PASTURED LAYERS

Raising Laying Hens on Pasture

This presentation is sponsored by the Beginning Farmer and Rancher Development Program
Layer pullets are usually raised the same way as broilers

- Leghorn usually begin laying at 18-22 weeks of age
- Brown-egg hybrids may start a little earlier (16 weeks of age)
- Dual purpose hens usually start later (24-26 weeks of age)

- Approximately every 25 hours one egg is formed
  - They may lay every day and then skip a day and then start again
  - Most hens stop laying in winter (because of the change in daylight hours)

Roosters are not needed for egg laying
**LAYERS**

- A commercial hen can produce about 250 eggs or more a year (depends on breed, diet and environmental conditions). Less for dual purpose bird
  - Egg size depends on breed, weight and age of the hen (they get bigger with age)
  - Color is determined by breed

- A good laying hen can last for several years, 3-6 years, but they may not be economical after 2 years due to reduced egg production.

<table>
<thead>
<tr>
<th>White-egg</th>
<th>Brown-egg</th>
<th>Blue/Green-egg (Easter eggs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancona</td>
<td>Australorp</td>
<td>Ameraucana</td>
</tr>
<tr>
<td>Appenzeller</td>
<td>Black Rock</td>
<td>Araucana</td>
</tr>
<tr>
<td>Campine</td>
<td>Brahma</td>
<td>Cream Legbar</td>
</tr>
<tr>
<td>Dorking</td>
<td>Cochin</td>
<td></td>
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<tr>
<td>Fayoumi</td>
<td>Dominique</td>
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<tr>
<td>Friesian</td>
<td>Jersey Giant</td>
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<tr>
<td>Hamburg</td>
<td>Malay</td>
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<tr>
<td>Houdan</td>
<td>Maran</td>
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</tr>
<tr>
<td>Leghorn</td>
<td>Orloff</td>
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</tr>
<tr>
<td>Minorca</td>
<td>Orpington</td>
<td></td>
</tr>
<tr>
<td>Old English</td>
<td>Plymouth Rock</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>Rhode Island</td>
<td></td>
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<tr>
<td>Silkie</td>
<td>Rhodebar</td>
<td></td>
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<tr>
<td>Sultan</td>
<td>Wyandotte</td>
<td></td>
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<tr>
<td>White Star</td>
<td></td>
<td></td>
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<tr>
<td>Yokohama</td>
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</tbody>
</table>

Green eggs result from crossing a blue-egg layer with a brown-egg layer

Visit [www.sagehenfarmlodi.com/chooks/chooks.html](http://www.sagehenfarmlodi.com/chooks/chooks.html) For more awesome information!
To better understand different breeds of laying hens and which would be best suited for your operation, check out the Poultry Breeds: Layer/Egg Breeds Module http://www.blackwillowpondfarm.com/laying-hens.html
BROODING AND GROWING
GETTING STARTED

In general, you have 3 choices for getting your chicks:

1. **You can hatch your own eggs (incubated with a hen or in an artificial incubator)**

2. **You can order baby chicks to be shipped from a poultry hatchery through the mail**
   - It helps with planning because you will know for sure how many chicks you will get
   - You can be sure that you get only females
   - Usually the minimum order is 25 birds, so prepare or make arrangements to share with a neighbor or friend. Smaller numbers may be shipped during warmer months, when keeping the birds warm is not an issue

3. **You can buy older pullets ready for laying**
   - You will avoid the work of brooding and growing the hens, but they are usually more expensive per bird and you will have to build quarantine areas before you introduce the pullets with the other birds
   - You just don’t know how they have been raised, treated, fed or if they have had any health problems
GETTING YOUR CHICKS

- Chicks are shipped in cardboard boxes designed to keep them warm while allowing fresh air inside.
- Although some hatcheries use small boxes designed for 25 birds, many can use boxes that fit up to 100 birds in them.
- Try to find a hatchery or producer nearby instead of shipping birds across the country.
BROODING

You will need to prepare everything before your chicks arrive

- Be ready to pick up, transport and set your chicks promptly
  - If you ordered your chickens through the mail, you should let the post office know that you are expecting birds and make arrangements for their delivery
  - When they arrive, you need to open the box at the post office to make sure all your birds are there and okay
  - If there are any problems, the postal employee needs to sign your claim
Brooding

- Heaters should be on 12-24 hours before chicks arrive to make sure that the area is warm.
- Feed and water must be at least room temperature.
- Be prepared to check your chicks at least twice per day.
- Be prepared for some mortality within the first week (4-5% is normal).

