3	
4	Sales of livestock, produce, grains, and other products you raised				4	
5a	Cooperative distributions (Form(s) 1099-PATR)	5a		5b Taxable amount	5b	
6a	Agricultural program payments (see page F-3)	6a		6b Taxable amount	6b	
7	Commodity Credit Corporation (CCC) loans (see page F-3):					
a	CCC loans reported under election				7a	
b	CCC loans forfeited	7b		7c Taxable amount	7c	
8	Crop insurance proceeds and federal crop disaster payments (see page F-3):					
a	Amount received in 2007	8a		8b Taxable amount	8b	
c	If election to defer to 2008 is attached, check here ▶ ☐			8d Amount deferred from 2006	8d	
9	Custom hire (machine work) income				9	
10	Other income, including federal and state gasoline or fuel tax credit or refund (see page F-3)				10	
11	**Gross income.** Add amounts in the right column for lines 3 through 10. If you use the accrual method, enter the amount from Part III, line 51 ▶				11	

☐ 6. No more than 83.35 percent of my total revenue comes from potatoes.

If you checked every box above, you may be eligible for AGR-Lite coverage. See a local crop insurance agent to learn more about the options available to you.

What part of my income is allowed by AGR-Lite?

Several parts of your income are considered "allowable" by AGR-Lite and all of the income is identified in Part 1 of your Schedule F Income Tax form, as shown in Figure 1. The income derived from sales of animals and commodities bought for resale, and sales of animals, product, grains, and commodities that were raised by you may be found on lines 3 and 4, respectively. Line 5b of Schedule F includes the taxable amount of cooperative distributions related to the sales of covered commodities. Commodity Credit Corporation (CCC) Loans (line 7a) are also allowed income, as is any taxable amount of the CCC funds forfeited by you (line 7c). Also, any other income from bartering, bypassed acreage and diversion or set aside payments is allowed, as found on line 10.

Income as a result of post production added value activities, such as income due to sorting, grading, washing, waxing, packing materials, or cold and controlled atmosphere storage, is not considered "allowable" under AGR-Lite. Changing the nature of the commodity through processing makes the altered commodity uninsurable. (However the initial commodity, before it is processed, is insurable at preprocessed values, if it is farm grown.) Cooperative dividends not directly related to commodity production are considered excluded income. Income from custom hire, agricultural program payments, any commodities not covered under AGR-Lite, and ad hoc disaster payments are also excluded.

To estimate your allowable income, refer to Schedule F of your Federal income tax records. Your allowable income for the year is equal to the sum of the qualifying amounts found on lines 3, 4, 5b, 7a, 7c, and 10 of the Schedule F form.

Calculate the allowable income for each year in your five-year history. For the 2009 insurance year, use your Schedule F forms from the insurance years 2003 through 2007.

How much will it cost me?

AGR-Lite coverage is subsidized by the USDA Risk Management Agency. The amount of the premium subsidy is determined by the coverage level elected by the producer.

The premium rates and the policy for AGR-Lite can change on a yearly basis, so to determine how much it will cost to obtain AGR-Lite coverage on your operation, visit with a local crop insurance agent for a quote. Asking for a quote does not commit you to buying the coverage. You can also visit RMA's premium calculation web page at **www.rma.usda.gov**.

DEADLINES: the enrollment deadline for AGR-Lite is March 15th; the deadline for making changes on renewing policies is January 31st.

Summary

Crop insurance is an essential part of any producer's risk management plan. One insurance product that covers almost all of a farming operation makes sense. Lenders like AGR-Lite because it is a simple approach to coverage that offers a loan security benefit. Producers who grow crops not normally insurable under the traditional crop insurance plans like AGR-Lite because it covers the revenue from a wide range of crops.

The best way to learn more about AGR-Lite insurance, determine if is available in your state, and if it would be a good type of insurance for your operation, is to contact a crop insurance agent. If you do not currently have a local crop insurance agent, visit the RMA web site **(www.rma.usda.gov)** or the website of one of the private companies selling crop insurance to find one.

Selecting the Right Crop Insurance Agent

By Dr. Laurence M. Crane, NCIS

An important step in using crop insurance is selecting an agent. The question is often asked, "What makes a good agent?" The answer can be summarized into one word: service. Obviously, service can mean different things to different people; but in general, service is providing the customer what they want, when and how they want it. Nonetheless, there are some basic components of service, that when followed, earn the moniker of "good service." Successful farmers know what they want from their insurance agent, and they expect to get it. In our competitive economy the marketplace rewards those who provide what is expected, and penalizes those who don't.

Professional Ethical Behavior

First and foremost is personal and professional ethics. Companies and farmers alike want to do business with individuals who act ethically and exhibit professional behavior. Agents who have demonstrated an ability to do the right thing both personally and professionally, are a credit to themselves, the companies they represent, and the crop insurance industry. These individuals will always be in demand professionally because everyone knows they can be trusted. Companies seek their services because the company knows they will be well represented, and potential legal liabilities minimized. Farmers seek out honest agents with professional behavior because they desire reassurance that their private production records and other personal information will be kept confidential. Moreover, farmers are interested in doing business only with agents who understand how crop insurance works, and who make a genuine effort to correctly and completely represent the available products.

Product Knowledge

A good agent knows what products are available and the protection they offer. They also have the communication skills and ability to effectively explain them to others. The proliferation of crop insurance products, and the changing nature of the Federal program presents significant challenges for crop insurance agents to stay updated. Remaining current is critical and increasingly difficult to do. Being able to effectively explain the aspects of all available products to potential insureds, can appear overwhelming. Nonetheless, an agent must possess a thorough working knowledge of all products available in their area.

It requires a strong commitment to education and lifelong learning for an agent to stay technically current, thoroughly understand available insurance products, understand other aspects of agriculture important to crop insurance such as

marketing, and possess the human relations skills required to communicate and provide the quality of service farmers need and deserve. Few vocations require more vigilance in personal study and effort to stay current than crop insurance. Consequently, crop insurance agents may need to attend a variety of training sessions and seminars, as well as engage in self directed study, to maintain their product knowledge and skill set regarding the components of the crop insurance program and farm management. Generally, this is time well spent as farmers select agents based upon an expectation that the agent's level of product knowledge is superb.

Provides Guidance

A good agent helps find the best product-to-farming operation fit to meet the producers risk management goals. For this to happen, an understanding of crop insurance, farming practices—including production, marketing, and financing—and risk management and their interrelationships are essential.

Successful farmers have a very good understanding of production and marketing practices and are proficient in the specific practices they employ. Coping with risk and unexpected changes is a constant challenge, and they are in a continual hunt for the best approach to manage these risky events. This is where their crop insurance agent comes in. They expect their agent to be fully and completely informed about crop insurance and have the ability to answer their questions. Perhaps, even more valuable to them than answering technical questions about crop insurance products, is the ability for an agent to explain how crop insurance products support and impact their marketing plans. This is true customer service: a professional who can provide important information, critical to their making correct marketing and production decisions, and help them synthesize it into their management practices.

To successfully provide this type of information service, agents must understand production agriculture, how farmers formulate decisions, and the specific areas where they can add value to the process. They need an understanding of the big picture, including their role and the role of others who impact the farmer's decisions. They must recognize that the agribusiness environment is complex and interactive, and decisions and their outcomes are interrelated and connected.

Of particular importance is the ability of an insurance agent to understand marketing and its interaction with specific crop insurance products. It is expected an agent will understand marketing; producers does not want to have to educate their agent in the marketing area other than to discuss their preferred marketing alternatives. Successful farmers recognize the complexity of marketing, and the size of the task and effort needed for an agent to understand and comprehend all there is to learn about potential marketing practices. However, agents who make the effort and learn what is critical to understand, are in a position to provide the type of service their farm customers need, and view as exceptional.

Sends Reminders

It is the producer's responsibility to strictly adhere to the terms of the policy or insurance contract. A helpful agent will make it as easy as possible for an insured to provide essential and/or required information in a timely manner. For example, throughout the insurance year there are multiple critical deadlines that must be met. A good agent helps their insureds meet these deadlines and policy requirements by sending timely reminders of producer obligations. Regardless of whether the producer remembered the deadline or not prior to receiving the reminder, the underlying message has been received that the agent is looking out for the farmer in a meaningful and important way. It is a concrete way of further increasing their trust and strengthening the relationship.

Available for Assistance

A good agent is available to answer questions and provide assistance when and where the insured wants it. Convenience is important to producers who are often strapped for time at critical points during the year. Meeting their needs in an unobtrusive way usually reaps rewards. Even though we live in a service-oriented, high-tech society, there is still a strong demand for a high-touch approach. This is particularly true in production agriculture with its tradition of relationship-based sales. Typically, farmers identify with the personality of an agent more so than a particular company. The agent becomes the company to them. Consequently it is imperative to be seen as a risk management problem solver and not just a seller of insurance products.

Astute agents recognize their unique role and the importance of providing assistance in meeting deadlines and completing paperwork. Long-term survival depends on servicing the producer's crop insurance needs this year, and sufficiently addressing their other risk management needs to ensure they will be in business next year as well.

Provides Gap Measures

A good agent will go the extra mile to meet the insured's needs and leave nothing to chance. Providing services to fill information gaps and help farmers use crop insurance to manage their risk is an area where good agents excel. In a competitive industry there is little time for hand holding, business babysitting, and prodding; but there is ample room for innovation, initiative, and effort. Unfortunately, working hard is not enough to guarantee success. One must be proactive and creative, recognize opportunities, and be self-motivated to make it happen. Being able to recognize and capitalize on opportunities is usually the result of preparation and planning. Demonstrating behavior that makes the crop insurance process a little easier for the farmer will go a long way in cementing a long-term relationship.

A pattern seems to be emerging that typifies successful agents—those positioned to be around for the long term. The characteristics that describe this agent group are similar to the characteristics of other professionals (lenders, elevator operators, brokers, etc.) who work successfully with farm clients. As a group they understand the role service plays in selecting professional assistance. They are self motivated and go the extra mile in meeting the needs of their insureds. They have an appreciation for and understand the economic principles driving farm management decisions. They approach their professions as part of a larger team and know how crop insurance relates to other functions on the farm, particularly marketing. They know the value of education and outreach and are involved in professional development to maintain a keen understanding of product knowledge. They are persons of high integrity with a strong work ethic, and are effective in communicating and relating with others. They use these skills to deliver the high level of outstanding service farmers deserve and desire.

Marketing Risks and Responses

MARKETING RISK

By Dr. Laurence M. Crane, NCIS

Marketing Risk is defined as any marketing related activity or event that in uncertain leading to the variability and unpredictability of prices farmers both receive for their products, and pay for production inputs.

Marketing includes all of the activities that help coordinate production with consumer demand. In this framework, marketing is defined as the best set of economic and behavioral activities that are involved in coordinating the various stages of economic activity from production to consumption. Understanding this definition is important because there are opportunities and risks associated with each of these stages of economic activity.

Success in marketing is largely determined by taking advantage of opportunities. It is essential to understand how markets function, prices are set, and decisions are made.

Marketing is that part of your business that transforms production activities into financial success. Unanticipated forces, such as weather or government action, can lead to dramatic changes in both input and output prices. As agriculture moves towards a more global market, these forces stem increasingly from world factors. When these forces are understood, they can become important considerations for the skilled marketer.

Marketing Principles

There are some basic marketing concepts or principles that must be followed regardless of the commodity being marketed, or size of the farm operation. Each stage of the marketing system (production, assembly, processing, wholesaling, retailing, consumption) enhances the desirability of the good to the consumer by producing a form, place, time, or possession utility. All of these conditions need to be satisfied to meet the desire of current consumers for convenience and service. Being aware of these utilities that drive product desirability to consumers, farmers can do a better job of meeting these requirements.

The form utility comes from having the product in the right form for the consumer to gain the maximum utility from its consumption. The place utility comes from having the product where the consumer wants it. The time utility comes from having the product when the consumer wants it. Possession utility comes from transferring physical possession and ownership in the fashion the consumer desires.

Economic Principles

Marketing decisions have economic consequences. In order to avoid negative consequences and take advantage of positive economic consequences it is helpful to understand some basic economic concepts and principles as they apply to marketing.

Returns to factors of production: Every factor of production earns a return, including management and marketing skill.

Price is set by the market: We live in a free market society where prices are set in the marketplace. Individual producers are price

takers rather than price makers. Understanding how the market sets prices allows one to take advantage of relatively favorable prices.

Factors that influence demand: Understanding what factors determine demand is important because then one can deliver products that have the characteristics of high demand.

Market integration: This is somewhat related to the general concept of the returns to factors of production in the sense that every step along the chain, from production inputs to final consumer consumption, requires a payment. The more stages of this chain you control, or provide, the more the payment.

Elasticity: This measures the sensitivity of a product to price and income. If a product is very sensitive to price, a slight increase in price will be met by a large decrease in demand.

Market Coordination Contract

Changes in marketing have increased the payoff from closer coordination of successive stages of production in order to assure that products meet the specifications of the market at each successive stage. Products that do not meet the specifications are sold at a lower price.

Vertical coordination is when one firm controls two or more stages of production. It is occurring at many levels and in multiple ways. Contracting is just one way vertical coordination is accomplished.

Vertical integration is one method of coordination, which involves control exercised by ownership of two successive stages.

Contract coordination occurs when an individual or firm (contractor) establishes a legal agreement with a producer that binds the producer to specific production or marketing practices. However, one individual or firm does not own all of the inputs involved in production or marketing and different individuals own and contribute various inputs into the coordinated system.

Horizontal coordination is when two or more units of production within the same economic stage are brought together under common management. Large companies use horizontal coordination to achieve economies of scale in large quantities of production, and use vertical coordination to control multiple stages.

Marketing Decisions

There are six basic decisions with each marketing activity. The answers to these questions/decisions determine the outcome.

1. When to price? This decision requires

determining the time when the price for the particular product or input will be established. This could be at delivery or at some other time.

2. Where to price? The number of market outlets has decreased for some commodities in some areas of the country, but have increased in others. Contracting opportunities have also changed where products are priced.
3. What form, grade, or quality? Some commodities are very price sensitive to quality issues. Other commodities have no recognized, uniform standards. When contracting, this needs to be explicitly stated.
4. What services to use? This is more important with some commodities than others. Dealers offering similar products distinguish them by added service components.
5. How to price? This involves choosing among various alternatives to set the price. Commodities that have multiple marketing alternatives (cash and futures) have more pricing alternatives. Generally, pricing a product at delivery results in lower prices and lower profits.
6. When and how to deliver? This is usually closely connected to how the decision to price is set. Transportation and storage costs need to be considered, as do impacts on quality.

Marketing Alternatives

Marketing is an activity that requires effort because there are so many different options available and issues to consider. The simplest marketing is to just market at harvest to the closest outlet. Doing this removes the thinking and planning; but it also removes much of the profit.

There is no single "best" way to market that works for everyone or for every situation. About the only definite is that by not planning a marketing strategy or approach, one becomes a total price taker. By planning and working at marketing, one can generally improve price and profit.

The objective for everyone should be to get the highest return on the factors of production they have put into the product (not necessarily the highest price), reduce the variability in income so they can meet all obligations and needs for family living, and keep risk exposure at the level the farm can withstand and that they are interested in bearing.

When looking at various marketing alternatives available, there are many factors and issues to consider. At a minimum, consider:

Availability: Is the market option realistic given its availability?

Cost: What is the cost of this alternative?

Complexity: How complicated; do I understand it well enough to be successful?

Level of Risk: How much risk am I going to be exposed to?

Type of Risk: What is the source of risk; am I able to manage this risk effectively?

Net Selling Price: Will I make a profit after I have covered my costs or is my net price lower than with a different alternative?

Market Outlook: What is the expected supply and demand condition in this market?

Financial Situation: Do I have the financial position to accomplish this marketing strategy?

Constraints: What is there that can/will potentially prevent me from succeeding and how do I plan to overcome these obstacles?

Niche or Specialty Marketing

Niche marketing can be thought of as providing a product to a small segment of consumers. Some important marketing management fundamentals must be considered and implemented to make this alternative work. These considerations center around the customer, the product, place, promotion, and price. Once these concepts have been considered, one should have a good idea of how to develop a profitable niche marketing strategy. A marketing strategy specifies a target market and the mix of product, place, promotion and price to be used to satisfy customers and make a profit.

At the center of having a profitable niche marketing strategy is the customer. Consumer appeal means the product must offer significant and desirable benefits to the consumer. The best question to ask yourself is, "What attributes does my product offer consumers that they can not already get?"

Direct to Retailers and Consumers

One popular marketing option that allows growers to receive a higher return for their crops is direct marketing. Instead of paying wholesalers to market their crops, direct marketing allows farmers to sell directly to consumers. Some of the benefits include cash sales, immediate payment, and more control over prices. Barriers that farmers may encounter include insurance liabilities and zoning restrictions.

Five popular direct marketing alternatives are to: 1) sell directly to retail store; 2) set up a roadside market and sell to passing motorists; 3) join a Farmer's Market; 4) arrange for consumers to come on the farm and harvest their own purchases; and, 5) Community Supported Agriculture (CSA) enterprises where local consumers support local producers in a cooperative type of arrangement.

Marketing Plan

Managing marketing risk begins with a marketing plan. A marketing plan is the way you have decided you will market your production after evaluating your options and deciding what will be the best way to meet your goals and objectives. It sets the specific actions you will take and the steps to reach your goals. It requires commitment and discipline to create and follow a marketing plan. Marketing involves emotion, science, discipline, and analysis. The best plan will fail without the discipline to stay on track.

A marketing plan alone does not guarantee success, but it does indicate that many of the factors that affect the profitability and continued survival of the operation have been given consideration. A marketing plan is usually part of a larger business plan that includes production, financial, staffing and management plans.

Marketing is an essential element of small and large agricultural enterprises. The marketing environment exerts a strong influence on the nature of the farm. The crops grown and services provided are determined less by a farmer's personal tastes than by what the market will absorb at a price the farmer is willing to take.

A good market plan for direct marketing broadly aims to define the consumer, the products or services they want, and the most effective promotion and advertising strategies for reaching those consumers.

References

There are numerous sources of outstanding materials on all aspects of marketing and managing marketing risk. Contact your local Cooperative Extension office for assistance and direction.

The Risk Management Education web site maintained by the University of Minnesota is an excellent starting point. This vast and current library of information can be accessed at: **www.agrisk.umn.edu.**

New Conditions of Sale

Add to Nursery Growers' Risk Profile

By Dr. Roger A. Hinson, Louisiana State University

Agriculture faces risk from many sources. Our economy is transforming based on dependence on imported oil, and the wobbly legs of western and middle eastern politics. Spiking oil prices seem destined to remain above historical levels, and pressure both producers and consumers. Concerns about climate warming, and clean air and water, bring additional pressures from actual and expected environmental regulation. Trade agreements are under pressure as an increasing share of goods is imported with impacts on U.S. jobs. The impact on credit availability of a weakened banking system affects spending in general and home prices. Prices of goods and services seem to be increasing just because everything else is going up.

Selling Green Industry products in this environment is challenging. The Industry's products aren't necessities, like food. So, the slowing economy and declining consumer confidence represent increased risk. In this article, the focus is on the changed relationship between producers and their customers. Some points to consider are:

- The emergence of mass merchandisers and home centers as major factors in retail sales of Green Industry products transformed and expanded the market, and helped commoditize products.
- Mass retailers use a cost leader strategy. There is lots of emphasis on both the retail price and the price paid to vendors. Another important component of this strategy is the inventory replenishment system, which requires investment and expertise by the grower. Larger growers can spread that investment over more units of sales.
- Mass retailers have and use market power. In addition to price, these retailers ask for other concessions from vendors. These may include delivery, assistance in managing inventory at the store, tags, and barcodes (and perhaps rfid tags soon). More recently, use of scan-based pay, where the vendor is not paid until the product passes through the checkout scanner, is being adopted by these retailers.
- These factors can transfer risk from the retailer to the grower.

Buyers for mass retailers are responsible for securing product for stores in a defined area. These buyers develop relationships with nurseries and often expect the nursery to expand output as the retailer expands. In this process, the retailer's needs can overpower the grower's. As an example, a small grower in a southern state related the evolution of its relationship with a mass retailer customer. Included as part of a diverse customer base, this relationship had worked well for the grower. The customer, however, insisted that the grower serve more stores. The grower was asked to expand, and drop other customers. Additional criteria were that the product container would have the retailer's logo, that the container would be supplied by a specific vendor, and the cost was significantly high-

er than the standard container. Thus, the product would not be salable to other customers. At the same time, the retailer indicated there was no guaranteed quantity to be shipped – that depended on retail demand. The grower was serving as the retailer's inventory safety stock. All these actions transferred risk from the retailer to the grower.

Independent garden centers (GCs) are an alternative market and tend to behave more traditionally. Competition is based on quality and service, and perhaps less on price. They are thought to be less aggressive in asking for additions to the terms of sale, so the grower's product and supply chain may be affected less.

