

**This presentation is part of an educational modular program designed to provide new and beginning farmers and ranchers with relevant information to initiate, improve and run their agricultural operations**



United States Department of Agriculture  
National Institute of Food and Agriculture

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Beginning Farmer and Rancher  
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**USDA-NIFA-BFRDP 2010-03143**

# Home Processing of Poultry

## Part 1



This project is partly sponsored by USDA-NIFA-BFRDP 2010-03143.

## The first thing you have to figure out before getting into meat birds is how you plan to process your birds

- It is the biggest barrier to market entry
  - Shortage of available legal processors
  - USDA or State Inspected Plants
  - Very few will process for others
  - Custom processors (also few)
  - Cannot process for resale - only for own use
  - Home processing (equipment, space, time, workers?)



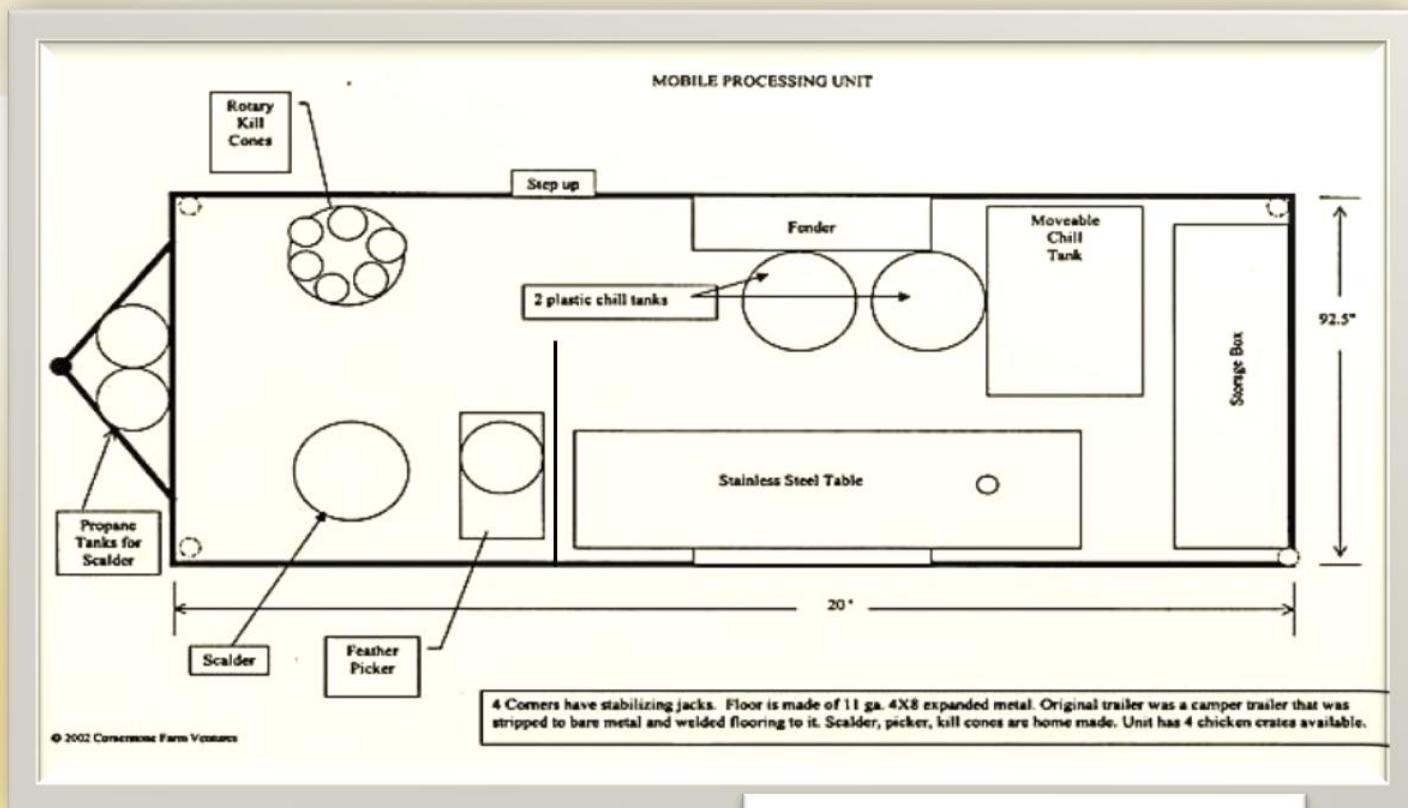


# Types of processing

- Mobile processing units (MPU's)
- Small plants
- Large plants
- On farm processing