The first few weeks of the chick’s life will determine its long term survival and development.
GROWING

Broilers and Layer Pullets are raised alike

- They are usually kept in the brooder for 2-3 weeks
- Then, they are kept in houses or pens with access to pasture
- Most pullets will start laying around 4-6 months of age. It depends on the breed and the season of the year. Some may decide to wait until the next spring to lay eggs
- On average, each bird consumes about 31 pounds of feed to reach laying age
You will need to provide them with nest boxes, perches for roosting

When they begin laying switch their feed to a ration for layers
- They will also need calcium and other supplements to ensure an adequate egg production

Some hens may lay about eggs 200 eggs a year
- Depends on breed, nutrition and environmental conditions
- It is wise to be conservative in your estimations when you are beginning
Pros

- Most roosters are territorial and protective over the hens
- Some hens are easier to handle if they have a rooster around (they are not looking for mate or trying to run away to find one)

Cons

- You must candle all eggs to make sure that the eggs that you sell are not fertilized
- Some males can be mean and aggressive towards people
- And of course, they can be very loud and cause problems with neighbors

You don’t need a rooster to get eggs!

- Roosters are only needed for the eggs to be fertilized (to produce chicks)
- Hens lay just fine with no male supervision 😊
EGGS
EGGS

On average, 3 hens will give you 2 eggs a day.

That means that you need 18 hens to get a dozen eggs a day.
A study by the USDA (2010) showed that there is no significant difference in protein and crude fat content between conventional eggs and free range eggs. However, other studies have shown that eggs from hens that have access to forage daily can have higher levels of omega 3 and 6 fatty acids and vitamins A and E.

According to Mother Earth News, pastured eggs have:
- 1/3 less cholesterol
- ¼ less saturated fat
- 2/3 more vitamin A
- 2 times more omega-3 fatty acids
- 3 times more vitamin E
- 7 times more beta carotenes

The color in the yolk of the eggs is given by the diet of the hen

- If the diet contains yellow/orange plant pigments (xanthophylls) the pigments will be deposited in the yolk and color it. A colorless diet can produce a pale yolk.

- There is no nutritional value of the color of the egg nor does it indicate how fresh is the egg.

Some consumers are surprised to see brightly orange yolks, talk to your customers and explain why they look like that.
EGG CANDLING

Nothing here

Chick developing

Day 1
Day 2
Day 3
Any defects in the eggs and eggshells of your hens indicates a problem in their health, diet or environmental stressors

- High temperatures or high humidity
- Poor nutrition (especially lack of calcium or oyster shell supplements)
- Overcrowding
- Changes in the lighting program
- Hens are too young or getting old
- Disease
  - Egg drop syndrome
  - Infectious bursal syndrome
  - Infectious laryngotracheitis

If you observe any of these problems frequently, call your veterinarian as soon as possible
# Shell Defects

<table>
<thead>
<tr>
<th>Defect</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mottled or glassy shells</td>
<td>High humidity in the shed, crowding, disease such as infectious bursal disease</td>
</tr>
<tr>
<td>Hairline, star cracks</td>
<td>Ageing, poor nutrition, diseases such as infectious bronchitis, hot weather, infrequent egg collection</td>
</tr>
<tr>
<td>Thin-shelled eggs and shell-less eggs</td>
<td>Immature shell gland (very young hens), defective shell gland (if this happens all the time, this hen will have to be culled), stress, poor nutrition, diseases</td>
</tr>
<tr>
<td>Sandpaper or rough shells</td>
<td>Diseases such as infectious bronchitis, infectious laryngotracheitis or avian encephalomyelitis, defective shell gland, changes in the lighting program, water shortages</td>
</tr>
<tr>
<td>Misshapen eggs</td>
<td>Immature shell gland (very young hens), defective shell gland, diseases, such as infectious bronchitis, stress, crowding</td>
</tr>
<tr>
<td>Flat-sided eggs</td>
<td>Diseases such as infectious bronchitis, stress, crowding, changes in the lighting program</td>
</tr>
<tr>
<td>Body checked eggs</td>
<td>Ageing birds, stress, problems with the lighting program, crowding, disease such as infectious bursal disease</td>
</tr>
<tr>
<td>Calcifications and Pimples on the shell</td>
<td>Ageing, poor nutrition (excess of calcium intake in winter, strain of bird)</td>
</tr>
</tbody>
</table>
Shell-less egg