In terms of market power, the relationship between growers and their customers is formed by many factors. Mass retailers have increased their share of the market. As this 'concentration' among buyers increases, the market power balance favors the buyer in the sense they can take advantage of the power gained from their own growth. Given this situation, the price paid to producers may be negotiated down. However, the competitive situation at retail may determine whether the lower wholesale price will be passed to consumers or will be retained by the retailer. In contrast, growers and GCs are more similar in size and in that sense are more similar in market power.

In addition to the possible price reduction to producers, other terms of sale may be affected by market power. Growers may find that retailer customers expect them to provide additional services, whether mass retailers or GCs. In 2003, we surveyed growers in Louisiana to learn whether these conditions had changed over time, and whether they differed by kind of retailer. Inclusion of these items in a sales agreement can impose costs on growers and transfer risk to growers. For either kind of retailer, the expansion of these terms and conditions has implications for firm profitability. Analysis of the rate at which changes have occurred should alert growers to the potential for additional demands.

The non-price items that increasingly had been appearing in the agreement between grower and retailer included (while not excluding others) product information tags, barcode stickers, unique containers for customers, transportation to retailer, use of returnable shipping equipment, assurance of on-time deliveries, product take-back provisions, supplying minimum volume, and use of continuous inventory replenishment. The list resulted from discussions with growers, and reported changes in the sales agreement in the produce industry, which experienced similar retailer concentration and which also sells a perishable agricultural commodity. These items show that value can be added either at the production site or at the retailer location. These items were evaluated over the period 1996 to 2001. Use by mass merchandisers (MMs) and GCs were compared for these Louisiana growers. In the survey, respondents were asked whether each item was a component of the 'typical' contract in 1996, and whether it was typical in 2001. They responded separately for GCs and for MMs.

In the survey results, an item of higher importance was identified by the portion of respondents who indicated that it was typical of their sales agreements. Here, the five items with highest percentage for MMs and GCs are discussed (for complete discussion see Navajas, 2002). In 2001 for the MM channel, 73 percent and 53 percent included barcode stickers and continuous inventory replenishment, and custom containers and take-back provisions were included at the rate of 47 percent. For the GC channel, product tag was most frequently reported, followed by on-time delivery at 50 percent, while the other items were reported at much lower levels. So, the top items in importance for sales to MMs were only infrequently reported for GCs. Barcode scanning at checkout is universal at MMs and that information stream drives lean inventory systems, but some (perhaps many) GCs still did not use barcode scanning at checkout. The product information tag was unimportant to MMs, but was very prominent in the GC channel. Take-backs were frequently in the agreement for MMs but were not among the top five for GCs. Transportation item differences between MMs and GCs were important but did not reach the levels of the most frequently reported items.

Differences between years were also important. For the MM channel, the barcode sticker item increased from 33 percent to 73 percent, and custom container and returnable shipping equipment each increased by 20 percent or more. For GCs, changes between years were noticeably smaller. Product information tag increased from 43 percent to 57 percent, and barcode sticker went from zero to 14 percent. At the same time, the custom container and returnable shipping equipment items actually declined.

Overall, levels of inclusion of these items in typical agreements in the MM channel were higher than in the GC channel, and the differences between years were larger. Across these respondents, there was evidence that MM channel customers were interested in all these items some of the time, especially in 2001. It is assumed that these items help drive the MM cost leader strategy. GCs seemed to ask for these items less frequently, and increases over the five year period were smaller.

The GC retailers appeared, from the study, to be less demanding in terms of adding to the terms of sale. However, it would be expected that garden centers would ask for more of the terms of sale that MMs demand.

Do these results suggest an appropriate description of today's Industry? The patterns documented in the study appear to have continued. MMs, the original source of these demands on growers, have continued to expand and probably have increased their market share. Given their motivation, the Industry should expect to see additional demands from these kinds of retailers. In a recent article, statements indicated that the policy of the largest MM is that any vendor price increases would be screened carefully, and any increases would require substantial justification. The article also indicated that prices to those vendors who ship products that are unchanged from year-to-year could be expected to go down over time because these companies should be incorporating production efficiencies. This suggests risk in both pricing and in the form of the additions to the terms of sale.

Scan based pay, mentioned earlier, adds other risks for the grower. These include changes in customer preferences and in the customer's ability to purchase in a stagnating economy. At the firm level is the question of responsibility for maintenance of plants that are in the retailer's possession. These may be substantial additions to the grower's total risk profile.

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Eco-Friendly Diversification Strategies

By Dr. John J. Haydu, Planet First Resources and Dr. Charles R. Hall, Texas A&M University

Before a company even considers diversification, it is essential that the core business is stable and profitable. If your nursery is still struggling to win orders and build sales volume for the main product lines, then a diversification strategy is definitely premature. Not until the nursery is financially sound should a change even be considered. Four common measures of financial health are liquidity, solvency, profitability and efficiency. Most of the information needed to determine these performance indicators are found in the income statement and balance sheet. Of course, this also assumes that the nursery has an accurate record-keeping system in place. The topic of firm financial health is discussed in related articles in this publication and should be considered carefully as an integral part of a successful competitive strategy.

Companies may choose to diversify for many different reasons. For instance, if your nursery makes the bulk of its sales at a particular time of year, it may make sense to consider diversification. By extending your portfolio of plant material or services throughout the year, a more reliable revenue stream can be achieved. A second reason to diversify could be that growth in the core business is slowing down, perhaps because the market for a particular product is becoming saturated from over-production. Diversification uses change as an opportunity to grow the business. But it also involves risk because instead of relying on the technical, financial and marketing resources of the original product, it usually involves acquiring new lines and/or markets, new skills, techniques and facilities. The primary task of the nursery owner is to be as certain as possible that potential financial growth will make taking the risk worthwhile.

Types of Diversification

Diversification strategies can be either defensive or offensive. A defensive strategy is "reactionary" and materializes in response to a changing business environment. Once a current product provides no further growth opportunities, it will stagnate and lose market share in the face of rivalry (please refer to article "Pros and Cons of Diversification" that addresses product lifecycle issues on page 31). At this point, management is forced to spread the organization's risk in a *contracting* market to regain a competitive footing. Clearly, such a strategy may be too little too late. A perfect example is recent developments in the Nursery Industry. U.S. Department of Agriculture data show that from 1994-2004 personal household consumption of nursery and greenhouse crops rose steadily, but starting in 2005 began to decline. Some states have been impacted more than others. Parts of the southeast, particularly Alabama, Georgia and the Carolinas were affected by a severe drought in 2007. In high growth states with strong housing starts (e.g., California, Arizona and Florida) demand for plant material seemed unlimited until the recent mortgage foreclosure debacle and downturn in the economy. This has caused considerable pain within the Nursery Industry, but the sting has not been felt equally. Firms that closely followed Industry trends and were not overly concentrated in a particular area have been more successful at weathering the storm. Essentially these firms have adopted an offensive product and/or market diversification strategy.

An offensive diversification strategy utilizes the most current information available and is responsive to new and emerging trends in the marketplace. An opportunistic and alert manager can use retained earnings to grasp prospects for greater profits by moving into market "gaps" and acquire new positions. Managers who are informed about developing market trends and position themselves to seize opportunities **before they arise** and before the competition steps in will have a clear strategic advantage. When asked about the secret of his unparalleled success, Canadian ice hockey champion Wayne Gretsky, replied: "I skate to where the puck is going to be." In essence, THAT is the advantage of following trends regardless of the industry you are a part of. The Garden Media Group (GMG) which conducts research on Nursery Industry trends endorses precisely the same reasoning but offers more specifics. GMG highlights several compelling reasons to do so: 1) trend awareness helps you connect the dots to create what the consumer wants; 2) trends drive consumers; 3) consumers drive sales; 4) consumers want to know what's new and exciting; and, 5) growers and garden centers select and recommend what's new and exciting. In other words, trend awareness provides insight into consumer expectations but requires that nursery managers convert these expectations into reality. Proactively

responding to trends is consistent with and complementary to the offensive diversification strategy mentioned above.

Recent Trends

Recent research has identified several factors that can negatively impact the demand for nursery products: 1) newer developments tend to have smaller lot sizes with less space for gardens; 2) water restrictions in parts of the Southeast and West have affected growers and homeowners alike; 3) increased lack of gardening skills as people work longer hours; and, 4) continued growth in landscaping services at the expense of lawn and garden retail purchases by consumers. All four points suggest fewer growth opportunities for nursery growers and retailers—but it really depends on one's point of view. Every challenge also represents an opportunity. How so?

Research has also shown that homeowners still view gardens as places for enjoyment and relaxation, although the **emphasis** in landscape design has changed. Earlier I mentioned how important it is to pay close attention to changes in consumer trends. The GMG identified six new trends with the top two being par-

ticularly noteworthy. The number one consumer trend is GREEN—GMG calls it the "Eco-Trend Tidal Wave." Nearly 90 percent of those surveyed have more interest in the environment than they did a year ago and most are concerned about global warming and its impact on the planet and their lives. Consumers are connecting healthy living with living longer and so the "environment" has become king. They also feel personally responsible for their impact on "Mother Earth." Hence the Three R's—reduce, reuse, recycle—are increasingly important to consumers, businesses and local governments.

The second big trend is the socio-economic emergence of the "C-Generation" which has redefined its own lifestyle priorities. The "C" stands for Content, Creativity, Control, and Customer Made. The C-Generation likes to tell their stories and share them with as many people as possible—consider "You-Tube," "Face-Book" or "MyTripJournal.com" as examples. Sharing through technology means that this new consumer is connected with others instantly and actually thinks through a "collective mindset." In other words, trends materialize quickly and impact large numbers of people—hence the sudden importance and impact of the *Eco-Trend Tidal Wave* around the globe. Clearly these two trends have important implications for nurseries seeking to diversify.

Trend-based Diversification

Perhaps the strongest take home message from GMG's research is that "Green Industry" businesses should take advantage of the *Eco-Trend Tidal Wave* by going Green! Growers, garden centers and landscape service firms are all part of the $100 billion Green Industry but have not been very aggressive at promoting the many benefits of the products and services it provides (Hall, et al). Not doing so now will mean missing an opportunity later. Remember, the difference between a mistake and a missed opportunity is that a mistake can be corrected; a missed opportunity is gone forever.

The emergence and apparent dominance of the "green consciousness" of consumers means that Green Industry firms should have clear leverage and a strategic advantage over others. Even during difficult economic times, people need time to relax and enjoy themselves to take pressures off everyday life. With fuel prices setting new records weekly, people are increasingly spending less time travelling and more time at home. This development is a perfect opportunity for savvy nurseries, garden centers and landscaping companies to "seize the moment" by appealing to the new eco-friendly consumer. The GMG highlights several strategies to do so:

1. *Promote your nursery or garden center* as a green solution provider. Advertise aggressively that your business not only adheres to a green lifestyle, but actually offers practical answers for everyday problems. Large indoor and outdoor signage displays, advertisements in local newspapers and sending out informative newsletters to your best customers are all effective at getting the message out. Interestingly, during an economic downturn, the first item most businesses cut from their budget is advertising. Think about it for a moment—if others are cutting, your advertising message will have markedly less competition. For that very reason, the perfect time to increase your advertising budget is when the Industry is in contraction.
2. *Educate the public on the importance of "eco-friendliness."* Just because consumers are more aware of a green lifestyle, it does not mean they understand its importance or how to actually implement it. The first step in developing an educational program is to educate yourself and your staff. Attend seminars held at county extension offices and look for special programs offered at university campuses, off-site university research centers and community colleges. Most workshops are available at little cost and additional information can be found at university websites. Once you feel comfortable with the material, you and your staff can begin offering programs at the nursery or garden center. Consider enhancing your programs by inviting outside speakers to address specific topics. Investing in high-level technical expertise sends a strong message that environmentalism is an outward and core principle of the business.
3. *Offer Eco-friendly products and services.* Clearly homeowners want a safe place for their family and pets. Use this as leverage and offer plants that are "easy on the earth" in addition to enhancing and beautifying the landscape. Provide practical solutions on how to conserve water and to use fewer chemicals. Teach recycling principles for mulch or compost grass clippings which enhances the principle of "gardening with nature." Offer to recycle plastic pots and trays and perhaps offer customer coupons for doing so. Such behavior will send a powerful message that you "walk your talk" in monetary terms. Sell natives and water-wise plants as additional ways to reinforce eco-friendly principles.
4. *Sell local material and support local vendors.* A recent trend that is growing in strength and popularity is buying local. Local is the new organic not only because it is perceived as fresher and healthier, but because it has a smaller "carbon footprint" with reduced transportation costs. Increasingly upscale restaurants are purchasing and promoting the use of locally grown fruits and vegetables as a value added eco-friendly product. Your nursery or garden center can do similarly. Since we're discussing diversification, why not consider selling fresh herbs and local grown vegetables? Rather than viewing farmers as competitors, consider them as a value-added and complementary partner. Invite local farmers to your nursery and consider holding a special "Green Earth Festival Day" offering both landscape plant material as well as their fresh produce. A special event is also a perfect time to bring in outside speakers who are recognized experts in the area. In fact, by "partnering" with local farmers, they may be willing to share in the expense of hosting the festival and its speakers. After all, both of you will benefit from the increased exposure and recognition as true environmentally conscious and informed community leaders.

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The Basics of Pricing

For Nursery and Greenhouse Firms

By Dr. Charles R. Hall, Texas A&M University, Dr. John J. Haydu, Planet First Resources and Dr. Alan W. Hodges, University of Florida

Pricing decisions are among the most difficult marketing-related decisions for the nursery and greenhouse firm. The nursery/greenhouse manager must determine and set prices that not only cover their total costs and make a profit, but are set at a level that will stimulate demand/sales and capture the full willingness-to-pay on the part of customers.

In addition, the price of nursery/greenhouse products is correlated to the firms' positioning within the marketplace. For example, a high priced product relative to the competition has a connotation of higher quality and is consistent with products which have special value-adding benefits and/or services. In this article, issues affecting pricing are discussed, as well as the mathematics of price determination, and the need for developing a pricing plan based on marketing strategies.

Issues Affecting Price

1) Costs

The fixed and variable costs of producing nursery and greenhouse crops are usually the major factor affecting its selling price. These costs for growers are often made up of the following:

- The costs of the raw materials needed to produce the crops (e.g. plugs, liners, or cuttings, media, containers, fertilizers, etc.)
- The costs of actually producing the crops (labor for cultural practices and operating costs of equipment).
- The costs of pulling orders, loading trucks, and distributing the crops.
- The costs of marketing to and servicing customers.
- Overhead items that cannot be attributed to any one particular crop (depreciation, interest, repairs and maintenance, taxes, and insurance).

These costs act as a price floor for the grower in terms of negotiating final price. That is, a grower should be pricing in such a way as to cover all (fixed and variable) costs per plant. In the very short run, a grower can get by covering variable costs and some of overhead costs (called marginal pricing or discounting), but in the long run the grower must cover ALL costs in order to maintain profitability.

2) Competition

Changes in the competition's price structure often promulgate reactive price strategies in the marketplace. However, growers should be cautioned to never overreact to changes in competitors pricing. To a large degree, competitive price information enables growers to roughly gauge overall market supply and demand conditions and provides an accurate yardstick with which to gauge their own pricing decisions. Growers should actively study their business position in the marketplace to determine the price of their product relative to that of their competitors at various times of the year. It is not necessarily a bad thing to be the highest priced competitor in a region—it is a function of the real/perceived value that customers derive from doing business with you.

3) Product Type

The type of product can also make a big difference in pricing decisions. Products fall into two broad product classifications: differentiated and standardized (commodity). Many times when a product is first introduced, it is new, exciting, and differentiated. But once competitors start selling that product, it becomes standardized—a commodity item—with no real, meaningful differences. The following demonstrates how product classification affects pricing strategies:

- Differentiated/unique products—Price is not as important in determining purchase behavior. Consumer demand is driven by the perceived value of the product's attributes (features and benefits).
- Standardized products—With standardized commodity products, the customer has many choices among competing products. Much of the competitive dynamics then focuses on in price.

The importance of customer service versus price will be a function of the product. If purchase does not require a great deal of knowledge or education, price will be far more important than customer service. However, if the product is new, requiring a great deal of education, it is an important purchase decision, if the consumer's ego is involved with the purchase, or if the customer is aware he/she can make a mistake in the purchase decision, then service will most likely play a more important role in the customer's decision of where to buy the product or service.

4) Product Category Life Cycle

Most products go through a product life cycle. Understanding where your product is in the product category life cycle will help predict the competitive pricing structure.

Introductory stage—Typically during the introduction of a new plant or product category, a company has few competitors and

the freedom to set prices based primarily on estimated supply and demand for the product. There are multiple pricing strategies available during this period. Two are at opposite ends of the decision-making spectrum.

- *Premium Pricing (Skimming)* Policy. If the product is unique and has little competition initially, the pricing choice can be one of maximizing profit per unit sold. The strategy involves selling to a narrow group of customers who are willing to pay more because of unique product attributes. Premium pricing also allows for maximizing short-run profit margins and a potentially quicker payback on the research and development of the new product.
- *Expanded Market (Penetration) Pricing.* If one of the firms' marketing strategies is to build market share, then setting a lower price will potentially achieve this more quickly than higher prices. Lower prices encourage trial and mass consumption by a broader base of consumers. Thus, lower prices provide an opportunity to quickly establish a large customer base before other competitors enter the marketplace. Also keep in mind that competitive pricing will discourage other competitors from entering the marketplace. But bear in mind that price-sensitive customers seldom make loyal customers; they are quick to jump ship and run when the next lower price comes their way.

Growth stage—In this stage, the market is still growing with new users purchasing the product for the first time and the product becoming universally accepted by the public. Not only are the innovators purchasing, but a wider profile of customers as well. As product acceptance gains, the number of competitors increases. While competition is focused primarily on product attributes, pricing variations are introduced during this phase, along with diversification of the product. Discounters try to steal market share and obtain even a broader customer base by making the product or service more affordable. Higher priced, higher quality positioned products are still viable but must emphasize their unique selling proposition (how they are differentiated from other products) in this stage.

Maturity stage—In this stage, price becomes very important for products that have become standardized (commodities) with fewer product innovations and discernible differences. Thus the selling emphasis is on price and service. If at all possible, you should not let your product enter this stage. Attempt to continually improve your product and service for the customer, providing benefits (new levels of quality, value, service, convenience, or selection) that differentiate your product from the competition.

5) Price Elasticity

Economists characterize demand with a concept called price elasticity—a measure of how sensitive consumption (demand) is with price levels. A product with a price that is considered inelastic is one for which the demand will remain relatively stable when the price is raised or lowered. Usually this is because there are no/few substitute products, the product is a luxury good, it has a loyal following, or it possesses superior product attributes.

Of course, the opposite is true for products with an elastic demand—by lowering the price, gross margin (selling price less cost of goods sold) is less, but volume increases. As long as price is not lowered below break-even levels, the increase in volume will offset the reduced gross margin and profitability is enhanced. This is, of course, the "Wal-Mart" model and works for commodity types of products. There are FEW growers in the Green Industry than can exercise this pricing strategy. Most who attempt it do so unsuccessfully because they usually either lower price below their break-even unknowingly (because they do not know their true price structure) or they find themselves caught in a situation of having made idiosyncratic investments in order to fulfill large (e.g. box-store) customers and must continue their course in order to pay the interest on that investment.

Price elasticity is also correlated with the total revenue for the business. For example,

raising the price of a product will usually have two effects: 1) more revenue is generated per unit sold and, 2) fewer units are sold. In order to increase total revenue for the firm, we must decide which of the two effects is greater. When demand is inelastic, total revenue is more influenced by the higher price and increases as price increases. When demand is elastic, total revenue is more influenced by the lower quantity and decreases as price increases.

What this effectively means is that when demand is inelastic, Green Industry firms can actually raise their price, and though they might sell fewer units of the product they are selling or the service they are offering, total revenue for the firm still goes up. So, the obvious question is this—how does one go about making their local demand more inelastic? The answer . . . by making the firm unique and different somehow in terms of quality, value, service, convenience, and selection! That's why your marketing efforts are so important. They are the key to successful differentiation.

In summary, if your company is successful in differentiating itself from competitors, you are essentially making your firm-level demand more inelastic within your respective trade area and you can subsequently raise your prices and [even though you may sell fewer units] total firm revenue will still increase. This is useful information in developing your pricing objectives and strategies.

Mathematics of Price Setting

Two types of costs must be considered when establishing prices-variable and fixed. Variable costs are costs that vary with the volume of production and sales-for example costs associated with incremental payroll, raw material purchases, etc. Fixed costs are costs that do not change with fluctuating sales or production. Fixed costs are usually spread evenly over the company's brands or products, and in this manner are calculated for each individual product along with the variable costs of selling that product. Fixed costs are associated with depreciation on machinery, rent, insurance, real estate taxes, etc.

There are two pricing scenarios that the manager should understand when making pricing decisions.

- **Short Run/Excess Capacity Pricing:** If there is excess capacity, management needs to set price so that variable costs are covered and there is adequate margin for some contribution to fixed costs or overhead. In the short run, if there is excess capacity, it is far better to take an order with less margin, because total company profit will be greater (or profit loss will be less) than if the order was not taken and the sale not made.
- **Long Run Pricing:** In the long run, prices have to be established so that all costs (fixed and variable) are covered and there is a profit.

