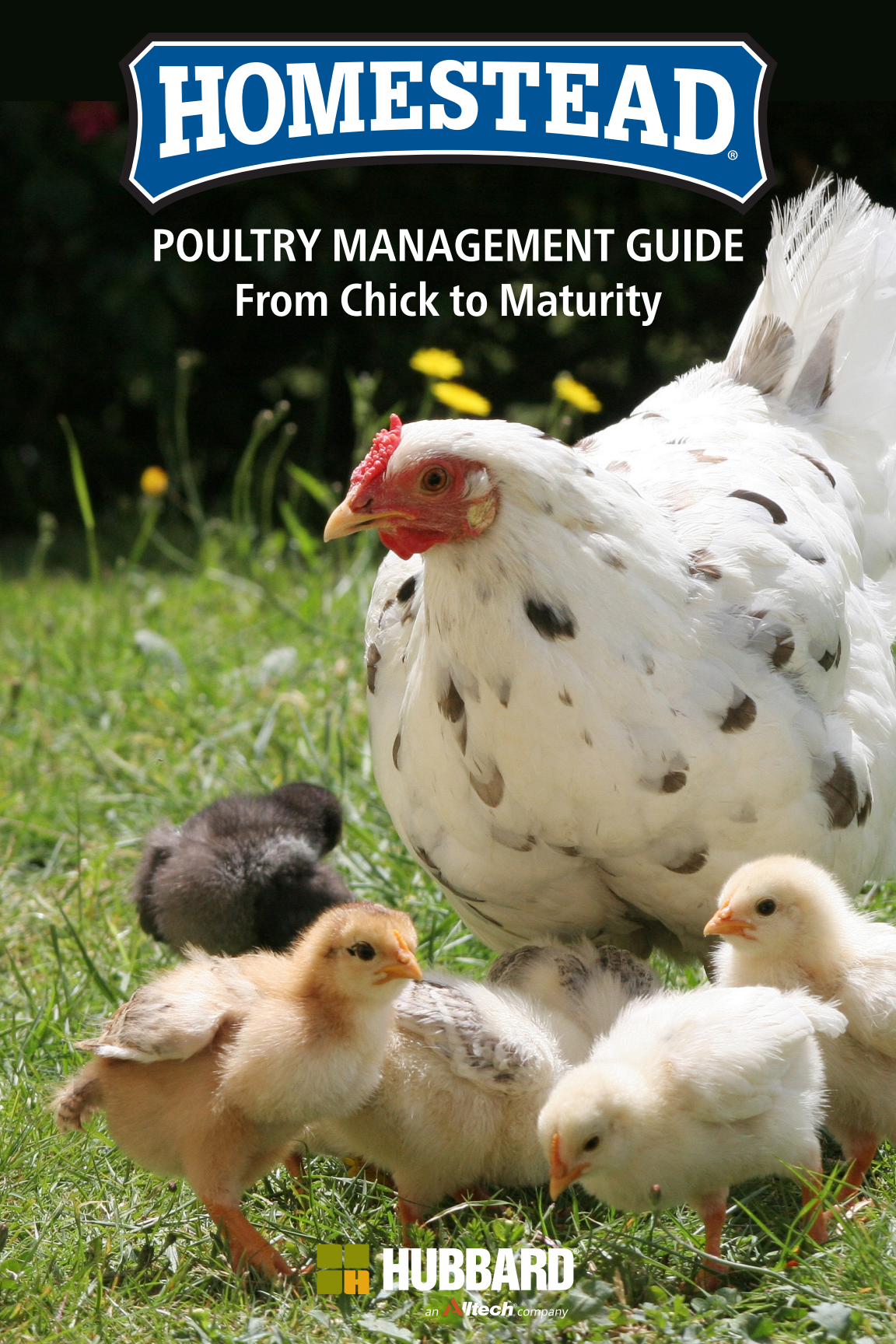
HOMESTEAD®

POULTRY MANAGEMENT GUIDE
From Chick to Maturity



HUBBARD
an Aviagen company

BIRD SELECTION

CHICKENS

When it is time to choose the birds for your flock, you will find abundant varieties, especially with exotics and show breeds, which are available through many hatcheries. Internet sites such as **www.idealpoultry.com** and hatchery catalogs are good resources for you to become familiar with all the breeds and help choose those that fit your purpose.