Body checked eggs

Differences in sizes are related to breed, strain and age of the birds

Flat sided egg

Pimples and calcifications on the shell

Deformed eggs
EGGS

- Eggs need to be cleaned – do not consume dirty eggs!
  - Dirt can be brushed off or rubbed with sandpaper
  - Loofahs and sanding sponges are also used
  - Eggs can be cleaned by hand by immersion in clean water
    - Water must be warmer than the egg (about 90°F -- cool water may force bacteria through the shell)
    - Some producers use commercial dishwashing powder and bleach
    - Eggs are usually left to air dry
    - Clean eggs must be stored at 45°F and 70% humidity
      - Washing the eggs removes the “bloom” or waxy seal that may allow bacteria to penetrate the shell
      - Conventional industry often sprays the eggs with mineral oil to reseal the pores
    - If you have a rooster, you must candle all eggs

To avoid them laying around the range, some people set ceramic eggs or golf balls in the nest boxes to give hens a hint.
What goes into the price of an egg?

Percentages reported in the Portland Farmers Market webpage
http://us1.campaign-archive.com/?u=032c7f72562b519ff92a6be41&id=52ef8792d5

- Labor, 47%
- Feed, 24%
- Premium paid for organic feed, 15%
- Housing and fencing, 5%
- Egg cartons, 5%
- Chicks, bedding, coop repairs, 4%

Plus:
- Marketing expenses
- Contribution of farm overhead (buildings, utilities, interests, equipment, etc.)
Designer Eggs?

Pastured eggs reportedly have:

- 1/3 less cholesterol
- 1/4 less saturated fat
- 2/3 more vitamin A
- 2 times more omega-3 fatty acids
- 3 times more vitamin E
- 7 times more beta carotene

- But, e.g. for vitamin E, the increase goes from **0.8-1 mg to 2-2.5 mg** while the daily recommendation is **22-25 mgs**.
  - In Europe you can get eggs that have up to 6 mg

- You must be very careful in using these claims
Some egg producers take advantage of consumers’ perceptions about pastured eggs to try to promote them as healthier options

- Eggland’s Best stated that their eggs have 25% less saturated fats (this amounts to less than half a gram)
- Land O’ Lakes promoted their eggs as a good source of omega-3 fatty acids and “good for heart health”, while the amount of saturated fat and cholesterol in eggs doesn’t meet the definition of healthy from the FDA
- FDA has asked this companies to withdraw these statements as they are misleading
- You need to be careful of the claims that you make
SAFE EGG HANDLING

To better understand safe egg handling; cleaning and storing of eggs, check out the
Safe Egg Handling Module

https://www.healthline.com/nutrition/10-proven-health-benefits-of-eggs
NEST BOXES
Hens like to lay their eggs in a dark, safe and secluded places

- Train the hens to use the boxes by leaving them at ground level until they learn how to use them.

- Once they are using them, then you can raise them and secure them at 18-22 inches off the floor.

- Having the boxes off the floor, discourages hens from scratching in them.

- Place a perch just below the entrance to give the hens a place to land when they jump into the nest box.
NEST BOXES

- Usually one box for every 4-5 hens is enough
  - Some hens prefer “more privacy” so partitions can help with this problem
  - Also, with partitions you avoid having hens walking on the eggs, while they find a spot
- Boxes should be 12 inches high by 12 deep
- Boxes should be 18 to 24 inches of the ground
Dirty nests would be a problem in any system of production, but in pasture it becomes a real problem.

- On rainy days, when the hens are wet, they get the nest bedding and the eggs covered in mud.
- Keeping the bedding in the nests fresh and clean is the best thing one can do to minimize cleaning chores later on.