The following formula can be used to determine break-even point to help ensure expenditures do not exceed sales and provides insight into the effect of pricing decisions on income and costs. The analysis also enables growers to establish a price that will cover all costs.

Where: P = Price
VC = Variable costs
FC = Fixed costs
X = Volume of units that need to be produced and sold to break-even

Assume you are a containerized tree grower and the average tree will be sold at $125, and fixed costs are $25,000 per month and variable costs are $55 per tree.

$$\$125X = \$25{,}000 + 75X$$
$$\$70X = \$25{,}000$$
$$X = 357$$

Thus, a total of 357 trees must be sold at $125 each month to cover all costs.

The manager can also use break-even charts to plot fixed costs, variable costs, and revenues. In this manner, the manager can usually determine the effect of a drop in price and a resulting increase in sales and potential profits.

Let's assume that the tree company in the previous example was operating at above break-even, selling 500 trees per month at $125. As you will recall, fixed costs are $25,000 per month and variable costs are $55 per tree.

Example A

Number of Trees Sold
500
Revenue
500 x $125 = $62,500
Costs
$25,000 + $55 (500) = $52,500
Profit per Month
$10,000

Now let's assume that the manager, through past experience, can estimate that an increase in the average price per tree to $150 will result in only a 10 percent decrease in business.

Example B

Number of trees sold at 10 percent decrease
(0.9 x 500) = 450 trees
Revenue
450 x $150 = $67,500
Costs
$25,000 + $55 (450) = $49,750
Profits per month
$17,750
Profit difference between Examples A and B
$7,500

The manager would make another $7,500 by increasing the average price per tree to $150 with an anticipated decrease of units sold of 10%. If the decrease in volume were only 5%, the manager would make even more profit (try the formula to prove this to yourself). Thus, if you can assess your product's elasticity reasonably accurately you can use the above formula to estimate changes in profitability due to price changes.

How to Develop a Pricing Plan

Reviewing your marketing strategies and your pricing problems and opportunities in the context of the following factors will help you determine whether your company should set a higher, lower, or parity price objective

Lower Price Objective—The reasons for a low price strategy are usually:

- To expand the market, allowing new consumers who couldn't purchase at higher prices to become purchasers.
- To increase trial and/or sales due to price incentives.
- A situation exists with a strong price elastic product where a low price results in increased demand. The result is lower margins but increased profits because of the increased volume.
- To preempt competitive strategies, helping to steal market share. This is often necessary in a mature market.
- To remain competitive with your competition. If a majority of the competitors have

reduced their prices, oftentimes you will need to do so, especially if you are in a price sensitive product category. If a strong competitor is also offering an attribute such as service with which you cannot compete, you may need to lower your price to counter the service offering.

- To keep competitors from entering the marketplace by having a price that is difficult for a new company with high initial investment costs to match. This policy of expanded market pricing allows a company to develop a large, loyal consumer base while keeping competition to a minimum.

Higher Price Objective—Several conditions favor a high price objective where the price of the product will equate to revenues substantially above the break-even point or the products price is set above that of the competition.

- A need for a fast recovery of the firm's investment.
- A need for faster accumulation of profits to cover research and development costs. The profits can then be used to improve the product and to sustain competitive marketing tactics once competitors enter the market.
- To substantiate a quality image positioning.
- The product is price inelastic where sales decrease only marginally with higher pricing.
- The product or service is in the introductory phase of its product life cycle and represents a substantial innovation within the product category Also, the company may wish to cream profits while there are no substitute products to force competitive pricing.
- The company is stressing profits rather than sales, thus, margins must remain high.
- The product is difficult to copy and reproduce or has patent protection.

Parity Pricing—Parity pricing is pricing that is comparable to the competition. It can be effectively used if your product has superior attributes and it is priced the same as products with inferior product attributes. It can also effectively be used when your product is similar to your competitor's but there are non-product advantages that your company can utilize to provide a better overall value to the consumer. Non-product advantages (such as service, guarantees, convenient location for retailers, or just-in-time distribution) are often reasons for purchase given a parity pricing structure in the marketplace among similar products.

Establish Your Price Strategies

Pricing strategies state how well you will achieve your pricing objective. They provide the specifics you need to finalize your pricing plan. In developing your pricing strategies, the following steps should be taken.

1) *Review your marketing strategies.* It is important to focus on the function of price relative to your other marketing mix tools Remember, pricing is a tool to help implement and achieve marketing strategies.
2) *Review your problems and opportunities.* Especially review historical pricing and the competitive analysis of your business review and the subsequent problems and opportunities.
3) *Review your pricing mathematics.* Determine at what price you break-even. Make certain that if you set a lower price than your competition, it will not cause the company to lose money but hopefully increases sales and profit.

So What is The Best Retail Price?

By Dr. Charles R. Hall, Texas A&M University

Why include a retail-oriented pricing article in a risk management publication aimed for growers? Because many small-to-medium-sized growers in the industry also sell retail in addition to growing nursery and greenhouse crops! Given that premise, the objective of any retail nursery or greenhouse business should be to price their products to cover costs and generate an acceptable net return.

Unfortunately, identifying and allocating all of their fixed and variable costs is not as simple as it may seem. Additionally, cost is not the only factor to consider when setting prices. A successful pricing strategy includes an analysis of personal and business objectives, the competition, the market, and what customers are willing to pay.

Pricing is a process that results in profit or losses. Costs, customers, and competition may change and prices must be adjusted as these changes occur. A three-way balance between selling prices, sales volume and expenses is required. Low prices may generate a high sales volume, but may not produce enough income to cover expenses. High prices may not generate enough volume to cover expenses. The overall objective is to produce the largest total profit, not the largest profit per item or largest sales volume.

Understanding Costs

Total costs include variable and fixed (or overhead) costs. Variable (direct) costs are those that vary directly with the level of sales, such as materials, labor, and transportation. Fixed costs remain constant regardless of the level of sales, such as mortgage payments, property taxes, and insurance. Overhead may consist of both fixed and variable costs. For example, the cost of a bookkeeper paid an hourly wage will increase as the workload increases with higher sales. The cost of the bookkeeper is variable, but not directly associated with any single product, so this variable cost should be included in overhead.

Overhead costs are usually allocated as a percentage of sales or a percentage of space required for a product. When overhead is allocated as a percentage of space, the percentage must be adjusted to reflect the length

of time the space is occupied by each product. Annuals may take up 10 percent of the total display area, but since they occupy 10 percent of retail space for six months, only five percent of overhead should be added to their cost. Until a historical pattern is established, allocation as a percentage of sales or space is no better than an estimate. However, with this estimate, all costs are accounted for, even if somewhat incorrectly allocated.

Understanding the Market

Costs and break-even calculations must be tempered with knowledge of the retail market. An understanding of customers and their needs, the competition and how the competition might react will help managers determine the price the market will bear. Once determined, a price can be changed to reflect changes in cost, demand, or competition, but prices that change too frequently may lead to confusion or distrust on the part of the consumer.

Prices must be justified by value (or perceived value) to the customer. New cultivars, plants available in limited quantities, novelties, or items that are uncommon or new, all command higher prices. Promotional or "traffic-generating" items may justify lower prices.

Research has shown that unlike many other retail industries where products are perceived to be identical, price is not the most important factor in governing a customer's choice of where to shop for plant material. Factors more important to customers include plant quality, plant selection, convenience, and service.

Alternative Retail Pricing Strategies

Cost-plus pricing. Cost-plus pricing is a method of determining the price of a product or service that uses direct costs, indirect costs, and fixed costs, whether related to the production and sale of the product or service or not. These costs are converted to per unit costs for the product and then a predetermined percentage of these costs is added to provide a profit margin. The resulting price is cost per unit plus the percentage markup.

Margin and markup are terms that are often misunderstood. Markup is the percent of cost added to the cost to determine the selling price. Margin is the percent of the selling price that is gross profit. Fifty percent added to the cost does not yield a 50 percent margin. Fifty percent markup yields only a 33⅓ percent margin.

TABLE 1.
Price barriers in the retail Nursery Industry.

Major Price Barriers	Minor Green Good Barriers	Suggested Plant Prices	Minor Hard Good Barriers	Suggested Hard Good Prices
1.00	–	.99	.50	.49
–	1.50	1.49	1.50	1.49
–	2.00	1.99	2.00	1.99
–	–		2.50	2.49
–	3.00	2.99	3.00	2.99
–	–		4.00	3.99
5.00	–	4.99	–	4.99
–	–		6.00	5.99
–	7.00	6.99	7.00	6.99
–	8.00	7.99	8.00	7.99
–	–		9.00	8.99
10.00	–	9.99	–	9.99
–	13.00	12.99	13.00	12.99
15.00	–	14.99	–	14.99
–	17.00	16.99	17.00	16.99
–	18.00	17.99	18.00	17.99
20.00	-	19.99	–	19.99
–	23.00	22.99	23.00	22.99
25.00	–	24.99	–	24.99
30.00	—	29.99	–	29.99
40.00	–	39.99	–	39.99
50.00	–	49.99	–	49.99
75.00	–	69.99	–	69.99
100.00	–	99.99	–	99.99
150.00	–	149.99	–	149.99
200.00	–	199.99	–	199.99

Note: Once a customer jumps a price barrier, resistance drops dramatically until the next barrier is approached. The greater the price, the greater the distance to the next price barrier.

To calculate the selling price required to provide a 50 percent gross profit margin, divide the costs by one minus the desired gross profit margin as illustrated below:

$$\frac{\text{Cost of Goods}}{(1-\text{Desired Profit Margin})} = \frac{\$1.00}{(1-.50)} = \$2.00$$

Thus, a selling price of $2.00 is needed to generate a 50 percent profit margin for an item costing $1.00.

Psychological Price Barriers. Price barriers are a series of check points consumers use to determine the relative value of a product. Major price barriers exist at $1, $5, $10, $15, $20 etc. and are common to all consumers (Table 1). Minor barriers exist at $1.50, $2.00, $3.00, $7.00 and so forth, and their importance varies depending on need for the product, desire for the product and amount of discretionary income. The objective is to set prices just below a price barrier. If attaining the desired profit margin causes a price to fall above a price barrier, it is best to price the product just below the next highest barrier. The customer will not perceive that increase in price and the firm will receive a greater total profit since the same number of units will be sold, each at a higher profit. The importance and usefulness of these barriers varies with the type of product and whether substitutes are readily available. The distance between price barriers for chemicals, mulches and other hard goods is smaller than for plants because differences in quality are not as evident and price competition between retailers is greater. Table 2 provides a useful pricing guide using psychological price barriers.

Variable Pricing. Hidden costs such as perishability and special handling requirements are often overlooked in pricing, resulting in a lower than expected profit margin. When plants require special care or handling, are very perishable, or are subject to greater than usual breakage losses, the base cost can be adjusted by adding allowances for hidden costs. The following example illustrates how to establish the "real" cost before pricing an unusual, difficult

TABLE 2.
Suggested retail prices for green goods.

Cost ($) From	To	Retail Price ($)*	Maximum GPM (%)
.00	.44	.99	–
.45	.58	1.29**	65
.59	.63	1.49**	70
.64	.76	1.79**	64
.77	.90	1.99	61
.91	1.12	2.49**	63
1.13	1.35	2.99	62
1.36	1.80	3.99**	66
1.81	2.25	4.99	64
2.26	3.14	6.99	68
3.15	3.60	7.99	61
3.61	4.50	9.99	64
4.51	5.85	12.99	65
5.86	6.75	14.99	61
6.76	7.65	16.99	60
7.66	8.09	17.99	57
8.10	9.00	19.99	59
9.01	10.35	22.99	61
10.36	11.25	24.99	58
11.26	13.50	29.99	62
13.51	18.00	39.99	66
18.01	22.50	49.99	64
22.51	31.50	69.99	68
31.51	45.00	99.99	68
45.01	58.50	129.99**	65
58.51	67.50	149.99	61
67.51	76.50	169.99**	60
76.51	90.00	199.99	62

*Based on a minimum gross profit margin of 55%
**Suggested prices between barriers for a competitive market

to maintain plant such as hibiscus and a common, easily maintained plant such as dwarf mugho pine that were purchased for $11.00.

	Hibiscus	Pine
Purchase price	$11.00	$11.00
Add: Perishability (10%)	$1.10	$0.00
Add: Spec. Care/Handling	$0.50	$0.00
Actual cost	$12.60	$11.00
Sale price @		
55% Gross Profit Margin	$28.00	$24.45
Price barrier adjustment	$29.99	$24.99

Quality Differentiation. A pricing strategy that merits consideration is to allow customers to buy the quality they can afford. Any shipment of plants contains plants of varying quality. If all the plants from one shipment are priced the same, the good quality will sell first and a selection of poor quality plants that look overpriced remains. Instead, a median price for each plant from that shipment can be calculated and high-quality plants priced higher, medium-quality plants priced at that price, and low-quality plants priced lower than the median. Customers then have the option of buying the price and quality combination they desire.

Price Skimming. A "skimming" strategy is when prices are set high initially, then gradually reduced. Customers who want the product will pay the higher price, leading to higher short-term profits. This strategy is most successful with a new or unusual product that is without direct competition. If the price is set too high, it can be lowered. Lowering prices is much easier than raising prices. Many people associate quality with price and they may be more willing to pay higher prices because of perceived enhanced value. This phenomenon is usually only a short-term strategy because high prices and profits will encourage the development of substitutes.

Penetration Pricing. For "penetration," prices are set deliberately low in an attempt to gain a large share of the market. Once the market share has been gained, prices are gradually raised to maintain an adequate profit margin. This strategy discourages competition because other stores are not able to sell the product at a profit. However, other stores may attempt to compete by lowering their prices, resulting in lower profits for everyone. If customers subsequently resist price increases, the retailer is prevented from achieving an acceptable return.

Volume Discounts. Volume discounts are often referred to as "multiple unit" pricing. The objective is to encourage customers to purchase greater numbers by offering discounts for larger quantities. Customers must be clearly informed of the cost savings in order for the volume discounts to be effective.

Discounting. Most managers are usually too quick to lower prices. There are times, such as the end of the season, when discounting may be appropriate; but, discounting has a dramatic effect on profit. Twice as many plants (wholesale cost $6.00) must be sold at a selling price of $8.00 in order to make the same profit as those sold at $10.00. The objective of dramatic discounting is to reduce inventory. The "buy one, get one free" approach accomplishes that objective more quickly than offering 50 percent off.

SUMMARY

Proper pricing is a procedure that must be developed for a particular market. Prices must be evaluated regularly and adjusted based on costs and market changes. Proper pricing strategy takes creativity, time, research, good recordkeeping and flexibility. Managers will need to balance the costs of producing a product with competition and the perceptions of your target customer to select the right product price.

RETAINING CUSTOMERS
For Greater Sales and Profits

By Dr. John J. Haydu, Planet First Resources, Dr. Charles R. Hall, Texas A&M University and Dr. Alan W. Hodges, University of Florida

The High Cost of Unhappy Customers

Traditional marketing strategies encourage business owners to continually expand their businesses by adding new customers. Although there is nothing wrong with "growing the business," too often it comes at the expense of one's core customer base. Remember, the customer base is the cornerstone of the business—*without the customer there simply would be no business.* Therefore, keeping existing customers happy should be a major objective of any business. Robert Desatnick notes in his book *"Keep the Customer!"* that: a) the average business loses 10 percent of its customers each year; b) 96 percent of unhappy customers never complain; c) 90 percent of dissatisfied customers will not return; and, d) each of those unhappy customers will tell their story to at least nine other people. Consequently, knowing *who* your customers are and *which products and services* they expect should be a primary concern. Successful businesses carry this philosophy to its logical conclusion by striving to go *beyond* customer satisfaction. Exceeding customer expectations is the catalyst which creates a lasting bond between you, your business, and the people you serve. Just as losing a customer has numerous costs, retaining a good customer has many tangible benefits. Philip Kotler, author of *Marketing Management,* reminds us that satisfied customers are loyal customers and loyal customers: a) are less costly; b) buy again; c) create more business for you; d) pay less attention to competitors; and, e) tend to purchase new products or services later.

Clearly the importance and value of taking care of the customer cannot be over stated. Even in good economic times this maxim is worth remembering and making part of your core business philosophy. In the current economic climate, many Green Industry firms are struggling to stay afloat, so retaining the core customer base can be critical for long-term survival. In the following paragraphs, three simple strategies are presented that can help you achieve this important business objective.

Strive for Excellence

For any business to succeed in the long term, customers must have tangible reasons to become patrons. At first glance, most nurseries or garden centers may appear the same—after all there are thousands of them and all sell the same basic products and services, right? The fact of the matter is, a closer inspection will reveal numerous disparities across nurseries and garden centers. The fundamental question for each business owner is whether these differences are positive or negative. Ask yourself—what is the drawing power of your business, the magnet that attracts new and repeat customers? What do you offer that is different and better than the competition? Every *successful* nursery, garden center or landscape service company must have a unique strategic advantage over the competition. Basic differentiating variables are price, value, selection, convenience, service and quality. Every business must juggle these offerings in a manner that will consistently attract and retain their customers. Being the "best" in all six categories would be impossible for any firm to accomplish, even for a very large and capable one. It may also not be a very wise strategy. For instance, who would want to be the lowest priced seller when the costs of doing business keep escalating daily? Differentiating your business through several of the remaining offerings can be effective but doing so requires a solid understanding of the market. In other words, make certain that your product and service offerings match the expectations of the buyers in that market. If "value" is what they want, give

them the very best you can afford—but remember—*value is a matter of perspective!* If the demographic market you serve happens to comprise mostly low-to-middle income residents, value may be a healthy, colorful plant in a basic plastic pot. The plant should be priced at a level these people can afford but one that still makes you a profit. Conversely, if your demographic market is high income consumers, this group will expect superior amenities and will be more than willing to pay for them.

One of the simplest, least expensive but most overlooked customer retention strategies is providing Class-A customer service. Good customer service is the lifeblood of any business. You can offer promotions and slash prices to bring in as many new customers as you want, but unless you can get some of those customers to come back, your business won't be profitable for long. Good customer service is all about bringing customers back by sending them away happy. Happy customers pass positive feedback about your business along to others, who may then try the product or service you offer for themselves and in turn become repeat customers. Superior customer service exceeds customer expectations by being consistently good in every part of the business. From the moment the customer thinks of purchasing, right through to the final sale, there are opportunities for the business to add customer service to the process. Consider the following customer service checklist:

- How frequently do you over-promise but under-deliver?
- Can you identify opportunities for improving your service?
- What systems are in place to deal with unhappy customers?
- Do you know if customers are satisfied with your service initiatives?
- Have you recently surveyed your customers to find out?

A superior customer service program should be an integral part of every business. A mission statement should be developed that reflects a commitment to customer service excellence and specific service strategies should be incorporated into the business and marketing plan. Make sure every employee shares this commitment and is properly trained in all aspects of delivering superior customer service. Finally, continually monitor and evaluate your service program to ensure it is on-track and new service opportunities are identified and implemented.

Monitor Customer Performance

Just as nurseries are not all the same, neither are their customers. For most businesses, the 80/20 rule often applies—20 percent of the customers generate 80 percent of the sales. Keeping track of your best customers is essential; after all, these *may be* "top-tier" customers and if so should be recognized as such. The "may-be" cautionary note is important prior to affording a top-tier ranking to a client. A second and related performance criterion is the length of time customers take to pay their invoices. Monitoring accounts receivables is critical because it affects cash-flow stocks which are used to pay **your** bills. Customers who make large purchases but who are habitually late (perhaps excessively so) in making payments are **not** good customers. In fact, depending on the size of the transaction and the time and effort involved in collecting a receivable, these apparently "good" customers may actually be **costing** you money! After all, every day that exceeds the accounts receivable deadline, your business is actually subsidizing their business. The point is, accounts receivables should be monitored closely and customers categorized according to a "reliability payment index" (RPI) that you determine. For example, the RPI could be 30 days (excellent), 45 days (good), 60 days (average) and 75 days (poor). Having a detailed performance profile will allow you to develop an incentive program that reduces or minimizes unprofitable customers. Communicate the value of customer loyalty (buying again) and responsibility (paying on time) by offering direct or indirect incentives. A direct incentive comes directly from the merchant, such as a discount or rebate on current purchases or a token (coupon, frequent shopper point, credit) towards future value. An indirect incentive gives value that is not directly related to the purchase from your company, such as coupons for hotels, car rentals or long-distance phone plans that accumulate airline mileage.

Build Relationships

Successful businesses understand developing long-term customer relationships is the most effective and efficient way towards profitability. From the company's perspective, a relationship program is effective because the business targets its best customers thereby reaping the rewards of increased sales and referrals. The program is efficient because for every customer the company retains it is one less customer that must be acquired through expensive advertising and marketing efforts. From the customer's perspective, a relationship program is beneficial when the business passes on its cost-savings to them. The customer benefits further by not having to waste precious time and fuel "shopping around" for another business. Relationships must be developed and nurtured over time by mutual trust and shared benefits. There are several important ingredients to building a long-lasting relationship:

- Keep your word—only promise what you can deliver. Reliability is a key aspect of any good relationship.
- Back up your product—have a clear and comprehensive return policy—one that protects both you and your customer.
- Communicate—effective communication means not just talking but *listening*. Let your customer talk and show that you are listening by responding appropriately.
- Deal with complaints—most customers usually have a reason for their dissatisfaction, although not always. Remember the axiom, "the customer is always right" (even when they are not).
- Be courteous and knowledgeable—being polite and courteous goes a long ways towards developing return customers. At the same time, so too is solving the customer's problems. Being polite without a solution is a dead end street in a relationship.