For layers and white eggs, choose White Leghorn types for maximum production. These birds start laying at approximately 18-20 weeks of age, at which time they weigh about 3 lbs. and mature around 4 lbs. Plan on 18-22 dozen eggs per bird the first year.

For brown eggs, select hens from a variety of feather patterns. These birds generally produce fewer eggs while requiring more feed, because they grow larger: 4 lbs. at 20-22 weeks. This is also when they begin laying.

Birds for meat production are generally hybrids of Cornish and White Rock breeding and can reach 4-6 lbs. in six to eight weeks.

You can purchase straight-run chicks (a mix of both sexes) or sexed chicks (one sex). However, keep in mind that even with sexed chicks, you may end up with a few of both sexes since sexing chicks at birth is very difficult. Chicks should be vaccinated for Marek's disease at the hatchery, which is good for the life of the bird. Contact your local feed dealer to see when they offer "Chick Days," a good time to ask questions, order chicks and purchase equipment you may need.

PREPARATION FOR RECEIVING CHICKS

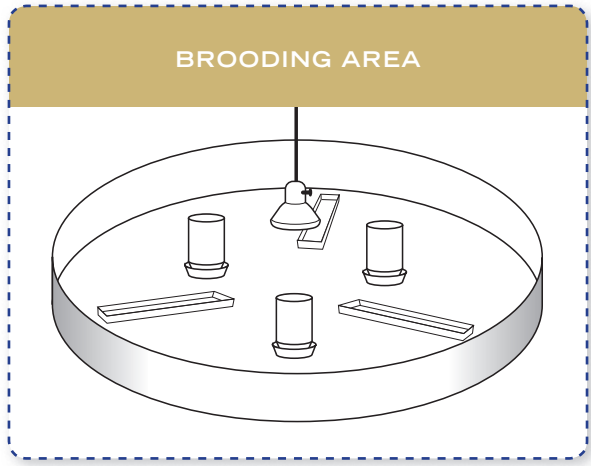
As with any young animal, care that chicks receive early in their lives may determine how they cope with challenges later, so review the following advice and recommendations to give your chicks a healthy start.

Housing

Clean facilities are a good start. Clean, disinfect and air out the building. Let it set idle for two weeks to dry out and help break disease cycles.

Chicks must be kept warm and free from drafts. Choose a building or area that can be managed for draft and temperature with an adequate source for electric heat lamps. Plan on using one lamp per 75 birds with a minimum of two lamps (in case one burns out). Use a brooder guard 18-24 inches high to keep the chicks close to heat, feed and water for the first few days. A brooder guard 6-10 feet across is sufficient for 100 chicks. Place the lamps 20 inches above the litter so the temperature is 90-95° F at chick level. Turn on the lamps 24 hours before your chicks will arrive to warm up their environment. Secure the heat sources so they cannot be moved or dropped too close to flammable materials.

Check on the chicks often to ensure they are comfortable. Chicks need enough room to regulate their body temperature by moving toward or away from the heat source. Casually observe the chicks as they huddle or spread to see if the heaters are adjusted correctly.



After a few days, and once the birds have learned to find the heat, you can expand the brooder guard to allow them to escape the heat if necessary and begin adjusting to cooler temperatures. You can begin reducing the temperature five degrees per week to a minimum of 55° F. Watch the birds for behaviors that indicate comfort. If they are all huddled under the lamps, they are too cold. If they are all against the brooder guard, they are too hot.

Litter

If you brood chicks on the floor, put down a three-inch base layer of clean, dry litter. Avoid sawdust or other fine litter for the first few weeks to limit excessive litter consumption. It is a good practice to put a burlap cloth, cheesecloth, newspapers or paper towels over the litter for the first week so the chicks can learn to distinguish feed from litter.

In small brood boxes or coops, it may be easier to line the bottom of the brooding area with 5-10 pages of newspaper as a base. Then put a layer of paper towels on the top for traction. When the brooder gets dirty, just roll up the top three sheets of newspaper and put another layer of paper towels on top of the remaining fresh newspaper.