One option is to open the nest boxes early in the morning and then close them at night so that they don’t sleep in them and soil their nests.
**NEST BOXES**

- Some system to close the nests at night is always a good idea
  - Doors
  - Nest boxes usually have a perch in front of them, you can put them on hinges or screws so that you can put them up in front of the nest entrance to block the hens from entering the nest

The board serves as a step to get into the box

- The board can be lifted during the night to block the entrance
- This specific design also has a flap that hides the eggs after they roll out and protects the eggs
NEST BOXES

Some hens need a “hint” as to where to lay their eggs

- Some producers put some wood or ceramic eggs on the boxes so that the hens can see them and lay their eggs in the boxes

Put new bedding and fake eggs in the boxes to help the hens “get the idea”
HOUSING
An important difference between keeping broilers for meat and layers for the eggs, is that you will keep these hens for several years:

- Up to 2-3 years, as opposed to a several weeks for broilers
- You will need to protect the hens during cold winter months and during the heat of summer
- Your housing design will have to be able to accommodate these challenges

Winter housing
HOUSING -- WINTER

Enclosure

- If you have to keep the hens inside for periods of time, you will have to deal with manure, wet bedding and ammonia levels in their winter enclosure
- A fully protected run can allow them to go outside even on the coldest days
- Add extra bedding to keep them further protected from the cold

Winter in a hoophouse
In the spring the hoophouse can be used for horticulture to make a good use of the litter and all the manure
Housing -- Winter

Temperature

▪ Prevent drafts. The hens can tolerate cold temperatures, but not drafts
▪ They will need heat sources during the winter
▪ The house needs to be kept at 55-65°F
▪ If you don’t food intake will increase significantly, egg production will drop and you risk health problems in the flock
Lighting

- Keeps the hens laying eggs and avoid molting in the winter (loosing the feathers in winter is not a good idea!)
- Supplementing light is advisable in the winter, especially in the north of the country, where days are really short
- Laying hens require approximately 12-16 hours of light to maintain production (optimum is around 14.5 hours)
  - Set a light to go on from 5-8 am and again from 5-9 pm
  - That will give you enough extra light for the hens
  - You could use an electric 40 watt lamp for 10x10 ft area
  - Or a gas lantern, make sure that the lamp has enough fuel for the 3 extra hours and then let it turn off after that.
FEED

- Hens will only lay eggs after all their other energy needs are met, so if they use their energy intake to maintain body temperature, they won’t have energy to produce eggs.
- Their food intake will increase significantly to get enough energy, so you should increase the energy levels in the diet to help them meet their needs. Talk to a veterinarian, nutritionist or a more experienced farmer before you make changes to their diet for the first time.
- Make sure they always have plenty of food and water available (make sure that waterers and water lines do not freeze).
As the days grow shorter, the birds eat more for body temperature. If you increase energy in the diet you can keep intake even, and slightly decrease the protein.

Also to control temperature, during the fall months 1 sq. ft. of space per hen is adequate. Give them .75 sq. ft. in December and then .5 sq. ft. in January or February to keep them closer together. This helps you save on heating expenses and makes sure that they can all keep each other warm.
The birds will eat less, move less and egg production can drop rapidly in hot weather

- Change their diet to reduce protein levels in the diet and increase energy levels
- They will need energy to regulate their temperature and to keep producing eggs
- Visit the extension office in your county or another farm to ask for guidance on modifying the diet of your animals to combat heat stress
HOUSING -- SUMMER

- They will need plenty of cool water and shade

- Keep an eye on the hens as they can suffer from heat stroke
  - If this happens, pick up the hen and take her to the shade as quickly as possible. You can use a fan to cool the bird and hold the wings away from the body to allow them to cool down. Then you can let them sit in a shallow baby pool or bucket with cool water

Also, remember that you will need to pick the eggs up as fast as you can to avoid them sitting in the heat for too long
PREDATOR CONTROL

Fencing & Guardians
FENCING / PREDATOR CONTROL

- Eliminate point of entry for predators
- Eliminate hiding spots
  - Brush, tall grass, trash piles, hay bales, equipment
**PREDATORS**

- Learn signs of attack and killing
- If deaths are occurring at night, house your birds
- If deaths are occurring during the day, improve your fencing or get a dog or burro to keep your chickens safe
- Moving the house often discourages and confuses predators
- If you have the same kind of problem often, you can call the local wildlife or animal control agency to see if they can trap it for you