Summary

Too often businesses strive to reach new customers at the expense of existing ones. Keeping the core customer base happy is the most cost effective and sustainable way to retain a viable and profitable business. Three simple strategies were presented as practical approaches to achieving a satisfied customer base. The basic message is to strive for excellence in all business endeavors, keep track of your best and most profitable customers and reward them accordingly, and build strong, lasting relationships for the mutual benefit of you and your customers.

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FINANCIAL RISK

By Dr. Laurence M. Crane, NCIS

Financial Risk *covers those risks that directly threaten the financial health of the farm business. Financial risk has three basic components: 1) the cost and availability of debt capital; 2) the ability to meet cash flow needs in a timely manner; and, 3) the ability to maintain and grow equity.*

The capital structure of any business includes both debt (borrowed) and equity (owned) capital. Both debt and equity face risks. Debt capital can be more risky because of the obligations to others that are part of the financing agreement, or loan document. Cash flows are part of financial risk and are especially important because of the variety of ongoing farm obligations, such as cash input costs, cash lease payments, tax payments, debt repayment, and family living expenses.

Record-Keeping

Effective management depends on accurate measurement. In fact, if it can't be measured, it can't be effectively managed.

A set of well-maintained financial records is an absolute necessity to maintaining financial control of a nursery or landscaping business. Accurate information is critical in evaluating past performance and in planning for future accomplishments. Financial risk management is not achieved directly by maintaining comprehensive records. However, records do provide much of the information needed to understand critical financial risks. Even small nurseries need a basic level of record keeping.

A common misconception by some is that farm records are kept only to report taxes. But a successful farm business needs records for many other purposes too. Some of the most common uses for good records are: 1) measuring operating and financial performance; 2) supporting loan applications; 3) arranging for insurance coverage; 4) estate planning and valuation; 5) analyzing investments in depreciable assets; 6) measuring the profitability of individual enterprises; 7) monitoring production inventories; and, 8) developing sound marketing plans.

Farm record systems vary in the amount of information collected, the method of recording data and the structure of final reports. Every farm manger must determine how much information is needed for management purposes, what accounting methodology to use, and what system will provide the desired information.

Record keeping starts with financial and physical inventories and includes those records needed to successfully manage the farm. This includes production records and enterprise budgets, financial records (income statement, balance sheet, cash flow budget, family living budget), ownership/personal records including asset inventories, ownership arrangements, and estate plans and documents.

Financial Statements

Essential financial statements include the balance sheet and statement of owner's equity, income statement, and projected and actual cash flows. These records provide a financial history of the farm and the data needed to adequately calculate financial performance measures.

Balance Sheet

The balance sheet is also known as a net worth statement and is a financial snapshot of the farm business on a specific date. It shows all assets, liabilities and owner equity or net worth. The balance sheet usually segregates assets and liabilities into current, intermediate and long-term (or fixed) categories. Ideally, it should also reflect cost versus market valuations for assets, debts and equity. The balance sheet is critical for measuring liquidity and solvency.

Income Statement

The income statement is also known as a profit and loss statement. This report shows the net income for the farm during the accounting period. It includes such elements as income generated from farm production, operating and overhead expenses, depreciation expense, gains or losses on disposal of capital assets, and non-farm income and expense. It can be prepared on either a cash or accrual basis and enables the producer to identify various meas-

ures of profitability and financial efficiency.

In summary, the income statement is the document that correctly measures net farm income. It is essential to financial analysis, loan documentation, and filing tax returns. It shows how profitable the farm is.

Owners Equity

A key indicator of farm financial progress over time is the change in owner equity. Changes in owner equity can result from earnings, withdrawals, increases and decreases in the market value of assets, or personal net worth changes.

The statement of owner equity is relatively new as a financial statement but the concept has been used for years. It formally links together beginning and ending balance sheets and the corresponding income statement. In doing this it reconciles the information they contain and shows the impact family living withdrawals have on the farm. It also helps to separate the effects of inflation on asset values from the effect of earnings.

Cash Flow Statement

Effective financial control of the farm business requires thorough knowledge of the sources and uses of cash in the business. Some farms that have both a strong balance sheet and income statement find it difficult to generate cash when it is needed to meet cash commitments.

The cash flow statement, also known as a "sources and uses of funds" or a "flow of funds" statement, summarizes all cash transactions affecting the business during a given period of time such as a month, quarter, or year. It provides a means of following movements of cash in the business. Neither an income tax return nor an income statement provides the same information as a cash flow statement.

A cash flow statement can be a statement of past performance or a budget for future plans. As a statement of past performance, a cash flow statement shows how and when cash was generated and used to pay for inputs and capital items, family living expenses and loan payments. As a budget of future plans, a cash flow statement is essential for evaluating your business' borrowing needs and repayment capacity.

Cash flow analysis includes a more complete accounting of debt transactions by showing principal payments and proceeds of new loans. An income statement only shows interest payments.

A complete cash flow statement includes non-farm or ranch business items such as income taxes and non-farm or ranch income. These items may be omitted from an income statement. Cash withdrawals for such things as stock dividends and family living expenses are usually included in a cash flow statement. An income statement does not include family living expenses or dividends.

Budgeting

A budget can be viewed as a schedule of expected returns and costs. A budget is an estimate and plan for what is going to happen. Seldom does anything turn out exactly as planned, or budgeted, but it is essential to anticipate and estimate what is expected to happen.

Budgets are a must when seeking financing from lenders and are essential to managing any activity, especially farming.

Enterprise Budgets

An enterprise budget is a budget prepared for a single enterprise. An enterprise is defined as any portion of the farm business that can be separated from others by accounting procedures according to its receipts and expenses. Enterprise budgets project costs and returns over a production period including direct costs (seed, chemicals, fertilizer, crop insurance, fuel, repairs, hired labor, irrigation, etc.), indirect costs (marketing overhead, depreciation, investment and land taxes), returns to management and labor; and yield records including both quantity and quality. An enterprise budget is a projection of costs and returns based on projected yields and prices, whereas, an enterprise account is a historic summary based on actual yields and price.

Enterprise budgets form the basis for constructing whole farm, partial, and cash flow budgets. An enterprise budget includes all of the expected costs and returns associated with producing one enterprise in a particular manner. They are usually constructed on a per unit basis (such as per acre) to facilitate comparisons among alternatives.

Partial Budgets

Partial budgets are used to estimate the change that will occur in profit or loss from some change in the farm by considering only those items of income and expense that change. They are easy to construct, and very helpful in decision-making.

Whole Farm Budgets

A whole farm (or complete) budget is a physical and financial plan of the entire farm or ranch business designed to help plan and organize every aspect of the business. It is the most appropriate tool to use when alternative courses of action will change the size and/or organization of your business, or when these changes will have a long-term impact on your business in terms of enterprises, finances, etc.

Whole farm budgeting is a tool to analyze major changes in your farm business. The process includes estimating total receipts, total costs and resultant net earnings for each alternative, so you can see which alternative has the best chance of achieving satisfactory levels of profitability, liquidity and solvency.

Family Living Budgets

A family budget is just exactly what the name says, a budget for family living. It includes all sources (farm and non-farm) and estimated amounts of income that is used by the family during the year. Meeting the needs of family living are critical to survival, and when the family budget is in order it makes it easier to operate the farm. For this reason family budgeting is the foundation of a sound financial management plan and essential to success of the farm.

When used in conjunction with historical records of actual spending, a family budget pinpoints and identifies unnecessary spending and areas where actual costs may be higher or lower than previously thought.

Financial Performance Measures

The main issues of managing financial risk center around the liquidity, solvency, and profitability of a farm business. Liquidity is the ability to meet cash obligations in a timely manner. Solvency is the ability to convert all assets to cash to retire the debt and still have some left over, thus solvency is a measure of the amount of debt relative to equity in the business. Profitability is a measure of the extent to which the resources on the farm are put to productive use and are able to generate a positive return (profit).

Liquidity

Liquidity measures the ability of a farm business to meet financial obligations as they come due in the ordinary course of business, without disrupting the normal operations of the business. Financial ratios and values that measure liquidity are calculated from balance sheet data.

Solvency

Solvency measures the amount of debt and other expense obligations used in the farm business relative to the amount of owner equity invested in the business. Solvency ratios provide an indication of the business' ability to repay all financial obligations if all assets were sold, as well as an indication of the ability to continue operations as a viable farm business after a financial adversity. Financial ratios that measure solvency are calculated from balance sheet data.

Profitability

Profitability measures the extent to which a farm business generates a profit from the use of land, labor, management, and capital. Financial ratios and values that measure profitability are calculated from balance sheet and income statement data.

References

There are numerous sources of outstanding materials on all aspects of farm financial management and financial risk. Contact your local Cooperative Extension office for assistance and direction.

The Risk Management Education web site maintained by the University of Minnesota is an excellent starting point. This vast and current library of information can be accessed at: **www.agrisk.umn.edu**.

Analyzing Financial Statements For Better Management in Horticultural Businesses

By Dr. Alan W. Hodges, University of Florida and Dr. John J. Haydu, Planet First Resources

As the Green Industry in the United States has grown and matured in recent years, business conditions have become increasingly competitive, with many companies experiencing depressed prices, reduced profitability, and increasing rates of bankruptcy. In this environment it is imperative that business owners and managers make the effort to regularly evaluate the company's performance. Without such measurement it is impossible to know whether the business is succeeding or where it is going. Analysis of company financial statements and other business records is a proven approach to achieving greater efficiency, productivity, profitability and financial security. Managers can use this information to guide financing of business expansions, developing marketing strategies, selecting an appropriate mix of products, controlling costs, and planning operations. Financial analysis can assist in identifying common problems, such as low output, poor pricing, excessive costs, waste, poor cash flow, undercapitalization, and imbalanced debt structure. When done correctly, this exercise will often yield benefits in terms of increased profitability, reduced risk of business failure, better customer service and increased job satisfaction of employees.

Comprehensive Review

A comprehensive review of your company's financial situation should be done at least twice a year, quarterly, or ideally every month. It is not frequent enough to do once a year at tax time, because that is too late to spot problems and take corrective action. Often, the changes in financial indicators from one period to the next are as important as their absolute level. It is good practice to arrange for a formal meeting between the business owners, its financial advisors and management team to do this evaluation thoroughly and systematically. When reviewing your company's financial statements, there are a number of simple but important questions that should be asked routinely:

- What are the total income, total expenses, net income and profitability (net margin, rate of return on equity) of the firm in the most recent period?
- Are these values growing, stable or declining since the previous period and over time? If so, is there a reason for the change? Is income growing in inflation-adjusted terms?
- What is the firm's cost structure? Are any cost items excessively high or rapidly increasing over time? What is the relationship between direct costs (COGS) and indirect, overhead or general operating expenses?
- What is the general financial solvency of the firm? Is the company's net worth or equity growing over time?
- What is the structure of capital managed in the firm? What is the condition of the company's long term assets such as machinery, equipment and buildings with respect to accumulated depreciation? Are any assets depleted and in need of replacement?
- What is the liquidity situation of the firm? Can current liabilities be met with expected cash flow? Is there a seasonal pattern or trend in sales or total income? What is the firm's accounts receivables in relation to sales, and is the company maintaining timely cash collections on accounts?
- What is the firm's labor situation with respect to costs for employee wages and benefits?
- Are there any changes observed in productivity/efficiency indicators such as output per worker, output per square foot, or inventory turnover?
- How does the company's performance compare to industry standards or financial benchmarks?

Where to Begin

The starting point for financial analysis of any business is to gather the most accurate and recent information available from financial statements. Using these together with other company records, one can readily calculate the standard financial ratios and other meaningful metrics. The financial statements that are provided by most in-house accounting systems or professional accountants are the income statement, the balance sheet, the cash flow statement and sometimes the statement of change in

financial position. The income statement, also known as the "profit and loss," is probably the single most important one, as it summarizes the company's revenues, expenses, and net income for the year or the accounting period of interest. The balance sheet or statement of financial position is a snapshot in time at the end of the accounting period that shows the company's assets, liabilities (debts) and equity or net worth. Assets and liabilities are typically classified as current, intermediate and long-term, because these different types are managed differently. The cash flow statement indicates the sources of cash from operations, financial lenders and savings, and the uses of cash for operations, investments, debt service and payments to business owners. The statement of change in financial position shows how the balance sheet items change from one accounting period to the next. For a thorough analysis, it is necessary to look at all of these financial statements together because each provides a different type of information, and many of the financial measures are calculated from items on different statements.

The financial statements are supposed to conform to Generally Accepted Accounting Principles (GAAP) developed by the accounting profession and governed by the Financial Accounting Standards Board (FASB). These standards assure that the financial information has a consistent meaning such that valid comparisons can be made over time or across different businesses, and for publicly-held companies that there is full disclosure of information that may be important to stockholders and potential investors. Within the standards, however, there is considerable latitude to customize the financial statements to meet your company's particular needs. For example, in a wholesale nursery it may be important to have a very detailed itemization of production expenses, whereas a retailer would have a listing of major groups of merchandise purchased for resale and the gross margin on sales. It may be necessary to work with your accountant or accounting software vendor to find the right form for your financial statements. Businesses may elect to use either a cash-basis or accrual basis for accounting. The cash-basis is more commonly used for small businesses because of its simplicity in tracking of cash transactions and may avoid some tax liability for gains on unsold product, however, the accrual system is usually

more accurate since it accounts for changes in inventories, receivables, and payables.

Net Income

The "bottom line" for financial performance of a company is usually net income, simply the difference between total income and total costs. Net margin is the ratio of net income to total income, or in other words the share of income that is profit. Sometimes, the income statement may show net income before taxes, management expenses and interest expenses, in which case it is termed return to capital. Rate of return on investment is the net income or return to capital divided by the total capital investment (assets owned). Rate of return on net worth or equity is an even more refined measure of profitability, calculated by dividing net income into the net worth (total assets less liabilities). This measure expresses profitability in relation to the equity of owned assets, and is comparable to annualized yields on stocks, bonds, or savings deposits.

Cost Analysis

Evaluation of operating costs is especially important for managers, because costs are typically subject to control more than is income. For effective analysis of costs, it is important that the expenses be identified in meaningful categories. As a general rule, any cost that represents five percent or more of total costs should be itemized. In many nursery businesses, there may be perhaps 20 to 50 individual expense categories, which could generally be grouped into a reasonable number of major categories such as management, employee labor and benefits, materials/supplies, facility/equipment, administrative overhead, depreciation, and interest. The costs should be expressed as a percentage of total costs or income in order to evaluate meaningfully. The cost per unit of growing space is also a useful measure for estimating individual plant growing costs or comparing cost efficiencies of different production systems.

Asset Valuation

In order to have an accurate calculation of profitability, the relationship between net income and investment or net worth, there must be a realistic valuation of the company's assets. Green Industry firms have special challenges in accounting for inventories of growing plants because they are difficult to value as they are constantly changing. Changes in plant inventory may be an especially significant factor in a nursery that is rapidly growing. A recommended approach is to use the degree of completion method of valuation, based on average market prices and average production times. So, for example, if a particular crop normally requires 20 weeks to produce, and at the end of the accounting period it has been in production for 10 weeks, then we would say that this product is 50 percent finished, and would be assigned an inventory value equal to half of its ultimate sales value.

If the firm is rapidly growing and expanding its inventory, a representative measure of financial position can be taken as an average of values at the beginning and end of the accounting period. If you are evaluating financial statements over an extended time period, say three or more years, changes in values should be stated in inflation-adjusted terms, using a price index such as the Consumer Price Index (CPI) or the GDP Implicit Price Deflator (U.S. Commerce Dept.). Owned capital in buildings, improvements, and equipment are usually assessed at original purchase cost less depreciation, known as book value. Sometimes when these assets are rapidly depreciated under IRS rules for accelerated cost recovery (ACR) over three, five or seven years, the useful life and true value of the asset may be understated. Also, the value of land owned by the company is typically stated at original purchase price, which may be far below its real market value, especially during times of rapid growth in real estate prices as we have experienced over the past few years.

Financial Ratios

Relationships among the values on a company's balance sheet express measures of financial solvency and liquidity. Leverage is the ratio of total assets to net worth and is an indicator of long-term solvency, which takes into account the financial risk of the venture. Higher values indicate greater risk, with potential for both greater returns and greater losses. The impact of financial leverage on profitability can be understood as a multiplier (leverage multiplied by the rate of return to capital assets equals the rate of return on net worth). Leverage factors below 2.0 are generally considered to represent a very safe financial position. The quick ratio is a measure of liquidity, or a firm's ability to meet short-term debts, calculated by dividing cash and accounts receivable by current liabilities. Cash and accounts receivable are the most liquid of current assets, which are usually available on short notice, but inventories are not included in this measure because they may not be immediately salable. A value for this ratio below 1.0 would indicate an illiquid position.

Beyond strictly financial information, other kinds of information on the physical and labor resources of your company may enter into an evaluation of productivity and efficiency. For nursery operations, the plant production area should be measured as the net usable growing space within growing beds and fields, and excluding non-productive space in aisles, driveways, and other service areas. This can be used to evaluate costs and sales per square foot, or the level of capital investment per acre of growing area. Labor is often the most important resource in a horticultural business, and it is important to track it in terms of physical quantity (hours) as well as monetary cost, in order to measure its productivity or efficiency. The total payroll hours of labor employed should include production, administrative, sales, and management personnel. Labor is often expressed in terms of full-time equivalent (FTE) persons, representing the number of employees working for a year at 40 hours per week, or 2,080 hours per year.

Benchmark Analysis

Financial benchmark analysis is the use of key indicators to evaluate a company's operational and financial performance in comparison to industry standards or benchmark values. Benchmark data are available for most major industries, for different types and sizes of businesses, and regions of the country. Ideally, comparisons should be made with the leading or most profitable firms in an industry. Some sources of information for agricultural sector industries include the Farm Credit Bank, the Risk Management Association's Annual Financial Statement Studies (rmahq.org), as well as land grant university research and extension programs. The University of Florida's *Horticultural Business Analysis System* is an internet-based system for financial analysis of wholesale nursery firms (available at **http://hortbusiness.ifas.ufl.edu/hortnba/),** with benchmark data available for Florida growers (1990-2004), including large and highly profitable firms, and for several types of plants, such as woody ornamentals, flowering plants, and tropical foliage.

Benchmarking Your Way to Success!

By Dr. Charles R. Hall, Texas A&M University

Success in business can be measured in many different ways. The most prominent measures tend to be cash-flow related in that if there is money available at the end of the accounting cycle, we typically feel pretty good about ourselves. However, the most prominent, progressive, and profitable firms in the industry tend to be those who continually ask themselves these types of questions:

"How are we doing financially speaking?"

"How do we compare with others?"

"Are we making progress fast enough?"

"Are we using the best practices?"

"Are we tracking the right measures?"

Benchmarking *should be* the primary method used by managers to answers these questions and measure/evaluate various aspects of their production, marketing and customer service processes in relation to the "best management practices" (BMPs) in the industry. This then allows firms to develop plans on how to adopt such best practices, usually with the aim of increasing some aspect of performance.

Why is benchmarking important? While the fact remains that the Green Industry is growing (albeit at a much slower rate nowadays), it does not mean that local market conditions are always favorable. Nor does it mean that things are going well for individual nursery & greenhouse operations— thus the need for folks to take a closer look at their firm-level performance!

But don't just take my word for it. A 2003 PricewaterhouseCoopers Trendsetter Barometer survey found that companies who benchmark achieve 69 percent faster growth and 45 percent greater productivity than those who don't! Benchmarking is a powerful management tool because it overcomes "paradigm blindness." Paradigm blindness can be summed up always thinking: "The way we do it is the best because this is the way we've always done it." Benchmarking opens firms up to thinking about new methods, ideas and tools to improve their effectiveness. It helps crack through resistance to change [*sound familiar?*] by demonstrating other methods of solving problems than the one currently employed, and demonstrating that they work because they are being used by other firms successfully.

There's an old managerial adage that says "you can't manage what you don't measure" but the age of information has sometimes brought on information overload! My rule of thumb is this: If you are not going to take action based on the results, then don't measure it! In other words, don't measure what you aren't willing to change! The key question to always ask yourself is "Does the potential benefit to be gained from collecting, measuring, and analyzing this information exceed the cost of getting it?"

The bottom line is that you get what you inspect. Major score-keeping areas in a nursery or greenhouse business include: 1) ***financial measures—***e.g. return on assets, sales volume, and gross profit and 2) ***operational measures—***e.g. production rates, quality, and safety measures. The key is to figure out which metrics (things to be measured) are important and use this information to educate employees about the correlation between these metrics and profit. When employees begin to see and understand this correlation, it is amazing how intrinsically motivating this becomes for them because they can now understand how their job affects the profitability of the business and ultimately how it affects their own paycheck (provided you as a manager have a proper incentives in place that tie pay to performance).