Feed & Water

Fill the waterers four hours prior to the arrival of your chicks and allow the birds to drink 3-4 hours before offering their first feed. Provide one quart of water for every 25 chicks. Place the waterers near the outside of the brooder guard so it remains cool and cleaner. Dip the beaks of a few of the birds, which will encourage others to drink, too.

Use waterers that the young can reach but into which they cannot fall. For bantams, poults, game birds and other miniature fowl, place marbles or pebbles in the water tray so that they can drink but not fall into the tray and drown. Don't let young waterfowl swim freely in the water until they are totally feathered. Empty, clean and refill the waterers daily. Sprinkle dry litter around the waterers. If the litter becomes wet, remove it from the area and add clean dry litter. Damp litter is an ideal breeding ground for disease and parasites.

Offer fresh **Homestead® Feed**. Start the chicks eating by placing some feed in egg flats or in small piles on sheets of paper. Place regular feeders in the pen the second day and remove the messy papers and egg flats a few days later. Keep the feeders clean.

Equipment Review:

- Feeders — one inch of feeder space per chick
- Egg flats or sheets of paper
- Waterers
- Heat lamps — minimum of two; one per 75 chicks
- Litter/shavings
- Brooder guard — cardboard, wood, plastic 18-24 inches high
- Sanitizer/disinfectant for cleaning the facility
- Proper feed
- Scoop, shovel or pitchfork for cleaning

SPACE REQUIREMENTS

Bird Type	**Age** (Weeks)	**Floor** (sq. ft.)	**Feeder** (in.)	**Water** (in.)
Chicks	0-1	0.1	1.0	0.25
Ducklings & Goslings		0.5	1.0	0.5
Chicks	2-6	1.0	2.0	0.5
Ducklings & Goslings		2.0	3.0	
Growing Chickens, Pullets	6-20	2.0	3.0-4.0	1.0
Mature Chickens	over 20			
Brown Egg Layers		2.5		
White Egg Layers		2.0		
Turkeys		3.0-4.0		
Ducks (Confined)		3.0		
Geese (Confined)		5.0		

MATURE BIRDS

Space & Equipment Requirements

As your flock matures, notice their space requirements. Many types of facilities are adequate, as long as they offer protection from predators and weather, yet it is important to provide adequate space so the birds are comfortable. Even free-range birds need protection, so consider space requirements during their short confinements.

Roosts

Layers naturally like to roost. Take advantage of this behavior by providing a roosting area, which concentrates the droppings and makes droppings easier to catch. Roosts can be made from round dowels 1-1½ inches in diameter, spaced 12 inches apart. Allow 6 inches of roost space per bird. Provide access to the roosts when the birds are young. Note: Roosts aren't essential for meat birds and may contribute to feet and leg problems as well as breast blisters.

Nests

Nesting is an important daily activity for laying hens, so be sure to provide proper, well-bedded nests in the darkest part of the room. This helps prevent floor eggs. Allow one nest for every four hens. Since hens compete for the nests, keep them uniform. If all the hens prefer one box, it will lead to greater competition, which will encourage poor behaviors like egg-eating and floor laying. Adequate nests help prevent dirty and broken eggs.

Temperature

The optimum temperature for birds more than four weeks of age is 65-75° F. As the temperature goes above or below this range, production, growth rate or efficiency can suffer. Adequate fresh air movement is essential to help control temperature, ammonia, humidity, dust, disease and litter conditions. While mature birds can withstand some cold temperatures rather well, summer heat stress can be critical and may require as much as 5-10 times normal ventilation. Keep this in mind even if you are raising free-range birds that are confined at night for protection.