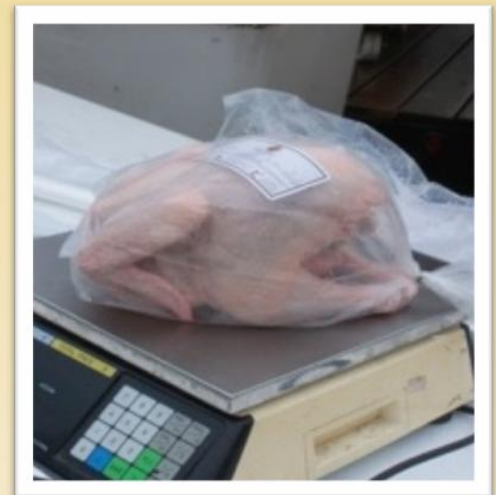


## Mobile processing units





Mobile processing units





**In order to determine the actual cost of your birds it is important to determine the cost of processing the birds**

## **Example:**

- USDA Processing plants (Dec. 2011)
  - \$2.50 per whole bird for USDA processing, bagging, labeling and freezing
  - \$3.15 per bird for complete cut up
  - \$8.50 per turkey
  
- Rent of a mobile processing unit (KSU-MPU)
  - \$75 for the first 50 chickens, \$0.75 each additional
  - \$75 for the first 15 turkeys \$3.50 each additional
    - Cost includes gas, water, electricity, aprons, booties, cleaning
  - Plus:
    - 2-day training session \$50 per person (valid for 2 years)

- Poultry can be processed at home with little or no special equipment
  - If you are processing many birds you might want to consider more adequate facilities or equipment to make the job easier or even have the birds custom processed at a nearby or mobile facility







- Federal and State laws regulate inspection of meat and poultry products
  - Producers may process only birds that they raise for their own household consumption and
  - Up to 1,000 poultry (chickens, turkeys, ducks and/or geese) raised on their farm for sale to other consumers during the calendar year within the state without inspection
  - All poultry products are distributed with a label that includes the producer's name and address and the statement "Exempted-P.L. 90-492."
- Uninspected poultry is not allowed on interstate commerce
- Poultry products must not be misbranded in any way
- In the same calendar year, the poultry producer or distributor may not engage in the business of buying or selling any poultry products other than those described in this exemption



# Federal Inspection Requirements

1. Do not slaughter or process birds raised by another person
2. All poultry are slaughtered, handled and processed under sanitary conditions, practices and procedures
3. Poultry products are distributed with a label that includes the producer's name, address and the statement "Exempted-P.L. 90-492"
4. Poultry products may only be distributed in the state where they are raised and processed

Despite these exemptions, the FSIS as well as state regulatory agencies may choose to examine processing facilities of any size to be sure that they are in compliance with the law

Poultry products produced under these exemptions may be distributed by the poultry producer or other person directly to household consumers, restaurants, hotels and boardinghouses for use in their own dining rooms, or in the preparation of meals for sale to direct consumers





- Despite these exemption from inspection of the birds themselves as they are being processed, the federal FSIS as well as state regulatory agencies may choose to examine processing facilities of any size to be sure that they are in compliance with the laws, including the requirement that poultry and poultry products are processed under clean and sanitary conditions
- If the facility is not in compliance with the law, the FSIS (Food Safety and Inspection Service) and or the state may suspend or terminate the facility's exemption from the law and impose penalties provided under federal or state law



- This presentation will discuss proper procedures for poultry processing to ensure:
  1. Humane conditions for killing and processing the animals
  2. Cleanliness protocols to avoid contamination of the meat product
  3. Storage and labeling protocols comply with regulations