**Predators to be aware of:**

- Foxes
- Raccoons
- Opossums
- Dogs
- Coyotes
- Rats
- Weasels
- Hawks
- Snakes
- Owls
- Humans
- Skunk
<table>
<thead>
<tr>
<th>Clues</th>
<th>Likely times</th>
<th>Predator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One or two birds killed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entire chicken eaten on site</td>
<td>Dusk/dawn</td>
<td>Hawk</td>
</tr>
<tr>
<td>Bites in breast or thigh; abdomen eaten; entire bird eaten on site</td>
<td>Night</td>
<td>Opossum</td>
</tr>
<tr>
<td>Deep marks on head and neck, or head and neck eaten, maybe feathers</td>
<td>Night</td>
<td>Owl</td>
</tr>
<tr>
<td>post</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entire chicken eaten or missing, maybe scattered feathers</td>
<td>Early morning</td>
<td>Coyote</td>
</tr>
<tr>
<td>One bird gone, maybe scattered feathers</td>
<td>Dusk/dawn</td>
<td>Fox</td>
</tr>
<tr>
<td>Chicks sometimes pulled into fence, wings an feet not eaten</td>
<td>Night</td>
<td>Domestic cat</td>
</tr>
<tr>
<td>Chicks killed, abdomen eaten (but not muscles and skin) maybe</td>
<td>Night</td>
<td>skunk</td>
</tr>
<tr>
<td>lingering smell</td>
<td></td>
<td></td>
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<tr>
<td>Head bitten off, claw marks on neck, back and sides, body partially</td>
<td>Night</td>
<td>bobcat (rare)</td>
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<tr>
<td>covered with litter</td>
<td></td>
<td></td>
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<tr>
<td>Bruises and bites on legs, partially eaten chick with head down</td>
<td>Night</td>
<td>Rat</td>
</tr>
<tr>
<td>tunnel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backs bitten, heads missing, necks and breasts torn, breasts and</td>
<td>Every 5-7 nights</td>
<td>Raccoon</td>
</tr>
<tr>
<td>entrails eaten, bird pulled into fence and partially eaten, body</td>
<td></td>
<td></td>
</tr>
<tr>
<td>found away from housing, maybe scattered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>feathers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Several birds killed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birds mauled but not eaten; fence or building torn into; feet pulled</td>
<td>Anytime</td>
<td>Dog</td>
</tr>
<tr>
<td>through cage bottom and bitten off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bodies neatly piled, killed by small bites on neck and body, back of</td>
<td>Night</td>
<td>Mink</td>
</tr>
<tr>
<td>head and neck eaten</td>
<td></td>
<td></td>
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<tr>
<td>Birds killed by small bites on neck and body, bruises on head and</td>
<td>Night</td>
<td>Weasel</td>
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<tr>
<td>under wings, back of head and neck eaten, bodies neatly piled, faint</td>
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<tr>
<td>skunk-like odor</td>
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<td></td>
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<tr>
<td>Rear end bitten, intestines pulled out</td>
<td>Night</td>
<td>Marten</td>
</tr>
<tr>
<td>Chicks dead, maybe faint lingering odor</td>
<td>Night</td>
<td>Skunk</td>
</tr>
<tr>
<td>Heads and crops eaten</td>
<td>Every 5-7 nights</td>
<td>Raccoon</td>
</tr>
<tr>
<td>Clues</td>
<td>Likely time</td>
<td>Predator</td>
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<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>One bird missing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranged bird missing, feathers scattered or no clues</td>
<td>Dusk or dawn</td>
<td>Fox</td>
</tr>
<tr>
<td>A few scattered feathers or no clue</td>
<td>Dusk or dawn</td>
<td>Hawk</td>
</tr>
<tr>
<td>Fence or building torn into, feathers scattered</td>
<td>Anytime</td>
<td>Dog</td>
</tr>
<tr>
<td>Ranged bird missing, feathers scattered or no clues</td>
<td>Dusk or dawn</td>
<td>Cougar (rare)</td>
</tr>
<tr>
<td>A few scattered feathers or no clues</td>
<td>Night</td>
<td>Owl</td>
</tr>
<tr>
<td>Small bird missing, lingering musky odor</td>
<td>Night</td>
<td>Mink</td>
</tr>
<tr>
<td>Ranged bird missing, no clues</td>
<td>Night</td>
<td>Bobcat (rare)</td>
</tr>
<tr>
<td>Several birds missing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No clues</td>
<td>Anytime</td>
<td>Human</td>
</tr>
<tr>
<td>Ranged birds missing, feathers scattered or no clues</td>
<td>Dusk or dawn</td>
<td>Fox</td>
</tr>
<tr>
<td>Ranged birds missing, no clues</td>
<td>Early morning</td>
<td>Coyote</td>
</tr>
<tr>
<td>Ranged birds missing, no clues</td>
<td>Day</td>
<td>Hawk</td>
</tr>
<tr>
<td>Chicks missing, no clues</td>
<td>Day</td>
<td>Snake</td>
</tr>
<tr>
<td>Small birds missing, bits of coarse fur at shelter openings</td>
<td>Night</td>
<td>Raccoon</td>
</tr>
<tr>
<td>Chicks or young birds missing</td>
<td>Night</td>
<td>Rat, cat</td>
</tr>
<tr>
<td>Eggs missing from nest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No clues</td>
<td>Day</td>
<td>Snake</td>
</tr>
<tr>
<td>Empty shells in and around nests</td>
<td>Anytime</td>
<td>Dog</td>
</tr>
<tr>
<td>Empty shells in nest or near housing</td>
<td>Day</td>
<td>Jay, crow</td>
</tr>
<tr>
<td>No clues</td>
<td>Night</td>
<td>Rat</td>
</tr>
<tr>
<td>No clues or empty shells in and around nests, maybe faint lingering odor</td>
<td>Night</td>
<td>Skunk</td>
</tr>
<tr>
<td>Empty shells in and around nests</td>
<td>Night</td>
<td>Raccoon, mink</td>
</tr>
<tr>
<td>Empty shells in and around nests</td>
<td>Nightly</td>
<td>Opossum</td>
</tr>
<tr>
<td>Eggs missing under broody hen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No clues or faint lingering odor</td>
<td>Night</td>
<td>Skunk</td>
</tr>
</tbody>
</table>
Predators vary by location
Each require different strategies
In general none of them like electric shocks or dogs
Standard fencing will not keep them out