EGG PRODUCTION

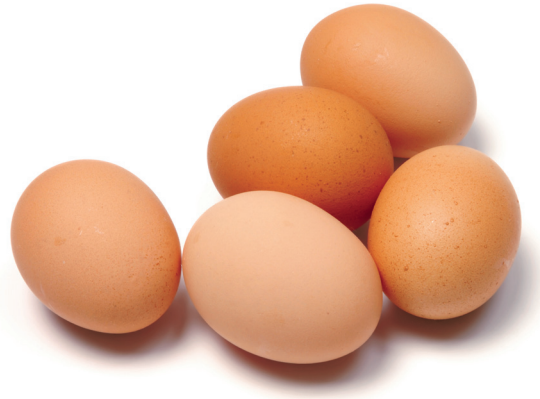
Healthy birds start laying eggs at 18-20 weeks of age. They peak at about 30 weeks of age with 80% to 90% of the birds laying each day. Hens do not need roosters present in order to lay eggs. However, fertilized eggs needed for hatching or eggs required for a fertile egg market do require roosters' presence. However, greater lay rates are achieved with hens not housed with a rooster.

Egg Collection

Collect eggs frequently. Although they will only lay one egg per day, collecting eggs twice a day—and more often in hot weather—helps ensure cleaner, fresher eggs and helps hens avoid developing the bad habit of egg-eating.

Cleaning and Storing

If you plan to hatch eggs, store the eggs at 50° F and 70% humidity. Avoid excessive cleaning because you may destroy the eggshell's natural protective coating. Always use wash water that is warmer than the egg. Use detergents specifically designed for eggs. If you plan to eat the eggs, refrigerate them as quickly as possible to maintain freshness.



LIGHT

Light is an important function in hormone production, which allows hens to lay eggs. In fact, light is important during the birds' entire lives, starting as chicks. Chicks should have constant light 24 hours per day for the first week.

In weeks two to six, pullets need 16 hours of light. That can be reduced to 13 hours for the next six weeks. Beginning at 12 weeks of age, pullets need 10 hours of light until they are 18 weeks old. Provide adequate light with 25 watts per 200 square feet of floor space. This is also enough light for growing meat birds.

Once the birds begin laying, increase the light hours by half an hour each week, up to a maximum 16 hours. Laying hens must have a minimum of eight continuous hours of rest (black-out) per 24-hour period. One 40-watt bulb per 100 square feet of floor space is adequate to keep birds laying. Meat birds grow fine with natural light as long as there is a minimum of 14 hours of light.

NUTRITION

Good quality feeds provide energy and nutrients to grow your birds and help them produce eggs. Diluting good feed with other grains jeopardizes egg production and bird health. Balanced rations are necessary to provide enough minerals to keep their bones strong and to produce hard egg shells. Feeding the correct amount of a good quality feed allows each bird to express its full genetic potential in egg size and production.

Grit is an insoluble material that aids the birds' digestion. The birds use it in their crop to help grind feedstuffs into smaller particles for digestion further down their alimentary tracts. Limit the intake of grit to one pound per 100 pounds of feed or two pounds free choice per 100 birds per week. With modern feeds such as the Homestead® Poultry Feeds, the use of grit is optional.

Water is the birds' most important nutrient. Poultry should have access to all the clean, fresh water they can drink. Note: Water consumption will be three times higher in temperatures of 100° F compared to 50° F.

MOLTING

Molting is a natural process that occurs at the end of the first production cycle. During this rest period, the birds do not lay eggs; they also lose their feathers and begin to grow new ones. While molting is natural, it can be caused accidentally or on purpose by a sudden withdrawal of feed or water, decrease of light, temperature extremes or disease. A second production cycle begins after the birds have rested 4-8 weeks. This cycle will not produce as many eggs, but the eggs are often larger.

CULLING

Culling birds can be a difficult decision. Some people become attached to the birds, regard them as pets and enjoy their presence and companionship around the farmstead. In this case, culling healthy birds is not an option and they can live and add value for many years.

Knowing when to cull a bird based upon production is fairly straightforward and can be determined by checking several indicators. Non-layers have dull combs compared to the bright red combs of healthy layers. Their vents (where the eggs come out) are small and dry, unlike active layers' larger vents. In non-layers, the distance between pubic bones is only 1-2 finger widths, while 3-4 fingers easily fit between these bones of bird in laying condition. Culls that are not sick are still a good meat product.

