

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



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**LAYERS HENS**

**MOLT**



UNIVERSITY OF  
ARKANSAS

# KEEPING LAYERS

- An important difference between keeping broilers for meat and layers for the eggs, is that you will keep these hens for several years
  - Usually 2-3 years, as opposed to a several weeks for broilers
  - One of the things that you will have to deal with is **MOLTING**



Molting is a normal part of the life of the hens  
It is not a disease and has nothing to do with  
diet or the housing system



# MOLTING

- In the hen, the molt occurs when the days are getting shorter. Hormones secreted by the thyroid gland determine the molt
- The use of artificial lighting to maintain a constant day-length can be used to avoid this natural molt
- Physiologically, the drop in egg production allows more dietary protein to become available for production of feathers which are mainly made up of proteins



# MOLTING

## First molt

- When down is replaced by the first juvenile plumage occurring at 6-8 days and ending at 4 weeks

## Second molt

- When the first juvenile plumage is replaced by the second plumage
- This occurs over a number of weeks starting between 7-12 weeks of age

## Third molt

- Occurs in the hen at 16-18 months. This is the molt that most producers worry about



# MOLTING ORDER

- If you are wondering if your chickens are molting or there is something wrong, watch the pattern of feather loss
- The order in which birds lose their feathers is fairly definite
- The feathers are lost from the head first, followed by those on the neck, breast, body, wings and tail



# EXTREME MOLTING

While some hens have slight drop in egg production and grow the new feathers in between the old ones, there are some hens that will drop most of the feathers at the same time and have a significant or total drop in egg production

- Make sure that these hens have a warm spot to stay and provide them with a diet with higher energy and vitamins during that time



# CAUSES OF MOLTING

**These are common stress factors which can induce molting:**



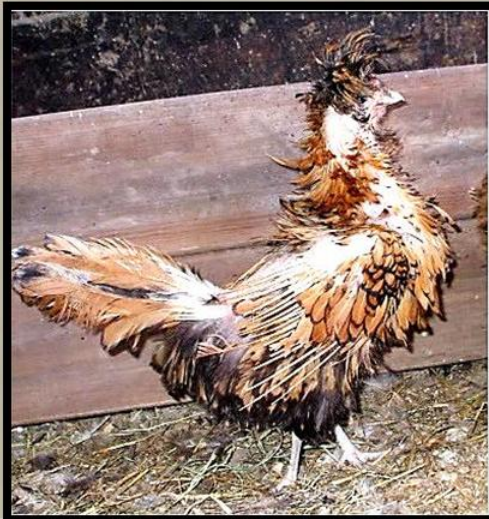
- **Lighting**
  - Decreasing daylight
  - Decreasing artificial light
- **Loss of bodyweight**
- **Climate**
  - Excessive cold
  - Heat waves
- **Predators eg. cats and dogs**
- **Fright - wild birds and children**
- **Peck order - low vitality**
- **Prolonged broodiness**

# MOLTING

- Partial or premature molting can also be induced by sudden changes in temperature, temporary feed or water shortage, sudden changes in the lighting program

## AVOID SUDDEN CHANGES

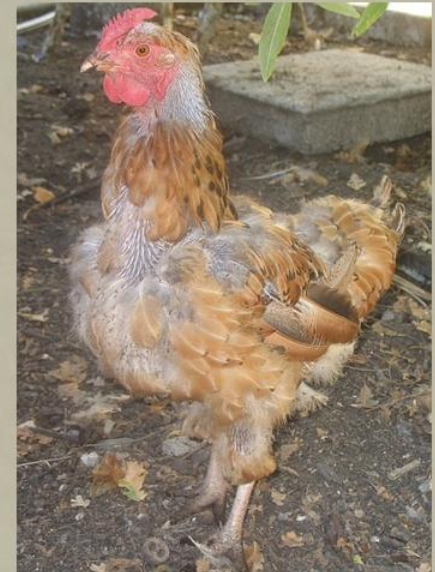
- Keep a routine or your birds will notice
- Avoid any stress during this time, keep temperature constant



# MOLTING AND PRODUCTION

- The second year of egg production will be between 10 and 30% less than that achieved by hens in their first year of lay
- This is because the rate of lay is slower and the birds cease to lay earlier in the following fall
- Hens that have molted two times (3 year olds) will lay only 70-80% of the second year eggs (about 60% of the first year's production)

- However it is usually cheaper to carry a bird through a molt than to buy replacement pullets
- Molted birds are hardier and not as prone to disease



# MOLTING

- Each year when the hens molt, they will drop or stop egg production
- In some cases, egg production is not affected but the molting will take longer

Molting usually starts in October-November and should be completed by March-April when egg production recommences



# FORCED MOLTING

- **Forced molting is a practice adopted by some commercial egg layers to bring about a rapid molt so that all the birds come back into lay for a second time at a certain time of the year**
  - For example, by changing the artificial lighting program
  - Some farmers also use it to make sure that the hens are not “naked” during cold or wet seasons



# GOOD LAYERS VS. POOR LAYERS



- **A poor layer will typically molt early, after only a few months in production**
  - They will also shed their feathers slowly and replace them slowly. The process can last up to 7 months
- **A good layer will lay for 12-15 months before going into molt.**
  - Late molters seemingly shed their feathers all at once, it is a quick process as they shed and re-grow feathers at the same time. It is usually all finished in 2-3 months
- **There is a genetic component to molting so you should keep records of your good layers and try to use their daughters as replacements**

# OTHER CAUSES OF MOLTING

- Disease (fowl pox)
- External parasite (mites, lice, fleas)
- Internal parasites
- Feed problems
  - Deficiencies of essential ingredients
  - Irregular feeding
  - Insufficient feed
- Mismanagement: overcrowding, movement to a different area, water deprivation, insufficient feed and water space, faulty ventilation, wet litter, drafty housing, etc.