<http://www.motherearthnews.com/the-happy-homesteader/processing-your-backyard-chickens.aspx>

# Select birds for slaughter

The many strains of poultry and different breeds vary in growing time to reach the best size and condition for slaughter

- Only use birds that are healthy
  - Any birds that shows symptoms of disease should not be processed
- Birds should not be marketed, if during processing you discover any of the following:
  - Lumps or spots of any size on the surface of the liver
  - Any measurable quantity of fluid in the body cavity
  - Fat in a poorly fleshed bird (which is orange rather than yellow or white)
  - Any individual internal organ is two or more times the normal size (compare to a similar sized bird) - ignore the gallbladder in this point
  - Breast meat with the same coloration as meat of thighs and legs
  - Meat showing white streaks or an area of abnormal enlargement when compared to the same area on the opposite side of the bird



# Select birds for slaughter

- Broilers are usually processed at 4.5 lbs. (live weight)
- Feed is withheld for 8-12 hours before slaughter to reduce the amount of feed in the gut and the possibility of tearing it during processing which could cause fecal contamination of the meat

## **Before processing:**

- Poultry to be processed should not be fed for 6-8 hours before slaughter but should have access to water
- Fasting reduces the feed and ingested material in the digestive tract and helps prevent contamination during processing
- Ensure that the birds are in a clean environment to avoid soiling
  - Dirty birds will contaminate the scald water or you will need to wash them before the scalding

## Before processing:

All equipment should be cleaned, sharpened, organized before starting processing

- Containers for feathers and offal should be ready
- Thermometer should be checked before using (it must register in the 120-212°F range)
- Have an adequate supply of packaging materials ready so that birds can be packaged for handling and storage after they have been processed and cooled





Processing area should be a place that is clean, has an adequate water supply and is free from flies and other animals



Always plan ahead

- Running water?
- Hot water?
- Chilling tank?
- Cleaning?
- Offal?



# Processing your own poultry

## Advantages

Potential lower cost

Can avoid contamination from automated evisceration

Avoid chemical washes

No transporting to and from a processor  
(time, cost, animal stress)

## Disadvantages

Need to invest in facilities and equipment

Amount of labor and time required  
(how often would you like/be able to do it?)

Need for dependable part time workers

Need to package, refrigerate or freeze the product

Need to take care of byproducts and waste



# Notes on Processing

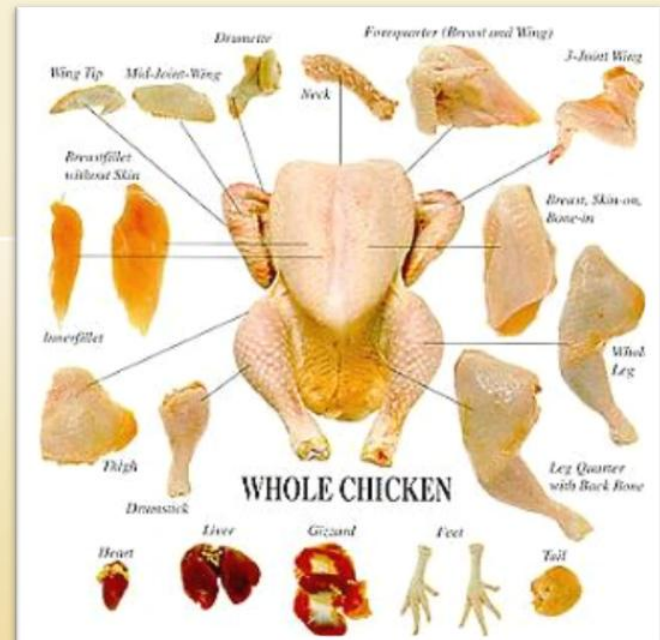
- Equipment can be very expensive
- Very labor intensive and time consuming
  - Do not rely on relatives or friends
  - Always pay well
- Requires a lot of skill
- Sanitation and refrigeration is essential!!
  - Even though your birds are healthy they still have bacteria that can make you and your clients sick!
    - *Salmonella*, *E. coli*, *Campylobacter*
- Proper waste disposal is very important
  - Avoid flies, rodents and other animals around your processing area