Entire books have been written about the correlation between benchmarking and employee motivation alone. In essence, we all have a need to feel that the things we do in our jobs actually *make a difference* whether we are the CEO or the front-line employee. What better way to encourage and motivate employees than to actually measure the results of their performance and reward them accordingly? I know it sounds overly simplistic, but it warrants mentioning because of the numerous firms that I have worked with who do this so poorly!

Benchmarking also helps define the "best-

in-class" companies—those who seem to continually perform above industry averages despite the economic conditions of the industry. Personally, I think that what makes a company "best-in-class" is that they operate much like decathletes. Top ranking athletes that compete in decathlons excel across a broad set of activities. The winner accumulates the most points among all events and they may win some events, but usually not all. They know their own strengths and weaknesses and focus their training in the "must-win" events. They spend remainder of training time being at least "minimally competitive" in the other events.

So it is with best-in-the-industry firms as well. Best-in-class companies excel across a broad set of processes and they beat competitors in some areas but not all. They are not "best-in-class" in all performance areas, but they are in those that match their strategies and priorities. They know their core competencies; they typically know their competitors; and, they spend most of their resources in areas they know they **must** win and are "minimally competitive" in other not-so-important areas. Undoubtedly, the key is to figure out what processes are "key success factors" and which ones aren't.

Once these key success factors are identified, there are two major types of benchmarking procedures that managers have to choose from. First, ***internal benchmarking*** (benchmarking within a company) compares your own firm's performance against a previous time period (previous quarter, this quarter last year, etc.). This is often referred to as *time-series* benchmarking. Second, ***competitive benchmarking*** (benchmarking performance or processes with those of competitors) compares your firm's performance against similarly-sized firms in the industry. This is often referred to as cross-sectional benchmarking because you are comparing your firm against a "cross-section" of the industry.

Unlike other manufacturing industries, there are not a lot of cross-sectional benchmark data available for Green Industry firms, and even fewer specifically pertaining to nursery and greenhouse firms. The best way to glean benchmarking information regarding greenhouse *operational measures* is by scanning trade journals, university research reports, attending educational conferences and trade shows, and on-site visits to other nursery and greenhouse operations (via tours and personal visits) and talking with other nursery and greenhouse managers outside your production region (they are usually more apt to share information). Measuring firm-level productivity over time will point to corrective actions to address inefficiencies in production, marketing, and customer service practices.

Benchmarking *financial measures* is often solely time-series oriented but there are research efforts underway that are beginning to provide some cross-sectional benchmarks to which an individual greenhouse business can compare themselves. The *Greenhouse Business Summary Program* at Cornell (see **http://hortmgt.aem.cornell.edu/programs/hortbusiness.htm**) helps New York greenhouse operators evaluate the financial performance of their business in relation to industry standards and use this information to improve their business' bottom line and to help them make more informed management decisions. Another program entitled the *Horticultural Business Analysis and Planning Program* (see **http://hortbusiness.ifas.ufl.edu/hba.htm**) provides similar services for nursery/floral firms in Florida. The only shortcoming of these programs is that they are limited in scope (only available for NY and FL firms) although there is momentum underway to offer these programs on a regional (and hopefully national) basis in the future.

In the interim, growers should glean as much information as they can from the sources aforementioned in developing their own benchmarking system. Table 1 offers some suggestions as to the metrics growers may consider in establishing such a system. While the table may seem daunting at first glace, I always advise growers to choose a few (one or two) benchmark metrics each year to incorporate into their system.

TABLE 1.
Potential metrics for financial and operational benchmarking.

Financial metrics	Operational metrics
Total annual greenhouse sales	Weeks operated per year (by location)
Total greenhouse debt	Full-time worker equivalents (labor hours/2080)
Sales per sq. ft. of bench space (by location)	Area per full-time worker equivalent (FTE)
Total sq.ft. weeks per year (# weeks x sq.ft.)	SFW per full-time worker equivalent (FTE)
Income statement line items as a % of sales	Gross margin full-time worker equivalent (FTE)
Net income per sq.ft.	Hired labor expenses as a % of sales
Net income per sq.ft. week (SFW)	Net income per full-time worker equivalent (FTE)
Gross margin (sales - cost of goods sold)	Machinery investment per sq. ft.
Net profit margin (net profit/net sales)	Average collection period for accounts payables
Total cost per sq. ft.	Inventory turnover (COGS/average inventory)
Total cost per sq.ft. week (SFW)	Inventory holding period (365/inventory turnover)
Overhead expenses as % of sales	Sales to fixed assets (net sales/fixed assets)
Overhead expenses per sq. ft. week (SFW)	Sales to working capital
Asset turnover (total sales/total assets)	Production rates (# units completed per task)
Return on assets (net profit/total assets)	Quality measures (size, flowering, etc.)
Financial leverage (total assets/net worth)	Safety measures (# days w/o lost-time injury)
Return on equity (net profit/net worth)	Customer turnover
Sales per full-time worker equivalent (FTE)	Average # of complaints per customer
Average sales and profit per customer	Returns and adjustments per customer

Remember— what gets measured gets managed! Concentrate on measuring the right things; then on measuring them efficiently. Focus only on the areas of greatest concern in your business. Measuring anything that does not directly affect profitability, performance, or safety only adds burden and takes away from those measures that are truly important.

Handling Risk

With Enterprise Budgets for Ornamental Plants

By Dr. Roger A. Hinson, Louisiana State University

Introduction

Cost of Production (COP) budgets are an integral component of farm management, and can guide producers in many business choices involving risk from crop mix, expansion, pricing and price negotiations. Economists at Oklahoma State University led agricultural budget creation into the digital age with computer hardware and software, and the Oklahoma State Budget Generator platform was and remains widely used. In the 1980s, an alternative software package was developed at Mississippi State University. The Mississippi State Budget Generator (MSBG) provides a standard format for crop and livestock budgets, is widely accepted, and is easy to use on personal computers using Windows software. This eases the process of calculating costs and comparing farm alternatives. This program has been used to generate enterprise budgets on a wide variety of row crop, vegetable crop, and livestock budgets. In Louisiana, budgets are delivered broadly, including farmers, lenders and federal government agencies.

Enterprise budgets have been important in study of ornamental plant production. In one of the early applications, Perry et al. (1990) estimated COP budgets for field-grown woody ornamentals for climatic zone 9, for individual plants that represented groups of similarly managed plants. The individual plants were azalea, narrowleaf evergreen (Juniper), broadleaved evergreen (Euonymus), deciduous shrub (Forsythia), and deciduous trees (red maple and pecan). Results were presented as capital requirements, production activities and inputs, and costs, for 20-acre and 40- acre nurseries. For each plant the: a) sequence of operations required for production of the plant; b) machinery and equipment requirements for the activities; c) operating inputs along with rates and costs; and, d) labor required, were estimated. The overall COP process was in the context of a complete nursery operation. More recently, McNeil at the University of Kentucky, incorporated similar methodology but used a spreadsheet to calculate production costs for woody ornamentals in containers in hardiness zones 5 and 6, in a format similar to Perry's. Budgets for field-grown woody ornamentals for climatic zones 5 and 6 on larger nurseries were developed by Taylor et al. (1986). All these budget studies followed a general procedure that can be traced to Badenhop (1979) and Badenhop and Phillips (1983).

Plants and Hardiness Zones

COP budgets were estimated for selected woody ornamental and perennial plants in Plant Hardiness Zones 8 and 9, an area on and close to the Gulf of Mexico and to the lower Atlantic, and stretching from southern Texas into North Carolina. Warm summers and short winters describe the area. Budgets describe outdoor plant production in above-ground plastic containers. Procedures and underlying assumptions used in generating production cost budgets for container-grown ornamental plants follow. Plants chosen were representative of a group with similar production practices, inputs and labor rates, and important to the trade. The plants and common cultivars are:

- Indica azalea (*Rhododendron indicum;* example cultivars; 'Formosa', 'G.G. Gerbing')
- Crape myrtle (*Lagerstroemia indica x fauriei;* example cultivars—'Natchez', 'Tuscarora')
- Liriope (*Liriope muscari;* example cultivar—'Big Blue')
- Southern live oak (*Quercus virginiana*)
- Lantana (*Lantana camara;* example cultivar—'New Gold')
- Fig (*Ficus carica*; example cultivars—'Celeste', 'LSU Purple').

Methods

These production systems are based on the knowledge and experience of extension horticulturalists and agricultural economists from participating states, and resulted from a process that identified activities and associated inputs that represent a general production situation. Data files for powered equipment, implements, other durable equipment, and operating inputs were created. Input prices were appropriate to commercial production, and were collected from specialized suppliers serving the industry in 2007. The budgets and supporting assumptions were presented to a panel of growers, and were further verified in extension meetings with growers. Some assumptions incorporated in the budgets were:

- Interest was charged for *working capital and investment in machinery* and equipment.
- All *labor hours* for production activities were charged at $9.60 per hour for hired labor and $15.30 for manager labor (Salassi and Dileberto 2008).
- *Machinery size* affects operating and overhead costs. We assumed an operation with 10 acres of production space, which guided the choice of machinery items and size. Specialized pieces of equipment were wagons, machines to

assist in potting, an air-blast sprayer unit, and irrigation.

- *Overhead irrigation* is the standard water delivery system for small containers (seven gallons or less) in commercial ornamental production. Water was pumped from a well either directly onto the crop or into a pond. Custom installation of the irrigation system was about $5,150 per acre. Cost per acre inch was estimated at $3.92.
- *Planting* was done at a central shed. Liners were purchased. Machine-assistance included a two-cubic yard capacity mixing machine and a potting machine with operating capacity of 3,000 containers/hour that was served by a team of about eight people. The planting rate actually achieved was assumed to be 2,250 containers/hour for the one gallon container size. After potting, cans were moved to the growing area on wagon trains pulled by utility vehicles. A field crew unloaded the plants into a 'can-tight' arrangement on beds.
- *Weed Control* included a ground cover and application of glyphosate to prepare the bed. Regular applications of herbicide were applied to growing plants, either with a cyclone-style spreader or a utility vehicle-mounted spreader.
- D*isease and Insect Control* consisted of appropriately labeled fungicides and insecticides, intended to protect against a typical set of pests and diseases.
- *Fertilization* included controlled-release fertilizers and micronutrients as part of the growing medium, and later fertilizer applications directly to pots based on the release specifications of the initial product.
- *Frost protection* blankets and their application were included.
- In *harvest* activities, plants were picked up and loaded onto the wagon train. Plants were stationed to be accessible to the loading dock. Loading onto the delivery truck was the last activity, and a crew of nine would load a standard 40-foot trailer in five hours.
- *Land cost* was not included because there is extensive variation in land value across the production region.
- *Selling or marketing costs* were not included.

Results and Conclusions

A summary of results by crop and container size is presented in Table 1. An example summary table for the one-gallon azalea is presented in Table 2, showing costs according to classification. Differences in costs were in the pace of work, plant size and length of the production period. Lantana and Liriope had the lowest cost because production was in a single growing season, and less intensive use of crop protection products was needed. The one-gallon Azalea's production period was longer—the plant was in the production process for approximately 18 months, so more management activities were required. The three-gallon size plants—Azalea, Crape Myrtle and Fig—had production periods similar to the one-gallon azalea, but multiple liners usually were planted in each container to produce a higher quality final product. In addition, the activities of planting, moving to production beds, and harvest were slower, and led to higher costs. The seven-gallon Live Oak tree had highest cost among these budgets, the result of liner size (one-gallon) and hand-planting .

TABLE 1.
Summary of estimated costs per acre for selected comtainer-grown ornamental plants, 2008.

Crop	Cost by season, $/Acre			Cost /plant ($)	Cost @ 5% loss ($/plant)
	Production season	Harvest season	Total cost		
Azalea, 1 gallon	44,695	7,178	52,264	1.74	1.83
Azalea, 3 gallon	56,569	5,683	62,252	4.61	4.84
Crape Myrtle, 3 gallon	47,717	5,721	53,438	3.96	4.16
Live Oak, 7 gallon	39,918	5,318	45,236	6.46	6.79
Fig, 3 gallon	na	na	41,333	3.06	3.21
Lantana, 1 gallon	na	na	41,793	1.38	1.45
Liriope, 1 gallon	na	na	37,103	1.24	1.30

Another commonly used table (not presented) is titled 'Estimated Resource Use and Costs for Field Operations,' which presents detail about when field operations inputs happen, machinery and performance rates, direct and fixed costs for power units and equipment, and total costs of the activity. When summed, the Estimated Resource Use table provides an estimate of total cost of the crop, and can serve as a production recipe indicating what to do and when.

These brief examples illustrate two applications to risk situations.These cost estimates *provide a reference point*. Growers can compare their operational efficiency to this standard. This might be done by hand calculations, or by modifying MSBG's files to reflect the situation on a specific farm then running a budget based on those parameters. If those costs exceed the standard budget, then the entire operation and/or its individual activities might be evaluated to identify where processes and costs might be improved.

As a pricing application, suppose this series of operations, machinery, and inputs for the one-gallon azalea seems appropriate for a grower, but that grower calculates his cost at $1.50. If a typical wholesale price for the plant is $1.60, this grower might think the crop is profitable. However, the $1.83 cost estimate here suggests further analysis. The grower might be 'living off depreciation' of machinery and other investments, and not generating an income stream that enables replacement. As another possibility, the grower's estimate of labor cost might not account for all labor contributed by grower (and perhaps family), but this budget charges all labor at an opportunity cost.

Budgets are one component of risk management and should be used in conjunction with other management tools to handle risk.

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TABLE 2.
Estimated resource use and costs for field operations, per acre, *1 gallon Azalea in container,* 30,000 plants per acre, *production season budget,* overhead irrigation, purchased liner, USDA Plant Hardiness Zones 8 and 9.

ITEM	UNIT	PRICE dollars	QUANTITY	AMOUNT dollars	YOUR FARM
DIRECT EXPENSES					
LABOR					
Labor	hour	9.60	482.5000	4632.00	
HERBICIDES					
Ronstar	50 lb	90.00	8.0000	720.00	
FUNGICIDES					
Mancozeb	pt	8.66	25.0000	216.50	
thiophanate methyl	oz	0.60	48.0000	28.80	
FERTILIZERS					
Dolomitic lime	lb	0.14	600.0000	84.00	
Micronutrients	lb	1.33	225.0000	299.25	
Osmocote 14-14-14	50 lb	65.00	18.0000	1170.00	
Osmocote 19-5-11	50 lb	60.00	36.0000	2160.00	
INSECTICIDES					
Horticultural oil	gal.	30.00	5.2500	157.50	
Acephate 75 WP	lb.	7.83	7.0000	54.81	
OTHER					
Pumping Cost/ac/inch	inch	3.92	164.0000	642.88	
PRODUCTION					
Ground Cover Cloth	roll	215.00	12.0000	2580.00	
Tractor per hour	hour	28.14	3.0000	84.42	
Frost prot. blanket	roll	277.00	4.0000	1108.00	
PLANTING					
Pine bark	cu yd	15.00	150.0000	2250.00	
1 gal containers	1000	250.00	30.0000	7500.00	
Liner Azalea	1000	500.00	30.0000	15000.00	
OPERATOR LABOR					
Tractors	hour	15.30	15.2500	233.34	
Labor					
Implements	hour	9.60	3.0000	28.80	
Tractors	hour	9.60	23.0000	220.80	
Self-Propelled	hour	9.60	95.4000	915.84	
DIESEL FUEL					
Tractors	gal	2.93	84.2474	246.86	
Self-Propelled	gal	2.93	38.5906	113.07	
ELECTRICITY					
Self-Propelled	kWh	0.15	238.0000	35.70	
GASOLINE					
Self-Propelled	gal	2.33	4.8000	11.20	
REPAIR & MAINTENANCE					
Implements	acre	38.89	1.0000	38.89	
Tractors	acre	34.27	1.0000	34.27	
Self-Propelled	acre	188.33	1.0000	188.33	
INTEREST ON OP. CAP.	acre	3120.29	1.0000	3120.29	
TOTAL DIRECT EXPENSES				43875.57	
FIXED EXPENSES					
Implements	acre	113.30	1.0000	113.30	
Tractors	acre	103.53	1.0000	103.53	
Self-Propelled	acre	602.75	1.0000	602.75	
TOTAL FIXED EXPENSES				819.58	
TOTAL SPECIFIED EXPENSES				44,695.15	

Human Resource Risk

By Dr. Laurence M. Crane, NCIS

Human resource risk *refers to any event relative to the human element of the farm that is uncertain. Because the character, health, and behavior of people is unpredictable, the farm is exposed to serious risk. Human resources are both a source of risk and an important part of the strategy for dealing with all risks.*

The human element of the farm is often the most difficult to manage, and as agriculture production continues to become more technical, the importance of maintaining and managing specialized human resources is intensified. It is the human component of any activity that brings emotion and life to the endeavor. Dealing with social issues can be challenging because of their subjective and normative nature.

The issues surrounding the human resource risks of the farm business can be summarized into six general categories: 1) maintaining and guarding the health and safety of people on the farm; 2) avoiding and dealing effectively with

common family problems; 3) working with farm business partners; 4) dealing effectively with life changes such as marriage and divorce, illness and death; 5) meeting the educational and training needs of the people involved in the farm; and, 6) managing farm labor.

Health and Safety

The best and most effective safety risk strategy is to ALWAYS think and act with safety first in mind. Preventive action is the primary way to avoid getting hurt. Do not remove guards, shields, and other protective covering from equipment. Anticipate the potential result of your unsafe actions. Wear safety gear. When using chemicals, follow the instructions exactly as stated on the label and do not take short cuts.

There are many hazards to children living on farms and in rural areas—hazards that are attractive, fun, dangerous and deadly. Animals are unpredictable and may become hostile if frightened or threatened. Mechanized equipment and unfamiliar machinery are especially attractive to young people. Respect electricity and be aware of all overhead wires.

Stress, fatigue, lack of training, and taking short cuts are primary contributors to most agricultural accidents. Structure work assignments and schedules consistent with the skill level and the physical limitations and needs of those completing work assignments. Explicitly include safety in all aspects of training, and allow sufficient time for physical and mental rest. Add variety to increase alertness and avoid burnout that leads to sloppy safety practices and dangerous behavior.

Dealing With Common Family Problems

Life on a family farm can be hectic and at times seem out of control. Paying attention to both family and business concerns is not easy. Family rules and norms about what is acceptable to talk about, and what to keep quiet, may limit discussion of important issues. Creating an environment for positive communication is healthy for the business and those who manage it.

Financial stress and worries exact a heavy emotional toll. It is human nature for most to withdraw at the very time when they should be reaching out for support and help. Some pull back when they need to pull together; this is human nature. Structuring regular formal settings that enhance communication is a good practice to develop. During stressful seasons, these regular communication sessions can prove invaluable to helping reduce stress and resolve problems.

Maintaining a balance in your life is especially helpful in combating these human risks. Things get out of focus in a hurry when we withdraw or become one dimensional. Maintaining balance and learning to relax and relieve pressure is essential to your own health and happiness, and the health and happiness of your family life and business life.

Neglecting family responsibilities sends the wrong message to the wrong people. Keep your goals realistic and follow the golden rule. The most valuable resources you have are those you live with. Nurturing these resources can pay important dividends; ignoring or abusing them can cause irreversible harm.

Working With Farm Business Partners

Healthy relationships within the family are essential and often difficult to maintain. This is because we are all different. Our personalities and human strengths and weaknesses are just that—human. However, the success of the farm as a business depends largely upon the ability of the human resources to make the most of all the resources available to the farm, including themselves. The more people who are involved in the farm, the more opportunity for disagreement, simply because there are more personalities, needs, and opinions to accommodate. On the positive side, there is also opportunity for more talent and creativity, and input and critical review of important decisions.

When there is lack of unity in purpose, or worse, total disunity and pulling in different directions, the business is at serious risk. It is important to take the corrective action necessary to ensure unity of business purpose. This is best accomplished by setting business goals that are consistent with personal goals.

Maintaining healthy relationships takes time and is likely the hardest aspect of farming together. It can also be the most rewarding. If farming together is not possible due to a variety of personal reasons, then don't. Staying friends as family members is more important to most people than business success at the expense of family and personal relationships.

Dealing With Life Changes

Some changes are preventable, but most aren't. Regardless, change provides an opportunity for growth and improvement, but also introduces uncertainty and risk.

Marriage is a type of partnership that requires constant work and nurturing. When marriages fail, for whatever the reason, all involved pay a heavy price in many respects. Few farm businesses can survive a divorce without serious financial consequences and risk of failure.

Illness and death are disruptive and costly—emotionally and financially. When human resources are unable to produce, the farm suffers. Especially difficult are those situations where key institutional knowledge and decision-making skills are lost. Keeping records and cross-training within the farm are good risk management strategies in the event of such tragedies. Developing a "user's manual" or detailed description of every function on the farm is a prudent management practice. Then, in the event of an unexpected absence (for any reason) of a key individual in the operation, someone else can step in and

accomplish those tasks critical to the functioning and survival of the business.