Single line electric fence around the exterior wall
ELECTRIC FENCING

- Clip onto existing high tensile electric fencing
- Portable chargers, battery only
- Solar only charger, weak and ineffective
- Portable battery charger with solar panel to recharge battery
  - Must size the solar panel charger to the battery
- High grass will short out fence leaving a very low voltage on the fence.
  - Mow a strip where the fence will go
  - Must have a good electric ground connection
- Must have a strong charger, 0.5 joule per 164 feet of electronetting
LIVESTOCK GUARDIAN DOGS

- Any dog that won’t chase and kill chickens
- It is better to have more than one dog, more depending on the type of predators and intensity of predation
- Know, that just because you get a “livestock friendly” dog, doesn’t mean they are automatically trained, work with them daily and monitor them closely
- Both males and females are effective
  - Always neuter your guard dogs to avoid distractions and protect them from unwanted attention (e.g. coyotes or wolves)
  - Most guardian dogs mature slowly and reach maturity around 18-30 months of age

Great Pyrenees

Maremma or Abruzzese

Akbash

Anatolian shepherd, Kangal or Karabash – black head

Polish Tatra
LIVESTOCK GUARD DOGS

**PROS**
- Great for free range and day range
- Great for multiple species
- They also keep people out of the pastures
- Cheaper than buying fencing
- Don’t have to move fencing

**CONS**
- Trial and error
- Must have good perimeter fence
- Barking can be an issue with neighbors
- Feed can be expensive
- Not always easy to get the dogs to the vet
  - Need special training and socialization
  - Must learn how to handle and care for LGD’s as they have different behavior issues than pets
## WANT MORE INFORMATION?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Website</th>
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<tbody>
<tr>
<td>APPPA American Pastured Poultry Producers Association</td>
<td><a href="http://www.apppa.org">www.apppa.org</a></td>
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<td>Pastured Poultry Resources</td>
<td>pasturedpoultry.org</td>
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<tr>
<td>Appropriate Technology Transfer for Rural Areas (ATTRA)</td>
<td>attra.ncat.org</td>
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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.