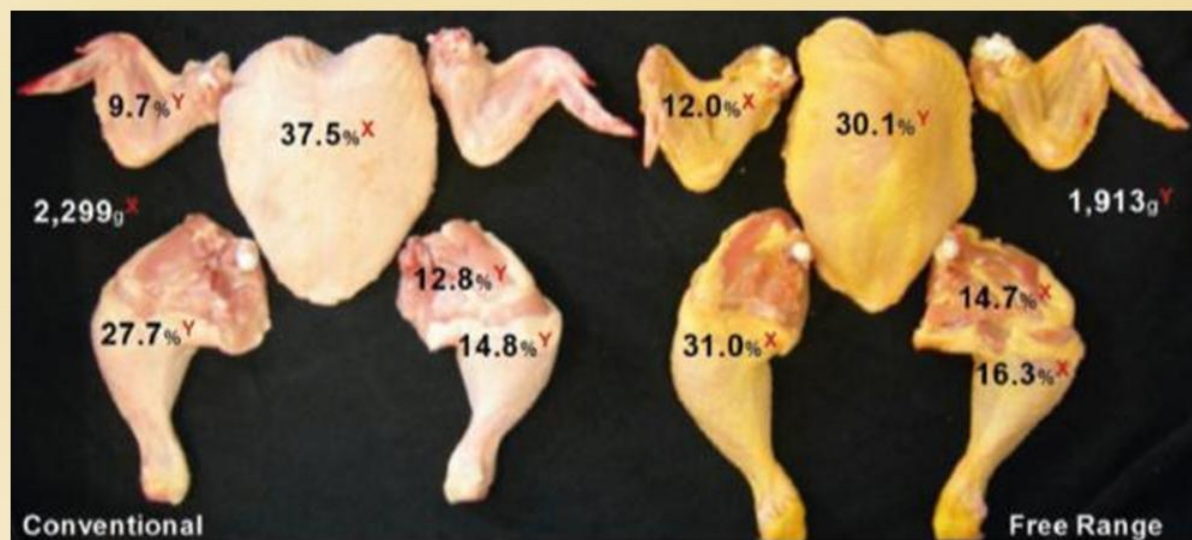
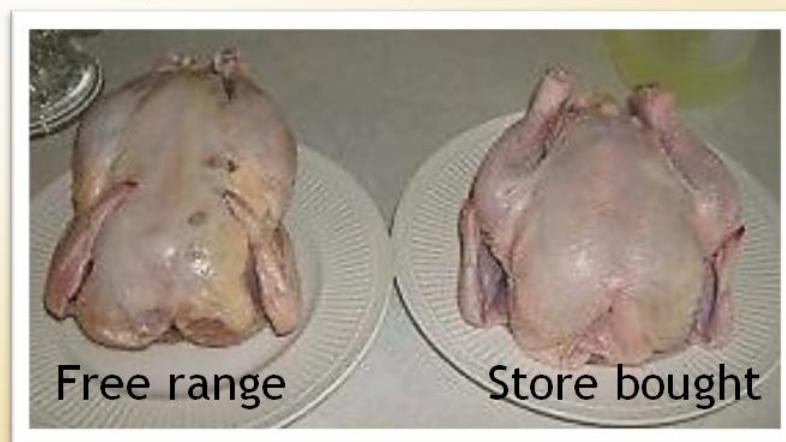
## Know your market

- Size of the bird?
- Type of bird?
- Whole carcasses?
- Pieces?
- Bagged?



## Talk to your clients!

Free range chickens usually look different from those that you can buy at a store



Differences in yield of major carcass parts of conventional and free range “cut-up type” carcasses.



How about selling something different?



## Black chicken

One breed of chicken (Silkies) have naturally black skin and meat



In several Asian countries, this is considered a gourmet food and sometimes regarded as “curative food”



# Waste management

- Plan ahead what you will do with the offal, blood, feathers, feet, head and other parts that are not sold
  - Approximately 35% of the weight of each chicken is comprised by feathers, blood, viscera, feet, head and trim that are discarded
  - Let's assume that the live weight of your birds is 3.3 lbs (1.5) kg.