Exiting farming is more difficult for some than it was to enter; and entering wasn't easy. It takes time and planning to properly transition to new management and ownership for the business, and to new habits and lifestyles for those exiting. Don't put off these important estate planning issues. It is never easy or too early to start; and it is never too hard to do, or too late to look to the future.

Forced transition, either due to health or financial requirements, is usually traumatic. Seek professional help and counseling from clergy and other social service experts. They can truly help smooth the transition and give hope when all seems hopeless.

Education and Training Needs

Managing a farm business is a very difficult and time consuming occupation. The agricultural sector is evolving towards specialization and the use of new technologies and special skills. The legal risks and responsibilities associated with owning and operating a farm continue to grow at a rapid pace. The only way to cope and succeed in this environment is to be willing to learn, adapt, and apply.

Become proactive in learning and staying current. Seek assistance from allied professionals such as extension educators, attend workshops and field days, participate in trade shows, get involved in professional organizations, subscribe to reliable publications and information services, etc.

Institute a formal training program for all employees, focusing on learning style and active participation. Retention rates of adults depend largely on their level of involvement. The best learning occurs when an adult is totally immersed mentally and physically in the learning activity. Numerous sources report adult learners retain: 10 percent of what they read; 20 percent of what they hear; 30 percent of what they see; 50 percent of what they hear and see; 70 percent of what they say and write; and, 90 percent of what they say and do.

Training and cross-training of others involved in the farm is a good risk management strategy. Each person associated with the farm needs to ask and answer this question: "If I was unable to do my job on the farm, who could and would?" Documenting how to perform each critical function on the farm is a good place to start. Next, develop contingency plans for unexpected events. And finally, practice, or "fire drill," these critical functions to ensure that all essential bases are covered.

Managing Farm Labor

Farm labor management involves securing and retaining quality farm labor. The goal is to use labor effectively so that the increased costs can be justified and the risks of using labor mitigated.

Finding trustworthy, talented, and dedicated employees will be an increasing challenge for nursery growers and landscapers. Developing sound employee search and management procedures, offering appropriate incentives, and being patient when searching will go a long way to identifying the best person for your operation.

Hiring employees also brings a number of additional responsibilities, liabilities and legal requirements. Learn and stay current with farm labor laws. Some regulations apply to all employers, while others exempt small employers or various types of employment. The adjacent articles in this publication on pages 78 and 90, by Dr. Marco Palma review many of the legal issues with respect to immigration, migrant workers, equal employment, and farm labor. The number of different government agencies that enforce laws and regulations makes it difficult to ensure that all have been complied with. Seek competent professional legal advice to ensure you comply with all regulations.

There are a number of very good labor management resources online. An especially valuable one for farmers is **www.aghelpwanted.org**. The website discusses all facets of hiring, managing, and terminating a farm worker. In addition, a number of humorous videos depict alternative methods for dealing with problem employees.

References

There are numerous sources of outstanding materials on all aspects of human resource management. Contact your local Cooperative Extension office for assistance and direction. The Risk Management Education website maintained by the University of Minnesota is an excellent starting point. This vast and current library of information can be accessed at: **www.agrisk.umn.edu**

Labor Risk Management

HOW TO FIND AND RETAIN FARM LABOR?

By Dr. Cole R. Gustafson, North Dakota State University and Dr. Laurence M. Crane, NCIS

At several recent focus groups and workshops with nursery growers, a majority of the participants commented on the difficulty they had finding and retaining people to work on their nurseries. Some indicated that they had trouble finding people in general due to the tight labor market, immigration and legal concerns, and higher paying jobs elsewhere. Others indicated they are willing to pay competitive wages, but can't find people with knowledge of nursery production and/or appropriate skills to operate specialized machinery. The problem is especially acute in urban areas as so few people have farm backgrounds anymore.

Understanding two common misconceptions about farm labor may be helpful in your quest to hire someone. First, people don't work just for money. In fact, employee surveys indicate that the level of their actual wage is only a small part of total job satisfaction. Other more important factors are positive feedback, a challenging work environment, opportunity for advancement, incentives, and a friendly/safe work environment. If everyone only cared about their wage, we would all be doctors and lawyers!

When discussing a potential employment opportunity with someone, take time to highlight and describe all the different aspects of the position and your nursery operation that may appeal to them. Be sure to ask them why they left their previous job. Did they want more flexible work hours? Did they prefer to work more independently or feel they didn't get enough direction from their supervisor? If you listen carefully, you might be able to discern what is really important to them. Often, people will give up considerable earnings in order to accommodate other personal interests (childcare, time off for a hobby, vacation time to travel home and visit family, etc.).

Farm employment also offers a great opportunity for incentive pay, and offering it can be an indirect benefit to you. Many nursery tasks require considerable care. An employee who is careless and not motivated can cause considerable harm and economic loss. Several farm supervisors have found that sharecropping or even providing a small individual parcel of land for an employee's own use are highly effective in reducing carelessness and increasing motivation. Whenever a new duty that may be unfamiliar to an employee is assigned, they will proceed to demonstrate and learn the procedure on the employee's parcel. Since their production is at risk, new employees will often exert greater care and interest. Once the new procedure is learned, there is less chance of damaging production on the rest of the nursery.

A second misconception is that you will loose a potential employee if you ask tough questions during an interview. Farmers are often noted for their politeness and courtesy. Being too nice during an employee interview may not help you sort out workers who are a good fit for your operation and those that may end up being problem employees. To be an effective interviewer, you need to get comfortable asking pointed questions. And then you have to also be able to listen for key responses that reveal the applicants true work habits and motivation. You can still be nice and friendly, but interview questioning has to go beyond normal conversation and the exchange of pleasantries.

To find out how independent a person works, ask them if they generally ask for permission beforehand or forgiveness later. The latter isn't all bad if you seek someone who is independent and can make decisions themselves. Again, you just want to find someone that is a fit for your management style. Another telling question is to ask what the person would have done differently if they were manager of the last place they worked. Their response will likely reveal what is really important to them. Listen carefully to their casual comments when you are giving a tour of your farm. If they routinely talk about their avocations (fishing, travel, etc.) you should be wary that their main focus is not employment. On the other hand, if the candidate stops to inquire about a plant variety or notices that your method of production is in contrast to their past experience, it shows a deep level of interest on their part.

There are a number of very good labor management resources online. An especially valuable one for farmers is **www.aghelpwanted.org.** The website discusses all facets of hiring, managing, and terminating a farm worker. In addition, a number of humorous videos depict alternative methods for dealing with problem employees.

Finding trustworthy, talented, and dedicated employees will be an increasing challenge for nursery growers and landscapers. Developing sound employee search and management procedures, offering appropriate incentives, and being patient when searching will go a long way to identifying the best person for your operation. Remember, the damage and headaches from hiring the wrong person can be long lasting!

Complying with **Equal Employment Legislation**

By Dr. Marco A. Palma, Texas A&M University

Introduction

It is increasingly important that agricultural employers be fully aware of state and federal laws dealing with all forms of discrimination. Laws have become more stringent and enforcement activities, both federal and state, have been stepped up. The amount of litigation in this area has increased dramatically in recent years. The following are brief summaries of some of the laws addressing this issue.

Civil Rights Act of 1964

Title VII of the Civil Rights Act of 1964, as amended, prohibits discrimination on the basis of race, color, religion, sex and national origin. Employers may never discriminate on the basis of race or color. Employers may discriminate on the basis of religion, sex or national origin if it is a bona fide occupational qualification. Use of this aspect of the law by employers is fraught with risks and should be used carefully. The employer has the burden of proof to show that this kind of job requirement is essential for the normal operation of the business. For example, a job requiring heavy lifting may be difficult for many women. But if some women can do it, it is not essential to make it a job for men only. Rather the job description should describe in detail what must be lifted, and all applicants or promotion candidates should be questioned about their ability to do the lifting.

The Civil Rights Act of 1964 applies only to employers with 15 or more employees in at least 20 calendar weeks of the current or preceding year. Under this law, when discrimina-

tion has been established, the courts are authorized to grant broad judicial relief. Intent (to discriminate) can be inferred from the totality of circumstances, i.e., employer may not have intended to discriminate but carelessness in personnel practices or lack of understanding of the law may have resulted in actual discrimination. Hence, lack of familiarity with the law may not be an adequate defense.

Employers should be careful about the questions asked on an employment application form and in the interview. Questions that have a "disparate" impact on minorities or women may not be asked. For example, certain pre-employment questions are illegal, regardless of whether they are verbal or on a written application form. As a general rule, what is not job related is likely to be illegal. Examples are as follows:

- "Are you a U.S. citizen?" (Better to ask: "Do you have the legal right to work in this country?" Proof may be requested after hiring.)
- "What is your age?" (Better to ask: "If hired, can you give proof of age or a work permit?")
- "Do you have any physical disabilities?" (Better to ask: "Do you have any physical condition that may limit your ability to do this job?" The hiring may be contingent on the passing of a physical examination paid for by the employer.)
- "Are you married?" "With whom do you live?" (Better to ask nothing. Minors may be asked parents' address.)
- "Have you ever been arrested?" (Better to ask: "Have you ever been convicted of a crime, and what are the circumstances?")

Equal Pay Act Of 1963

The Equal Pay Act of 1963, which amends the Fair Labor Standards Act of 1938, was enacted for the purpose of correcting "wage differentials based on sex." The Act requires equal pay for both sexes for jobs requiring substantially equal skill, effort and responsibility, and for jobs which have similar working conditions. The job or working condition comparisons usually only applies to one establishment or plant, even if an employer has several similar plants or establishments. Violations of this Act are cured by raising the wages of the lower paid employee to that of the higher paid. Criminal penalties may be imposed for willful and flagrant violations.

The Equal Pay Act of 1963 applies to farm workers and prohibits wage discrimination on the basis of sex against employees who are subject to the minimum wage provisions of the Act. Exceptions are permitted when wages are based on:

- A seniority system;
- A merit system; or
- A system that measures earnings by quantity or quality of production.

Related Information

- Section 6(d) Fair Labor Standards Act of 1938, as amended, 29 U.S.C. 201, et seq.
- Title 29 Code of Federal Regulations, Part 800.

Age Discrimination in Employment Act of 1967

This Act prohibits employers with 20 or more workers during at least 20 calendar weeks of the current or preceding year from discriminating against individuals aged 40 to 70 because of age in matters of hiring, discharging, wages and terms, conditions or privileges of employment.

The law prohibits any statement in advertisements that indicates any preference, limitations, specifications or discrimination on the basis of age. For example, you are not permitted to use such phrases as "age 25 to 35," "young," "boy," "girl" or others of similar nature. Such phrases as "age 40 to 50," "age over 65," "retired" or "supplement your pension" are also prohibited since they discriminate against others in the 40-to-70-year-old-group. The phrase "state age" is not, in itself, a violation of the Act. However, since it is felt that such a phrase will tend to deter older applicants, its use will be carefully scrutinized to ensure that such a request is for a lawful purpose. The same reasoning should be followed when using similar phrases such as "give date of birth" on an employment application.

The Act does not prohibit specification of a minimum age below 40 in advertisements, i.e., "must be 18 or older."

Some exceptions to the rules are permitted, but they should be used with care. An exception is permitted where age is a bona fide occupational qualification and is reasonably necessary to the normal operation of the particular business. This exception is narrowly construed and the burden of proof in establishing that it applies is the responsibility of the employer.

The Act provides that it shall not be unlawful for an employer to take an action otherwise prohibited where the differentiation is based on reasonable factors other than age. No precise definition is made of these other factors and the burden of proof is on the employer.

If the results of a test are used as the basis for differentiation and the test cannot be related to job performance, it is unlawful. A vital factor in employee testing as it relates to the 40-to-70-age group is the "test-sophistication" or "test-wiseness" of the individual. Younger persons, because of increased use of tests in primary and secondary schools in recent years, may have an advantage over older applicants.

A differentiation based on the claim that it is more costly to employ older persons is unlawful except for employee benefit plans.

Civil Rights Acts of 1991

This law clarifies several issues that were seemingly left unresolved or were not addressed in preceding Civil Rights Acts. One provision of this Act that should be of interest to agricultural employers is a clause that allows compensatory and punitive damages for intentional acts of discrimination and unlawful harassment. Such damages were not authorized in Title VII of the 1964 Civil Rights Act or the Americans with Disabilities Act.

Americans with Disabilities Act

This Act addresses the special needs of persons who may have one or more physical or mental disabilities. With regard to employment, the Act requires the following:

- Employers may not discriminate against an individual with a disability in hiring or promotion if the person is otherwise qualified for the job.
- Employers can ask about one's ability to perform a job, but cannot inquire if someone has a disability or subject a person to tests that tend to screen out people with disabilities.
- Employers will need to provide "reasonable accommodation" to individuals with disabilities. This includes steps such as job reconstructing and modification of equipment.
- Employers do not need to provide accommodations that impose an "undue hardship" on business operations.

- All employers with 15 or more employees must comply, effective July 26, 1994.

1. Remedies

Individuals may seek legal assistance to remedy any perceived discrimination under this Act. Those seeking legal action may ask for monetary damages and penalties. Legal remedies apply to the Civil Rights Act of 1964, Title VII, in regards to discrimination rights.

2. Enforcement

Enforcement is handled by the Equal Employment Opportunity Commission (EEOC). As part of the EEOC's enforcement apparatus, certain state and local agencies are designated as deferral agencies for discrimination complaints filed with EEOC. These agencies are generally known as "706 Agencies." As a general rule, discrimination complaints must be filed with a deferral agency if one is available.

Related Information

- Eliminating Discrimination in Employment: A Compelling National Priority, The U.S. Equal Employment Opportunity Commission, July 1979.
- Laws Administered by EEOC, Equal Employment Opportunity Commission, Washington, DC, January, 1981.

Family and Medical Leave Act of 1993

The Family and Medical Leave Act (FMLA) requires employers to provide up to 12 weeks of unpaid, job-protected leave to "eligible" employees for certain family and medical reasons during a 12 month period. Employees are eligible if they have worked for a covered employer for at least one year, and for 1,250 hours during the previous 12 calendar months.

The rights apply equally to male and female employees.

1. Coverage

Employers with 50 or more employees, within a 75 mile radius, for each working day during each of 20 or more calendar work-weeks in the current or preceding year must comply.

While the Act does not cover seasonal or part time employees working less than 1,250 hours per year they must be included when calculating the number of employees at a work site.

2. Reasons for Taking Leave

Unpaid leave must be granted for **any** of the following reasons:

- To care for the employee's child after birth, or placement for adoption or foster care;
- To care for the employee's spouse, son, daughter or parent who has a serious health condition; or
- For a serious health condition that makes the employee unable to perform the employee's job.

At the employee's or employer's option, certain kinds of **paid** leave may be substituted for unpaid leave.

3. Advance Notice and Medical Certification

The employee may be required to provide advance leave notice and medical certification. Taking of leave may be denied if requirements are not met.

- The employee ordinarily must provide advance leave notice when the leave is "foreseeable."
- An employer may require medical certification to support a request for leave because of a serious health condition, and may require second or third opinions (at the employer's expense) and a fitness for duty report to return to work.

4. Job Benefits and Protection

- For the duration of FMLA leave, the employer must maintain the employee's health coverage under any "group health plan."
- Upon return from the FMLA leave, most employees must be restored to their original or equivalent positions with equivalent pay, benefits and other employment terms.
- The use of FMLA leave cannot result in the loss of any employment benefits that accrued prior to the start of an employee's leave.

5. Unlawful Acts by Employers

FMLA makes it unlawful for any employer to:

- Interfere with, restrain or deny the exercise of any right provided under the FMLA; or
- Discharge or discriminate against any person for opposing any practice made unlawful by FMLA or for involvement in any proceeding under or relating to FMLA.

6. Enforcement

- The U.S. Department of Labor is authorized to investigate and resolve complaints of violations.
- An eligible employee may bring a civil action suit against an employer for violations.

FMLA does not affect any federal or state law prohibiting discrimination, or supersede any state or local law or collective bargaining agreement that provides greater family or medical leave rights.

Sexual Harassment

Sexual harassment is a form of discrimination which is illegal under Title VII of the Civil Rights Act of 1964. The Equal Employment Opportunity Commission (EEOC) enforces the Civil Rights Act and according to EEOC guidelines, sexual harassment is "unwelcome sexual advances, requests for sexual favors, and other verbal or, physical conduct of a sexual nature when submission to the conduct enters into employment decisions and/or the conduct unreasonably interferes with an individual's work performance or creates an intimidating, hostile or offensive working environment." In effect, this definition points out two types of conduct which constitute legal sexual harassment. Employers should be sensitive to both as should all of an employer's managerial and supervisory personnel.

Classical sexual harassment involves basing hiring, firing, promoting and salary decisions on an employee's submission to sexual demands. If the demands are rejected and the employee suffers adverse job consequences as a result, the employer has engaged in illegal discrimination.

Sexual harassment is also, however, conduct which creates an intimidating, hostile or offensive working environment. This part of the definition is much broader and potentially much more troublesome for employers.

The most important thing to understand about sexual harassment is that employers will likely be held responsible for it even if they do not know that it is happening. Therefore, an employer must not only know what kind of behavior could be construed as sexual harassment, he or she must also do everything possible to prevent such behavior in the workplace.

1. Employer Liability for Acts of Supervisors

The employer is responsible for the acts of its agents and supervisory employees regardless of whether the specific acts complained of were authorized or even forbidden by the supervisory employee, and regardless of whether the employer knew or should have known of their occurrence. In summary, the EEOC holds an employer automatically liable for sexual harass-

ment by a supervisor. Because the majority of "hostile environment" cases involve allegations against a supervisor, a wise employer will provide a channel for grievance or complaint which does not require an employee to go first to his or her immediate supervisor.

2. Handling Employee Complains

Complaints of sexual harassment should be taken seriously. Even before a complaint is lodged, employers should institute a grievance procedure and give written notice to all employees. Every complaint should be handled with discretion, tact and compassion. Good judgment at the outset may help avoid lawsuits and future incidents of harassment in the end.

- Act immediately. Employers should not assume that the problem will work itself out. Moreover, any delay in responding to a complaint might be construed as implicit approval of the offending conduct.
- Do not disregard any complaint. Each complaint should be treated separately and seriously. Do not be fooled if a complaining employee minimizes the incident. Often, victims of sexual harassment are embarrassed about the incident and reluctant to talk about it. At the same time, employers should be careful not to risk claims of slander or libel.
- Keep records of the investigation. Employers should document all phases of the investigation, from the initial complaint, through the interview of the witnesses to any action taken. These records may prove to be valuable evidence of remedial measures taken by the employer.
- Maintain confidentiality and privacy. Employers should take care to keep the investigation confidential. Avoid investigating the complaint or holding interviews in public areas. Overheard conversations may lead to later claims of slander.
- Get both sides of the story. The person accused of sexually harassing another should be advised of the allegations and given the chance to respond. Be sure to access the credibility of the person complaining and character of the accused.

Responsible Agency

US Equal Employment Opportunity Commission (EEOC)

1801 L Street, N.W.

Washington, D.C. 20507

Tel. (202) 663-4900

Tel. (800) 669-4000

http://www.eeoc.gov/

Local offices can be found in the telephone directory under US Government, or by visiting the US EEOC website at **http://www.eeoc.gov/offices.html**

Selecting and Managing Agricultural Labor

By Dr. Deacue Fields, Auburn University

Labor makes up the largest cost associated with producing and harvesting most agricultural crops. For agricultural crops as a whole, labor costs account for about 50 percent of the food marketing bill. A farm's labor is its most important asset, because all of the other farm assets will not function without people. Economic Research Service estimated that there were over one million hired agricultural laborers in 2006. The increasing demand for labor-intensive food crops suggest that this number will continue to gradually expand.

The agricultural industry has been scarred by the perception of low wages, long work hours, back-breaking work, and monotonous tasks. As a result, the function of selecting and managing agricultural labor is very challenging for farm managers. Farm managers are faced with the critical burden of finding, organizing, training, motivating, and managing dependable workers as an input to the farms overall success. Farm managers must provide a work environment that develops a quality relationship with all employees within the organization. The seasonality of agricultural crops has traditionally made it difficult to attract a quality labor force. Skilled employees logically prefer jobs that they can depend on for year-round employment. A degree of efficiency is also lost as a result of seasonality, because farms are unable to get the same workers from year to year. As a result they have to invest time in training new workers each year, as well as the cost of recruiting new workers. Many farming operations are diversifying to gain the ability to provide year-round employment and gain efficiency. The overall survival and profitability of a farming operation is linked directly to the quality of the labor force. In order to reach the goals set by an agricultural operation it is essential for the farm manager to select the right employee and employ effective management strategies.

Selecting the Right Employee

Before a farming operation selects its first employee, the manager should invest some time in developing an organizational structure that clearly defines the responsibilities, authority, and accountability for each employee. A carefully arranged organizational structure helps to prevent major communication problems in an operation. Clear lines of communication make asking questions comfortable and allows employees to voice concerns without repercussions. It is nearly impossible to have too much communication in an organization. Unless a farm operator is micro-managing (trying to be directly involved in every task), employees will seldom complain about too much communication. The organizational structure shows employees where they fit in the organization, and it also provides a look at the potential for growth and advancement.