# BALD SPOTS

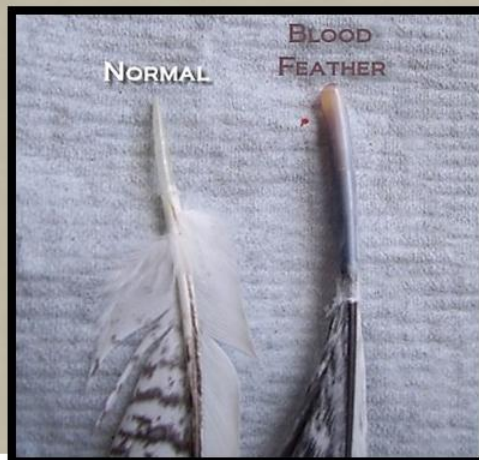
- When a rooster mates with a hen, he stands on her back
  - Over time, the feathers in that spot get torn out by the rooster's claws
- 
- The rooster is only needed in the flock if you need to raise chicks
  - At any other time you should keep the hens separated from the rooster
  - Or increase the number of hens per male, so that the rooster's attention is split between all the hens



# PROBLEMS WITH MOLTING

Immature feathers, called pin or blood feathers, grow out of the skin rolled up in a tube-like structure called a keratin sheath

- Normally the bird will use its beak to "preen" or rub off the keratin sheath, which will allow the feather to open up. These immature feathers have a large blood vessel in their center and if the pin feather is torn or damaged, it will bleed excessively
- The entire feather in its sheath must be pulled firmly from its attachment to the skin and pressure applied until the bleeding stops



# PROBLEMS WITH MOLTING

## Feather pecking (or feather plucking)

- This is a behavioral problem and it can occur when one bird repeatedly pecks at the feather of another
- In severe feather pecking, the feathers of the recipient are grasped, pulled at and sometimes removed and broken
  - This is very painful and can lead to trauma of the skin or bleeding, which in turn can lead to cannibalism and death
  - It is usually present in dominance fights to establish the pecking order, but can become a bad habit
  - Sometimes the feathers are eaten which can cause problems in the gut of the hen that eats it

**Changes in feathering can induce vices such as feather pecking, that once it is established in the flock it is difficult to solve.**



# PROBLEMS WITH MOLTING

Once these problems start in the flock it is important to identify the hen or hens responsible for this behavior

- You can apply a dye of different colors to the beak of all the “suspect” hens and that way you can identify the culprit and get her out of the flock

This hen lost her comb after being attacked by two aggressive flockmates



# PROBLEMS WITH MOLTING

## Self mutilation

- In some cases, the hens start pulling their own feathers and even pulling them out with skin
- The hen will need to be separated and checked by a veterinarian to rule out any disease
- Once this habit starts, it is very hard to eliminate

Some people recommend applying distasteful sprays on the attacked hens



# PROBLEMS WITH MOLTING

- **Cannibalism**
  - If a hen gets hurt and there is bleeding, it will attract attention of the other hens and they can peck at the lesion and severely hurt or even kill the animal
  - When cannibalism starts in a flock, it can result in significant mortality within the flock
    - It can start in denuded areas during the molting period, or it can occur with fully feathered hens that are attacked in the vent or cloaca

**Any hen that has a lesion should be quickly isolated from the flock**



# SOME SOLUTIONS

## Factors likely to reduce feather pecking and cannibalism are:

- Free access to food (ad libitum)
- Mashed feed rather than pelleted
- Higher protein levels in diet (methionine and tryptophan)
- Dark brooders
- Maintaining a uniform flock
- Increased use of the range
- Good health
- Avoid stress and sudden changes



# SOME SOLUTIONS

- Offering perches for them to sleep and to hide from attacks can help to reduce problems
  - The lowest perch should be 18-24 inches off the ground, there can be multiple perches, chickens will jump up from perch to perch
  - The perches will also give the hens a place to sleep and discourage the hens from sleeping on the nest boxes



# MOLTING

- **Molting is a stressful and tiring process, give your hens extra care and good nutrition**
  - Diets with oils can help the new feathers coming in as well
- **Hens are usually quieter and even shy during the process**
  - Give them a dark and quiet spot to rest
  - Make sure they are protected from drafts and temperature changes



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# WANT MORE INFORMATION?



APPPA American Pastured Poultry Producers Association	<a href="http://www.apppa.org">www.apppa.org</a>
Pastured Poultry Resources	<a href="http://pasturedpoultry.org">pasturedpoultry.org</a>
Pasture poultry yahoo group	<a href="http://tech.groups.yahoo.com/group/PasturePoultry">http://tech.groups.yahoo.com/group/PasturePoultry</a>
Appropriate Technology Transfer for Rural Areas (ATTRA)	<a href="http://attra.ncat.org">attra.ncat.org</a>
Sustainable Agriculture Research and Education (SARE)	<a href="http://www.sare.org">www.sare.org</a>