So if you are processing:

- 50 birds/day                      you will get about 30 kgs (66 lbs) of offal per day!
- 200 birds/day                    you will get 120 kgs (264 lbs) of offal per day!

# Waste management

- Some common options are:
  - Burying
  - Composting
  - Burning
- Discarded bits from the processing (and mortality) can be also used to feed the house pets and other species, but it **must be cooked** to avoid transmission of diseases
  - Raw offal should be boiled at 100°C for at least one hour before allowing them to cool and feed it to other animals

# Waste management

You should also consider beforehand what to do with the water used to clean the carcasses, blood, droppings, for scalding and for washing the work area and the personnel doing the processing

- It is estimated that to process one chicken you use about 5 to 10 gallons of water
- This water will end up laden with fats, proteins and carbohydrates from meat, fat, droppings, blood, skin and feathers
- Most soluble and particulate organic material must be removed before discharging the liquid portion





# Organic poultry

- For a product to be marketed as organic, it should be raised in accordance with the USDA-NOSB standards (<http://www.ams.usda.gov/AMSv1.0/nop>)
- In addition, the NOP indicates the types of substances that can be in contact with an organic product, and which are strictly prohibited (“National List of Allowed and Prohibited Substances”) including cleansers, sanitizers and others that could be used in the processing area
- Packaging materials must be free of synthetic fungicides, preservatives, fumigants. All finished product labels must be approved by the certifier
- Finished products cannot be mixed or come in contact with non-organic products or prohibited substances, such as non approved sanitizers.



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# Want more information?

You can get more information at:

USDA Guidance for Determining whether a poultry slaughter operations is exempt from inspection requirements of the Poultry Products Inspection Act	<a href="http://www.fsis.usda.gov/oppde/rdad/fsis_notices/poultry_slaughter_exemption_0406.pdf">http://www.fsis.usda.gov/oppde/rdad/fsis_notices/poultry_slaughter_exemption_0406.pdf</a>
WSDA Poultry processing and marketing regulations	<a href="http://agr.wa.gov/marketing/smallfarm/DOCS/6-PoultryProcessingAndMarketingRegulations.pdf">http://agr.wa.gov/marketing/smallfarm/DOCS/6-PoultryProcessingAndMarketingRegulations.pdf</a>
FAO Small-scale poultry processing	<a href="http://www.fao.org/docrep/003/t0561e/t0561e00.htm">http://www.fao.org/docrep/003/t0561e/t0561e00.htm</a>
ATTRA Small-scale poultry processing	<a href="https://attra.ncat.org/attra-pub/summaries/summary.php?pub=235">https://attra.ncat.org/attra-pub/summaries/summary.php?pub=235</a>
OSHA Safety and health topics Poultry processing	<a href="http://www.osha.gov/SLTC/poultryprocessing/index.html">http://www.osha.gov/SLTC/poultryprocessing/index.html</a>
University of Minnesota Home processing of poultry	<a href="http://www.extension.umn.edu/distribution/livestocksystems/DI0701.html">http://www.extension.umn.edu/distribution/livestocksystems/DI0701.html</a>

Some of the pictures used in this presentation came from these websites:

- <http://ramblingredneckmom.blogspot.com/2011/04/how-to-process-chickens-at-home.html>
- <http://simplylovinghome.blogspot.com/2011/08/chicken-day-27-birds-off-to-freezer.html>
- <http://barkingmoonfarm.com/2008/10/21/poultry-processing/>
- <http://thedeliberateagrarian.blogspot.com/2006/09/introducing-my-deluxe-automatic.html>
- <http://nha22.com/?p=68>
- [http://savaroo.blogspot.com/2010\\_08\\_01\\_archive.html](http://savaroo.blogspot.com/2010_08_01_archive.html)
- <http://www.footstepsfarm.com/chickenprocessing2.html>
- <http://poultryshrinkbags.blogspot.com/2011/06/its-downright-easy-to-shrink-bag.html>