Once the organizational structure is in place, employers should develop a job description that provides details on the qualifications and skills needed to perform at a satisfactory level. Employees want to know what they are being hired to do. The description provides potential employees with information on the training, work experience, and/or special skills needed for the job. The description should indicate how the employee will be supervised, as well as define the goals, duties and responsibilities of the position. The manager needs to specify opportunities for growth and promotion. Potential employees can use this to determine the standards by which job performance will be evaluated. The position description also provides an initial screening so that only prospective employees with some level of a given set of skills will apply.

After deciding where the person will fit, the skills needed, and duties and responsibilities, the manager is now ready to locate and select the appropriate person to perform the job. Locating suitable workers is difficult for agricultural producers, given they must compete with nonfarm employers for quality labor. Some viable methods of locating employees include word of mouth, trade journal, classified ads in local newspapers, radio and internet job posting sites. Each of these methods has a different cost associated and the available budget must be considered. Word of mouth is a low cost

method that often provides a level of comfort due to the fact that employer has some knowledge of the source who recommended a prospective employee. Word of mouth can, however, limit the size of the applicant pool and cause you to miss a top candidate. The advertisement should give potential employees adequate information on how to apply for the position and the desired method of contact for more information.

Hiring a new employee is a risky and time consuming process in many cases. It is very important that the manager take the time to screen and evaluate all of the skills and credentials of prospective employees. The monetary cost associated with hiring an unqualified person may far exceed the time requirements of finding out if the person is the best fit for the job. The manager should find out as much as possible about the applicants background, work ethic, personality, and job-related skills during an interview process. A list of job-specific questions should be developed to validate that the applicant has the qualifications needed for the job. One of the best sources of information about an applicant is previous employers. They should be questioned about the applicant's honesty, dependability, attitude and work ethic. The best method of contacting references and previous employers is by phone. References often do not answer all of the questions that should be answered in written documents. A phone conversation facilitates an exchange that allows you to ask the exact questions you need answered and you can hear the level of enthusiasm provided by the response.

Selecting the right employee is the first step to reducing employee turnover. High employee retention rates keep the costs of recruitment and training low. Employees with specialized skills are extremely valuable to an operation. There is a tremendous investment of time and money associated with developing skills. Therefore, there are significant costs associated with replacing those employees.

Managing Employees

Managing employees involves getting the people in an organization to work efficiently and providing the resources for them to reach their maximum potential. When there is more than one person involved in an organization, a large variety of management issues arise. There is no one magic technique that works for effectively dealing with problems and managing the

human resources of an operation. The strongest organizational structure will break down at times as a result of the complex personal attitudes and problems of employees. Each individual involved in an operation will have unique capabilities, work habits, personalities, ambitions, attitudes and family status. This broad range of employee characteristics requires the manager to be flexible and sensitive to individual employee needs. How the organization responds to the personal needs will positively or negatively affect overall efficiency. It is the manager's responsibility to implement an appropriate system of penalties and rewards to motivate employees and make sure that the operation's goals are being efficiently achieved. Some factors that consistently contribute to creating an environment conducive for employee productivity include employee respect and recognition, opportunities for growth and advancement and sensitivity to employee needs.

1) Respect and Recognition

Employees who are happy with their job will generally go above and beyond the call of duty. What all employees really want is respect and recognition for their efforts. However, each employee may have their own measuring stick for whether or not you respect or properly recognize them. Some are triggered by money, while others respond to added responsibility or a new title. Recognition is a method of rewarding desirable work practices by distinguishing an employee from his peers. It is widely known that management costs are greatly reduced when you have motivated, committed employees, because they require less supervision to get the job done. The manager has to figure out what each employee is looking for, and then figure out how to deliver that motivating respect. Determining the best methods to respect and give recognition starts with developing a relationship by communicating with employees.

Successful managers and supervisors realize that the "iron fist" approach to managing is not very effective. Instead, managers partner with employees and become part of the team. Employees want to feel that the owner respects the work that they do and that it is important to the overall success of the operation. Managers must make a conscious effort to constantly remind employees that they are essential to an overall team effort. It improves worker productivity when they know exactly what is expected of them each day and they have rewards and recognition attached when expectations are exceeded. Recognition helps with retaining valuable, high-performing employees. Managers also need a clearly defined set of penalties that result when expectations are not met consistently.

One of the best ways of showing respect and recognition for efforts is by providing employees competitive compensation.

Employees should feel confident that the wages that they receive are fair when compared to wages offered on other farms and also when compared to other employees within the farming operation. Pay levels need to be consistent based on the skill and responsibility of the employee. When possible, provide financial incentives for exceptional work or to employees who remain with the farm for a certain length of time. Make sure that employees are aware of these benefits so that they will have something to work toward. Small financial bonuses can go a long way when it comes to recognizing an employee.

It is often difficult for agricultural employers to provide competitive wages, when compared to some other industries. As a result, managers must utilize creative, low-cost strategies for rewarding and motivating employees. Many informal benefits can be offered to workers at little or no cost to the business; however, these benefits can add substantially to employee satisfaction and long-term retention. Managers often see greater benefits in terms of loyalty and motivation from expressions of gratitude than from monetary rewards.

Trust is one way that a manager can show respect for an employee. Trust builds gradually as managers and employees learn that they can depend on one another. It is important for farm owners to show trust in employees by delegating responsibility and authority over essential tasks or equipment. Trust is also built when managers allow employees to actively provide insight and participate in the decision-making process. This boosts the individuals self esteem and leads to them feeling like an integral part of the team.

Providing public praise is a good, low-cost way to keep employees excited and motivated. Managers should make it a common practice to find workers doing a good job and praise them specifically for what they have done and let them know how it benefited the farming operation as a whole. Recognition for doing an exceptional job will instill pride, create a sense of belonging, and encourage teamwork. Verbal appreciation will help to build loyal, motivated employees.

Employees appreciate the recognition from individuals outside the firm. Managers can provide attractive items such as hats, shirts, and jackets with a company logo that help to develop pride and makes employees feel like part of a team. Giving an employee a title such as "Employee of the Week" can also serve as an effective low-cost method of recognition.

2) Opportunities for Training and Advancement

No employee wants to be part of an operation that will require them to do the same job year after year with no opportunity for growth. Upon hiring an employee, the manager should be able to show the employee the potential for growth based on the organization structure. Employees want to see opportunities to develop their skills and earning potential over time. Individuals at all levels in the firm should have a clear understanding of opportunities and requirements for promotion. A promotion signals to an employee that he/she is being rewarded for a job well done. When there is a capable employee currently working, managers should promote from within the organization. This shows the manager's recognition confidence in employees abilities and also sends a signal to other employees that they have advancement opportunities available within the firm.

First the operation should have training required for all new employees. Proper training helps employees build confidence in their work, because it allows them to do well at the job they were hired to do. Training signals and investment in an employee, and the manager's willingness to make that investment, builds a positive image among others inside and outside the operation. Managers should encourage and reward employees who take the initiative to develop new skills. Workers should be exposed to different aspects of the farm operation to determine where their skills can best be developed and also to make sure that the operation runs smoothly in the absence of other employees.

There are abundant opportunities for training at local conventions, conferences, seminars and workshops that would be beneficial to the employee and the operation as a whole. Employees should be able to increase their worth by gaining legal certifications that would allow them to perform more highly skilled tasks, such as operating technical equipment or pesticide handling. The benefits of training are observed through high quality, efficient and safe work. Additional training and development opportunities allow employees to feel that they are growing personally and professionally on the job. The employee's value to the firm increases when they take advantage of opportunities for additional training.

3) Sensitivity to Individual Needs

No individual is exempt from having emergencies or other situations beyond their control arise when they have work responsibilities. An employer must be equally concerned about both productivity and the people to effectively manage agricultural workers. When a manager focuses on productivity alone and the individual needs and well-being of workers are ignored, a decrease in productivity is almost sure to follow. Safe working conditions, job security, fair wages and respectful treatment are extremely important to workers. The manager should take time to talk with employees about their personal lives to show a level of concern about their well-being. Employees should feel comfortable with expressing their concerns about work-related issues. There should be a formal grievance process that ensures employees that they can freely approach managers with problems. Regular meetings help facilitate this process.

Workers can quickly become frustrated when trying to balance the demands of work with family issues. The manager has to anticipate family-related pressures and provide a comfortable means for employees to handle family responsibilities. Some methods of addressing family-related concerns are: allow flexibility to take time off, job sharing, providing emergency childcare and health benefits. The long-term benefits from increased employee retention are likely to outweigh the costs associated with implementing some of these measures.

Managers should make an effort to do unusual things when the work is more intense or when there are added work requirements. Gestures such as providing cold drinks, ice cream, or longer lunch breaks speak volumes to the manager's sensitivity to worker needs. Allow employees to cut personal expenses by giving them food to take home or allowing them to utilize some of the farms facilities or equipment from time to time. Employers must create a comfortable work environment that promotes and encourages worker productivity. Small rewards can create large benefits that impact the long-term viability of an agricultural operation.

Legal Risk

By Dr. Laurence M. Crane, NCIS

Legal risk *is any activity or event that threatens the legal standing of the farm or puts the farmer in legal jeopardy. Laws and governmental regulations that reflect society's changing attitudes regarding agriculture, worker safety, and environmental protection may create risks for agricultural producers.*

The day-to-day functions performed by nurseries and landscape operations involve activities and commitments that have legal implications. It is imperative to understand these legal issues to prevent costly problems and to make informed risk management decisions.

Legal issues cut across all other risk areas. For example, acquiring an operating loan has legal implications if not repaid in the specified manner; production activities involving the use of pesticides have legal implications if appropriate safety precautions are not taken; marketing of agricultural products involves contract law; human resource issues associated with agriculture also have legal implications ranging from employer/employee regulations and worker safety, to inheritance laws. No aspect of the farm business is immune from legal concern.

The legal issues most commonly associated with agriculture fall into four very broad categories: 1) appropriate legal business structure, and tax and estate planning; 2) contractual arrangements; 3) tort liability; and, 4) statutory compliance, including environmental issues.

Business Structure and Estate Planning

The method used to obtain and hold title to property is very important and has long-term effects. Formalize the farm ownership arrangements that may have evolved over time. Frequently, serious problems arise in small family farm businesses because of loosely defined arrangements and divergent assumptions of informal ownership arrangements. Structure ownership to reduce exposure of personal assets to business liabilities.

The options for property disposal and transfer, at the time of retirement from farming, are largely determined by the way it is titled and legally held. Estate planning is the process of developing a program for effective management, enjoyment, and disposition of property at the least possible tax cost. Making a will is a crucial part, but estate planning includes much more. When you plan your estate, you are creating a blueprint of how you want your financial and personal affairs handled after you can no longer handle them.

Many farmers avoid estate planning because they don't really know where to start and it appears as an enormous task; a task that involves dealing with many personal and financial issues that are frequently unpleasant. However, it is your plan and you need to design it to fit your needs. You set the goals and determine what you want accomplished. The only "right" answers are your answers. Begin by learning the terminology and what the basic concepts and tools are. Use professional advise and assistance.

Contractual Arrangements

A contract is usually defined as a written or oral agreement between two or more parties involving an enforceable commitment to do or refrain from doing something. In agriculture, contracts between farmers and agribusinesses specify certain conditions associated with producing and/or marketing an agricultural product. By combining various market functions, contracting generally reduces participants' exposure to risk. In addition to specifying certain quality requirements, contracts also can specify price, quantities to be produced, and services to be provided. Have contracts you sign reviewed by competent legal experts to ensure you are protected.

Tort Liability

"Tort" is a Latin term that literally means "twisted action." Tort liability arises from the negligent or intentional infliction of damage to a person or to property. Tort liability can involve the failure to do something that a reasonable person would have done, or the doing of something that a reasonable person would not have done. This type of liability is typically insured under a general liability insurance policy. However, don't just assume you are covered. Read your insurance policy and obtain additional liability coverage tailored to your specific operation as needed.

The simplest type of tort arises where someone is injured on a nursery or greenhouse property. In recent years, tort liability has broadened significantly to include what may be classed as

employment torts, such as wrongful discharge. Another area of expansion has been in the so-called "toxic tort" area in which adjacent landowners, public groups, or others assert liability for damage to air and water quality on account of agricultural activity. Because many nurseries and greenhouses are located in urban areas it is imperative to be aware of public concerns with respect to your business, follow acceptable and legal production practices, and take appropriate measures to protect yourself, including outreach and education to uninformed neighbors.

Statutory Compliance and Environmental Issues

Statutory obligations refer to all of the regulations and laws governing what you do as a farmer and a citizen. You are required to follow these laws/regulations and are subject to penalty if you do not. It is important that you become familiar with the statutory obligations regarding your farming operation so that you do not needlessly put your livelihood at risk.

A huge variety of statutory mandates apply to nurseries and greenhouses. These include tax reporting and payment obligations, wage, hour and safety requirements, compliance with nondiscrimination statutes, termination of employees, use of pesticides and herbicides, participation in certain training and certification programs, and many more.

Although many in agriculture are not fully aware of their legal obligations, failure to comply may have serious consequences in terms of fines, penalties, and abatement. For these reasons nurseries and greenhouses are advised to seek competent accounting and legal representation to avoid violation of statutory obligations with their accompanying penalties for noncompliance.

References

There are numerous sources of outstanding materials on all aspects of legal risk management. Contact your local Cooperative Extension office for assistance and direction. The Risk Management Education website maintained by the University of Minnesota is an excellent starting point. This vast and current library of information can be accessed at: **www.agrisk.umn.edu**

Legal Issues for Greenhouse Growers

By Dr. Ron Rainey, University of Arkansas, Dr. Jim Robbins, UA Ornamental Specialists, and Shannon Mirus, National Agricultural Law Center

A host of legal issues should be considered when it comes to starting and operating your greenhouse business. Some of these issues affect all business owners regardless of the industry, such as business name, structure and location. Other issues specific to your industry are specialized in nature and require adequate consideration, such as marketing liability and labor contracting. While the issues addressed in this article can help the producer identify sources of legal liability, it cannot substitute for seeking local legal counsel to more fully identify the liabilities the producer may face and determine strategies for preventing legal problems associated with the operation.

Business Basics

Specific license and permit regulations will vary by state and county. At a minimum, you will need a business license and tax registration. To operate as a business, you may need to consult one or more of the following: city or county clerk's office, city or county assessor's office, state department of finance and administration, Secretary of State, state department of labor, and the Internal Revenue Service (source of Federal Identification Number). Once a business expands to include employees, serious consideration must be given to rules administered by the Occupational Safety and Health Administration (OSHA). OSHA standards cover such matters as exposure to chemicals, protective gear, first aid, worker training and notification laws.

If you are starting a business, you will need to make sure that the name you plan to use is not already being used by another entity. Selecting the name of your company begins with the "Doing Business As" (DBA) paperwork which is filed with the appropriate state agency, usually the Secretary of State's office. You can also search existing businesses to determine if your selected name is already being used.

You will need to decide which business structure best suits your business or venture. Both legal and accounting expertise should be solicited to determine the structure that best fits your situation. Business organization signifi-

cantly impacts business continuity, legal liability, and tax structure and there may be competing tradeoffs between the advantages and disadvantages of the various business forms. Your business could be structured as a sole-proprietorship, partnership, limited partnership, corporation, S-corporation, or limited liability company. You will need to consider your business goals and objectives to discern the form that provides the best structure for your business.

Some business issues are specific to nursery and greenhouse firms such as chemical applications and product transport. Most commercial horticulture businesses will purchase or apply restricted use pesticides and therefore are required to have a current pesticide applicators license and receive periodic pesticide safety training. In general, when involved in the transportation of plant material within your state or across state lines you should be familiar with the issues related to specific quarantines, federal and state noxious weed lists, and phytosanitary requirements. Check with your state department of agriculture or similar agency for other applicable licenses or regulations.

A final area of consideration is your business location,specifically zoning. Even if your business is already in operation, zoning issues should be clearly understood as they could affect possible business diversification, expansion and on-going operations. Operators should take notice of their local zoning requirements and any special exemptions that exist or could potentially emerge. Zoning issues are becoming even more important as populations continue to expand into rural areas.

Contracting

We have all heard the phrase, "get it in writing." This is the prerequisite for any product, service, sale or purchase. In order to mitigate potential disputes and provide transparency for both the buyer and seller, it is important to secure details of the transaction in writing. Failure to do so can lead to heated discussions over the intended and understood meaning of specific terms. This is especially important for areas like warranty and satisfaction. Certain contracts are required by law to be in writing and signed. One example of this is a contract for the sale of goods over $500.

It is suggested that you have an attorney either draft or review your business' basic documents that you will routinely use—for example purchase order, sales order, warranty, etc. For specific transactions, you will likely want an attorney to draft the document. If possible, retain the original contract or copy containing the original signatures from all parties. A photocopy or even an agreement without signatures offers adequate proof of a purchase or sale agreement, but nothing can supersede an original copy as legal protection. Any substantive changes to a contract should be noted in writing. If they are in the body of the contract, then each change should be initialed by all parties involved within the contract. If it is in the form of an addendum, it should be signed by all parties involved. A contract should always specify that it represents the entire agreement between the parties and that any changes must be in writing.

Labor Issues

If your operation has employees, your business needs to comply with all Occupational Safety and Health Administration (OSHA) standards. This requires having standard operating procedures in place for all of your business' standard practices as they relate to your employees, including hiring, firing, training, promotion, safety, reprimands, etc. These standard procedures are simply worksheets or standardized checklists that you require your employees to read/perform, sign, and date. These forms should be kept on file in an orderly recordkeeping system. It allows the employer to make certain that employees are not only aware but understand certain processes and procedures. It also allows the employer to quickly prove that certain safeguards, rules and systems are in place.

If you are involved with contracting labor, you should be aware of the Department of Labor's (DOL) H-2A Program, a temporary agricultural program established as a means for agricultural employers who anticipate a shortage of domestic workers to bring nonimmigrant foreign workers to the U.S. to perform agricultural labor or services of a temporary or seasonal nature. For detailed information on the program, visit the DOL's website, **www.foreignlaborcert.doleta.gov/h-2a.cfm**. According to DOL, before the U.S. Citizenship and Immigration Services (USCIS) can approve an employer's petition for such workers, the employer must file an application with the Department stating that there are not sufficient workers who are able, willing, qualified, and available, and that the employment of aliens will not adversely affect the wages and working conditions of similarly employed U.S. workers.

There are certain requirements of employers that participate within the H-2A programs. An employer must meet the following specific conditions:

- **Recruitment:** an employer must agree to engage in independent positive recruitment of U.S. workers, including newspaper and radio advertising in local areas.
- **Wages:** a paid wage or rate must be the same for U.S. workers and H-2A workers, which has a minimum set by the applicable Adverse Effect Wage Rate (AEWR), federal or state minimum wage, or the applicable prevailing hourly wage rate, whichever is higher.
- **Housing:** an employer must provide free housing to all workers who are not reasonably able to return to their residences the same day.
- **Meals:** the employer must provide either three meals a day to each worker or furnish free and convenient cooking and kitchen facilities for workers to prepare their own meals.
- **Transportation:** the employer is responsible for the cost of transportation of workers between the employer's housing and the worksite; and if certain conditions are met, the cost of transportation and subsistence from the place of recruitment to the place of work.
- **Workers' Compensation Insurance:** the employer must provide workers' compensation insurance where it is required by state law.
- **Tools and Supplies:** the employer must furnish, at no cost to the worker, all tools and supplies necessary to carry out the work.
- **Three-Fourths Guarantee:** the employer must guarantee to offer each worker employment for at least three-fourths of the workdays in the work contract period and any extensions.
- **Fifty Percent Rule:** the employer must hire any qualified and eligible U.S. worker who applies for a job until fifty percent (50 percent) of the period of the work contract has elapsed.

Legal Considerations for Retail Operations

Nursery and greenhouse businesses with retail operations share some exposure to legal liability regardless of their chosen avenue of marketing. Inviting the public onto your property comes with a certain degree of responsibility to ensure the property is safe. These responsibilities for the property owner stem from the legal concepts of premise liability and negligence. Premise liability is the notion of people on your property and how you, the property owner, may be liable if they are injured. Whether or not you are negligent depends on whether you conformed to your duty of care, or level of responsibility.

Retail operations that invite the public onto their property for business purposes owe the customers a high duty of care to keep the premises reasonably safe. If a customer is harmed while on your property, they may try to recover from you, or the business, under a theory of negligence. Your best defense to a situation such as this is a good offense. Evaluate your operation and retail space for dangers that may harm customers. Have procedures in place to resolve situations, such as spills, as quickly as possible. A complete record of risk management activities should be maintained and updated regularly. Some landowners also employ the use of signage and written releases signed by those entering the property. There is no substitute for supervision and attention to the activities of those on the property. If employees are used, they must also be trained in all aspects of risk management on the operation.

Businesses allowing public access to property need to spend the time necessary to identify potential areas of legal liability that exist within their operation. Many insurance policies contain exclusions from coverage if individuals come onto the property pursuant to business activities. Therefore, a comprehensive insurance examination with your local insurance broker is in order.

Conclusion

This article simply touches on a few legal issues that greenhouse growers should consider. The discussion is meant to lead each reader to evaluate their own operation or business proposition. The article is not legal advice and recommends that operators seek outside legal counsel for additional information on the areas discussed.

In addition to seeking legal advice, it is important to use other resources that can assist with understanding your business legal needs. Other growers, government agencies, and academic institutions are excellent resources which growers can access at no or minimal cost. The National Agricultural Law Center **(http://www.nationalaglawcenter.org/)** is a free resource that provides legal agricultural information in an intuitive format. Trade associations, professional organizations, industry trade shows and conferences can also link your operation into important networks that not only aid in addressing current circumstances but raise awareness of emerging issues.

Managing Legal Risks in Agricultural Production

Immigration and Migrant Labor Issues

By Dr. Marco A. Palma, Texas A&M University

Agricultural growers face many types of uncertainty in areas of production, marketing or price, financial, human resource and legal risks. By being more informed, agricultural producers can make better decisions on how to manage some of these risks. The present document addresses compliance issues on immigration regulations as a tool to manage legal risks. Because immigration is constantly changing it is important that producers keep up to date with the latest information. Contact the regulatory agencies or the author for additional information.

I. The Immigration Reform and Control Act of 1986

In November 1986, Congress passed the Immigration Reform and Control Act (IRCA). The law requires employers to document that their workers have a legal right to work in this country. In practice, the documentation requirement is satisfied by maintaining properly completed Immigration and Naturalization Service (INS) I-9 Forms for all employees, now administered by the United States Citizenship and Immigration Services (USCIS). The employer and employee both must complete a portion of the form.

During the first five years, the INS outreach efforts focused on completing the I-9 Forms and on imposing sanctions if the records were not correctly maintained. However, an important part of IRCA is the anti-discrimination provision, which provided the assurance that employers will not discriminate against foreign-looking or foreign-sounding applicants.

Since the passage of IRCA, studies have shown that discrimination based on national origin or citizenship status continues at an alarming rate. Researchers believe this is due to employers' fear of the documentation process, i.e., lack of knowledge about specific details of IRCA.

Because of amendments to the original IRCA, the I-9 Form has been revised. The revision is partly directed at ensuring that employers comply with anti-discrimination provisions and addresses behavior that could be construed as discriminatory.

A. Who must comply?

All persons or businesses who have one or more employees must comply with the law, except for the following exceptions:

You DO NOT need to complete a Form I-9 for:

1. Persons hired before November 6, 1986, who have continued their employment. However, an employee who was on the payroll prior to November 6, 1986, and whose employment was terminated, is subject to the Act upon re-employment.
2. Persons you employ for casual domestic work in a private home on a sporadic, irregular or intermittent basis.
3. Persons who are independent contractors.
4. Persons who provide labor to you and are employed by a contractor providing contract services (e.g., employee leasing).

NOTE: You cannot contract for the labor of an alien if you know the alien is not authorized to work in the United States.

The following guidelines are offered to aid in complying with the anti-discrimination provisions.

1. *DOs for complying with the IRCA*

   DO hire applicants before requesting they show work authorization and identity document(s). If you require a completed I-9 as part of the application, you should ensure that all applicants complete I-9 forms at that time.

   DO allow employees to choose which document they wish to use for establishing their employment eligibility and identity. Never specify a particular document or demand to see immigration papers. Do not request more documents if those provided meet the requirements of IRCA.

   DO verify that you have seen the documents offered by the employee. You need not photocopy documents. If one looks genuine and the name corresponds to the applicant, accept it.

   DO keep all I-9 Forms in a separate file apart from personnel files.

2. *DO NOTs for complying with the IRCA*

   DO NOT treat applicants differently because they look or sound like foreigners. From initial contact to termination, employees should be judged on their qualifications for the job.

   DO NOT require specific documents for verification. Allow applicants to choose documents that verify work authorization and identity. A policy of accepting only a specific document is illegal.

   DO NOT refuse to accept valid work authorization with a future expiration date. An expiration date does not imply the applicant will

be deported after that time. Many immigrants are simply awaiting issuance of resident alien cards or extension of work authorization.

DO NOT refuse to accept valid work authorization because you are unfamiliar with the type of document. There are numerous types of documents that are acceptable.

DO NOT have a "U.S. citizens only" hiring policy unless it is required by law.

DO NOT demand that applicants speak only English on the job.

B. Documentation Process

All employees must show their employer proof of identity and employment authorization within 72 hours of being hired. If employment is for less than 72 hours, then the verification must be established by the end of the first day. Verification of the presentation of acceptable documents is attested to by completing an I-9 Form. A copy of an I-9 Form and a list of acceptable documents that employees may submit to establish identity and the legal right to work in the can be downloaded from the USCIS website at http://www.uscis.gov/i-9 in both English and Spanish versions. The employer must complete and sign the I-9 Form. The employee must also sign the form.

This form is to be retained after 3 years after the date of employment or 1 year after employment is terminated, whichever period is longer.

Copies of documents are not required by law. If you choose to make copies, be sure to make copies of all employees' documents and maintain these along with the corresponding I-9 Forms.

What all employers should know:

1. Agents of the Immigration and Naturalization Service and the Department of Labor are allowed under this law to arrive unannounced and ask to examine I-9 Forms.
2. Record maintenance violations carry fines between $100 and $1,000 per employee whose I-9 Form is not complete, retained or presented.
3. For discriminatory practices, hiring and continuing to hire unauthorized employees, the fines are:
   - First violation: $250 to $2,000 per employee
   - Second violation: $2,000 to $5,000 per employee
   - Subsequent violations: $3,000 to $10,000 per employee
4. Remedies for an employee who has been discriminated against may include hiring, reinstatement and back pay.
5. Those found engaging in a continuing practice of hiring unauthorized employees may be fined $3,000 per employee and/or imprisoned for 6 months.
6. Those found engaging in fraud or making false statements about visas, permits and identification documents may be imprisoned up to 5 years and fined.

C. Responsible Agencies

US Citizenship and Immigration Services

National Customer Service Center:
1-800-375-5283.

To obtain additional information you can visit USCIS website at **http://www.uscis.gov/** and click on the "For Employers" tab on the left hand side.

U.S. Equal Employment Opportunity Commission
1801 L Street, N.W.
Washington, D.C. 20507
http://www.eeoc.gov/
Public Information Hotline
1-800-669-4000
(English & Spanish)

II. Migrant and Seasonal Agricultural Worker Protection Act

A. Who Must Comply?

Any person engaged in any farm labor contracting activity must comply. Definitions make it clear that growers, processors and associations are not farm labor contractors and are no longer required to register as such. Only farm labor contractors and their employers are required to register. However, agricultural employers and associations are subject to the Act and must comply with all worker protection provisions.

In April of 1997, the Department of Labor's Wage and Hour Division amended its regulations in that farmers who use labor contractors are now, in most instances, defined as joint employers. This means that farmers and ranchers are now jointly liable for violations that occur on minimum wages, unemployment taxes, social security taxes, Workers' Compensation coverage, child labor laws and temporary workplace sanitation regulations.

B. Who Is Covered?

The Migrant and Seasonal Agricultural Worker Protection Act (MSPA) safeguards most migrant and seasonal agricultural workers in their interactions with farm labor contractors, agricultural employers, agricultural associations, and providers of migrant housing. However, some farm labor contractors, agricultural employers, agricultural associations, and providers of migrant housing are exempt from MSPA under limited circumstances:

1. Persons who engage in farm labor contracting on behalf of a farm, processing establishment, seed conditioning facility, cannery, gin, packing shed or nursery that is owned or operated exclusively by this person or an immediate family member.
2. Any person, other than a farm labor contractor, for whom the man-days exemption for agricultural labor is applicable (see the section on Fair Labor Standards Act).
3. Any labor organization, non-profit charitable organization, or public or private non-profit educational institution.
4. Any person who engages in any farm labor contracting solely within a 25 mile intrastate radius of his permanent resi-

dence and for not more than 13 weeks per year.

5. Any common carrier that would be considered a farm labor contractor solely because the carrier is engaged in transporting any migrant or seasonal worker.
6. Any custom grain harvesting, cotton harvesting, hay harvesting or sheep shearing operation.

   NOTE: Cotton harvesting was not originally listed as an exempt activity. However, a subsequent ruling by the Department of Labor has exempted cotton harvesting from this law.
7. Any custom poultry harvesting, breeding, debeaking, desexing or health service operation, provided the employees are not regularly required to be away from their permanent place of residence other than during their normal working hours.
8. Several situations involving persons recruiting full-time students working in various agricultural activities. (See Public Law 97-470 for specific details.)

C. Farm Labor Contractors Must:

1. Register with the U.S. Department of Labor and receive a Certificate of Registration annually;
2. Ensure that all full-time or regular employees of a certified labor contractor who engage in recruiting, soliciting, hiring, furnishing or transporting workers are also registered;
3. Carry Certificate of Registration at all times; and
4. Ensure that no individual who is an illegal alien be employed. Compliance demonstrates that the farm labor contractor relied in good faith on documentation prescribed by the Secretary of Labor and had no reason to believe the person did not have the legal right to be employed.

Each farm labor contractor, agricultural employer and agricultural association that recruits migrant workers must comply with the following:

1. At the time of recruitment, inform each worker in writing and in the language in which the worker is most fluent of the following:
   a. where he/she will be working;
   b. crops and operations on which he/she will be employed;
   c. transportation, housing and other benefits to be provided, if any, and any costs to be charged for each item;
   d. wage rates to be paid;
   e. period of employment;
   f. existence of strikes at place of employment; and
   g. existence of any commission arrangements between the farm labor contractor and any local merchants dealing with workers;
2. At the place of employment, post the conditions of employment in the language in which the worker is most fluent and in a place where all workers can see them. Workers must be informed of all changes in the conditions of their employment.
3. If housing is provided, post the terms and conditions of occupancy.
4. For each worker, make, keep and preserve records for three years on the following information:
   a. gross earnings;
   b. itemization of the amount and
   c. purpose of each deduction;
   d. net earnings;
   e. number of hours worked;
   f. basis on which wages were paid; and
   g. if paid on a piece work basis, the number of piece work units earned.
5. Provide to each worker for each pay period a written record of the items listed above in item 4.
6. Provide all required written documents in English, or as necessary and reasonable, in some other language common to the workers.
7. Pay the wages owed when due.
8. Do not require workers to purchase goods or services solely from the farm labor contractor.
9. Do not violate, without justification, the terms of the working arrangement.
10. If providing housing, ensure that the facility or real property complies with federal and state laws applicable to that housing.
11. Do not allow the housing facilities to be occupied unless it has been certified that they meet applicable safety and health standards and the certificate is posted at the site. If a request for inspection is made 45 days prior to the expected occupancy date and the inspection is not conducted by this date, the facility may be occupied.

To inquire about the validity of a labor contractor registration certificate contact the Department of Labor Wage and Hour Division at the number listed on the responsible agency section.

D. Provisions for Seasonal Workers

Previous Acts relating to agricultural workers contained language that made it unclear as to whether all workers in fields and processing plants were covered. This Act defines two classes of agricultural workers who are covered:

- Migrant workers are those persons employed on a seasonal or other temporary basis and who are required to be absent from their permanent residences overnight.
- Seasonal workers are those persons employed on a seasonal or other temporary basis and who are not required to be absent overnight when employed on a farm or ranch performing field work related to planting, cultivating or harvesting operations, or when employed in a canning, packing, ginning, seed conditioning or related research or processing operation, and who are transported to the place of employment by means of a day-haul operation. A day-haul operation is one that picks up workers waiting to be hired at an assembly point, transports these workers to the place of employment and returns them to the same point at the end of the work day.

This Act does not cover in-plant workers unless transported by the employer through a day-haul operation.

Additional information is available in Public Law 97-470-January 14, 1983, Migrant and Seasonal Agricultural Worker Protection Act. It is available from the U.S. Department of Labor-Employment Standards Administration, the agency responsible for enforcement of the law. For current labor contractor's registration validity or additional information please contact the US Department of Labor.

E. Responsible Agency

U.S. Department of Labor
Frances Perkins Building
200 Constitution Ave, NW
Washington, DC, 20210
Tel. 1-866-4-USWAGE (1-866-487-9243)
www.wagehour.dol.gov

Optimizing Pesticide Performance

IN NURSERY PRODUCTION

By Dr. Allen Owings, Louisiana State University

Many factors are often overlooked when using pesticides on ornamental plants. Risk of producing nursery plants can be reduced when pesticides are properly used and managed. Pesticide handlers and workers also benefit from pesticides being stored properly. Proper training in pesticide handling, application, and storage should be a top priority in a nursery management system.

Poor performance of pesticides is a concern when these products do not seem to work as they should. However, the pesticide usually is not the problem. Factors that influence pesticide performance include water quality, coverage, agitation, mixing, watering practices, water temperature, rotation, application time, pesticide incompatibility, residual activity, and surfactant use. Here is some information on these topics, in addition to a few more, that will improve pest management success and reduce production and worker risks in nursery production settings.

Identification

The most important first step to pest management success is the proper identification of the insect, disease or weed pest. Many times a beneficial insect will be sprayed and problems explode. Also, in the terms of insect management, we need to realize that we have far more beneficial insects than harmful insects. Without proper identification of the pest, controls may be misused or improperly timed.

Water Quality

The primary factors important in water quality are pH and alkalinity (bicarbonates). Many water sources across the southeastern United States have alkaline pHs (>7.0). High pH levels are responsible for alkaline hydrolysis. This chemical process breaks down the active ingredient in many insecticides, miticides, fungicides, and herbicides. You can reduce production risks and increase pesticide efficiency by adjusting the pH of alkaline water in spray solutions. Add a buffer agent to lower spray solution to a pH of 5-6. This will give better initial knockdown and longer residual. Many pesticides now have recommendations for dealing with alkaline water issues on their label.

Watering Practices

Longevity and effectiveness of pesticides are influenced by irrigation practices. For example, after applying chemicals, limit overhead irrigation to avoid washing of pesticide residue of the contact chemicals. Soil applied pesticides are less effective when over-irrigation and leaching occurs from the root zone. Reduce risk management in production by properly managing your irrigation to increase pesticide efficiency.

Spray Coverage

Uniform coverage is essential. Direct spray applications toward the target pests and avoid spraying during the heat of the day. Early morning or late afternoon are the best times to spray. A spray application at the recommended time of day will reduce production problems because applications at times of the day not recommended may result in phytotoxicity to foliage, flowers or other plant parts. Know the location on plants that different insects commonly occur. Also know what insect growth stage is most easily controlled.

Agitation/Mixing

Be sure to agitate pesticides prior to application. Pesticides, especially wettable powders, can settle out in the bottom of a sprayer. Wettable powders should be mixed in a small container to get into solution and then added to the tank. Remember that the concentration of spray solution is weakest when you first start spraying and gradually increases as you have less solution in the sprayer.

Pesticide Compatibility

Are the pesticides being mixed together compatible? Incompatibility results in phytotoxicity and reduced effectiveness in production. Settling out indicates incompatibility. Follow label directions when pesticides are tank mixed. An application of insecticide mixed with fungi-

cide is desirable because handlers will be exposed to pesticides over a shorter interval of time, but these pesticides need to be compatible when used jointly.

Time of Application

Apply pesticides early in the morning or late afternoon. Insects are most active at this time. Applying during hot, sunny days leads to more rapid drying and reduced pest control. If the pesticide has an oil base, applying during hot, sunny portions of the day can result in burning of tender foliage.

Residual Activity

Most of the newer pesticides on the market have shorter residuals than older pesticides. This means that additional or more frequent applications may be necessary. Application rates for most newer pesticides are also lower than older pesticides. Ultraviolet light tends to degrade newer pesticides faster than older pesticides. Using buffers and spreader stickers will enhance residual activity and initial knockdown. This will enhance production and crop quality.

Water Temperature

Most pesticides, including biological control agents and neem oil products, should be applied at water temperatures of 60°F or higher. Water temperature also influences dissolving of water soluble bags. pH also plays a role here unless it is properly buffered.

Pesticide Rotation

Rotate pesticides that have different modes of action. Applying the same chemical continuously increases the likelihood of resistance/tolerance buildup. Rotate common chemical names, not trade names.

Label Rates

Follow label recommendations. Using more than the label rate recommends leads to phytotoxicity and using less results in reduced pest control and increased potential for tolerance and resistance buildup. Most pesticides have a range of application rates on a label. Use the low rate as a preventive application and the higher rate as a control application.

Target Pest Stage

It is important to know the most controllable stage in the life cycle of each insect pest. Insects can be in an egg, pupa, larvae or adult state. Some insecticides will control insects well when they are in one or two of these stages but may not provide good control when the insect is in another stage of growth. Nursery managers should scout on a regular basis (ideally once weekly) for insect, disease, and weed problems.

Pesticide Shelf Life

Most pesticides have a shelf life of 2-3 years (many fungicides have shelf life of only one year). Active ingredients in pesticides are broken down by temperature extremes, high humidity, and light exposure. Sometimes liquid formulations will settle out and not go back into solution or become murky or milky colored. Once these products begin a degradation process, the effectiveness of the pesticide is proportionally reduced. Reduce risk in your pesticide management program by monitoring the age of the different pesticides stored at your facilities.

Improper Product for Pest

Know the target species and be sure that the pesticide is labeled for control of that species. For example, many insecticides do not have spider mite activity.

Surfactants

Does the product call for the use of a surfactant? These products reduce surface tension between the plant's leaf surface and the pesticide. The inclusion of a surfactant does, in most cases, make a significant difference in efficiency. This is true for some herbicides also. Surfactants improve pesticide coverage and results in increased effectiveness. Some materials have surfactants in the mix—so read the label.

Wouldn't You Make The Call?

Less than two tenths of one percent of all the producers, agents, and adjusters involved in the crop insurance program try to defraud their neighbors and their fellow taxpayers. But those few hurt us all. If you see someone damaging your reputation and robbing from the public's trust in the crop insurance program, call the toll free hotline, 1-800-424-9121 or e-mail usda_hotline@oig.usda.gov.

Report Crop Insurance Fraud

1-800-424-9121

2008 MPCI INSURANCE WRITERS BY STATE

STATE	AGSV	AGRO*	AFBI*	ARM*	CGB	CTY*	CROP1*	CUSA	FMH	GA*	HEART*	JD	NAU*	PRO	R&H*	RCIS*
AL	•			•	•		•			•	•	•	•	•	•	•
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MI	•	•	•	•	•		•	•		•	•	•	•	•	•	•
MN	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
MS	•			•	•		•			•	•	•	•	•	•	•
MO	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
MT		•	•	•			•	•		•	•	•	•	•	•	•
NE		•		•	•		•	•	•	•	•	•	•	•	•	•
NV		•		•						•					•	•
NH				•											•	•
NJ	•			•								•			•	•
NM		•		•			•			•	•	•	•	•	•	•
NY	•			•								•		•	•	•
NC	•		•	•	•					•	•	•	•	•	•	•
ND		•	•	•			•	•		•	•	•	•	•	•	•
OH	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
OK	•	•	•	•	•		•	•		•	•	•	•	•	•	•
OR		•		•			•	•		•		•	•	•	•	•
PA	•	•		•	•							•	•	•	•	•
RI				•											•	•
SC	•			•	•			•		•		•	•	•	•	•
SD	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
TN	•		•	•	•		•	•		•	•	•	•	•	•	•
TX	•			•	•		•	•		•	•	•	•	•	•	•
UT				•			•	•		•		•		•	•	•
VT				•											•	•
VA	•		•	•	•					•	•	•		•	•	•
WA		•		•			•	•		•	•	•	•	•	•	•
WV				•								•			•	•
WI	•	•		•	•		•	•	•	•	•	•	•	•	•	•
WY		•	•	•			•	•		•		•		•	•	•

Source: RMA website. Current as of December 14, 2007. * Indicates company has Livestock SRA

AGSV- Agriserve, Inc.
800-500-2836–www.asi-agriserve.com

AGRO- Agro National LLC
712-256-0968–www.agronational.com

AFBI- American Farm Bureau Insurance Services, Inc.
888-483-3914–www.afbisinc.com

ARM- ARMtech Insurance Services
800-335-0120–www.armt.com

CGB- CGB Diversified Services
217-479-6000–www.diversifiedservices.com

CTY- COUNTRY Mutual Insurance Company
877-274-9800–www.countryfinancial.com

CROP1- CROP1 Insurance
866-765-0552–www.crop1insurance.com

CUSA- Crop USA Insurance Agency, Inc.
800-635-1519–www.cropusainsurance.com

FMH- Farmers Mutual Hail Insurance Co. of Iowa
800-247-5248–www.fmh.com

GA- Great American Insurance Company
877-4AGLINK–www.MyAgritrust.com

HEART- Heartland Crop Insurance, Inc.
888-789-5566–www.heartlandcropinsurance.com

JD- John Deere Risk Protection, Inc.
866-404-9057–www.johndeereriskinsurance.com

NAU- NAU Country Insurance Company
866-942-6724–www.naucom.com

PRO- ProAg Insurance Group
800-366-2767–www.proag.com

R&H- Rain and Hail L.L.C.
800-776-4045–www.rainhail.com

RCIS- Rural Community Insurance Services
800-451-3836–www.rcis.com

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