BEHAVIOR

Chickens have the unfortunate ability to become cannibalistic when stressed. The birds will start picking at other birds' feathers, vents and/or other areas. This can very quickly become a nasty habit that spreads rapidly throughout the flock. It can occur at any age with stressful conditions. These conditions are usually management-related. Stressors that typically cause cannibalism include:

- High light intensity (see section on light recommendations)
- Overcrowding (see section on space requirements)
- High temperatures
- Poor ventilation
- Interruption of feed and water
- Improper rations
- Sudden changes — mixing new birds into an existing population, changing rations suddenly, changes in facilities or light, etc.

All of these conditions can and should be corrected immediately. Remove the affected birds so they don't remain targets of aggressive behavior. Finally, provide access to plenty of space and exercise. Distractions like bugs and plants allow birds to express natural behaviors in acceptable, healthy ways. This is one reason why some producers prefer raising chickens in a free-range style.

DISEASE

Keeping your birds healthy is a top priority. Preventing diseases is better than treating diseases. Here are common diseases and ways to prevent them. In addition, there are practical suggestions for backyard biosecurity.

Coccidiosis is a disease caused by the coccidia parasite. This disease is common in chickens and turkeys, as well as other animals. Homestead Feeds are available with a parasite control option of Amprolium to aid in developing immunity to this disease. Chickens should have a coccidiastat in their feed until 12 weeks of age.

Marek's Disease affects the nerves and visceral organs of the chicken, resulting in paralysis and tumors of the internal organs. Birds kept for breeding or layers should be vaccinated against this disease at the hatchery.

Fowl Pox is a virus that causes skin lesions on unfeathered body parts and sometimes on wet tissues like the mouth. Pox causes slow growth and reduces egg production. If there is a history of pox on the farm or in the area, you should vaccinate the chickens at 8-10 weeks of age, followed by an annual booster.

Exotic Newcastle Disease (END) is a contagious and fatal viral disease affecting ALL species of birds. END is probably one of the most infectious diseases of poultry in the world. It affects the respiratory, nervous and digestive systems. Vaccinate birds at 10-14 days and again at five weeks, with a third booster at 16 weeks for layers and other older birds.

Blackhead is a disease caused by protozoan shed through feces. It causes loss of appetite, droopiness and poor growth. The best way to prevent blackhead is to avoid co-mingling turkeys and gamebirds with chickens. Treatment of blackhead is through veterinary prescription only.

DISEASES OF CHICKENS

	Treatment Type			
Disease	Feed	1st Vaccination	2nd Vaccination	3rd Vaccination
Marek's Disease		Day 1		
Exotic Newcastle Disease (END)		Day 10-14	Week 5	Week 16
Fowl Pox		Week 8-10	Annual Booster	
Coccidia	Amprolium			

BACKYARD BIOSECURITY

This is also simply informed common sense, and it means doing everything you can to protect your birds from disease. Six major Backyard Biosecurity tips are:

- **Keep Your Distance — restrict access to your property**
- **Keep It Clean** — Clean your clothes and shoes; wash your hands; disinfect your equipment
- **Don't Haul Disease Home** — Clean poultry cages and practice isolation with show birds
- **Don't Borrow Disease From Your Neighbor** — Don't share birds or equipment
- **Know Signs of Infectious Diseases** — Early detection is important
- **Report Sick Birds** — Diagnosing and reporting diseases helps prevent epidemics

Note: Do not give any medicated feed to waterfowl, since they may have some reactions to antibiotics and coccidiastats.

DUCKS & GEESE

Waterfowl need somewhat less heat than chickens. The first week they should have a 90° F environment. You can lower this in five-degree increments each week through the fifth week. After this, they are usually ready to do without supplemental heat.

BEDDING

Do not use wood shavings for birds younger than under two weeks. They are more likely to consume the shavings and get blocked up. Avoid slick surfaces like newspaper. If you must use newspapers, spread paper towels over the papers for the first few days.

It is very important for goslings to have good footing right after they hatch. They are prone to a condition called splay-leg, or spraddle legs, as they are quite unsteady for the first couple of days. If this does occur, you can lightly bind the legs together above the hock for a few days, using a rubber band or light cord. In warm weather, a short time walking on grass each day is very good for their legs. Plus, they'll begin eating grass.

WATER

A constant supply of fresh water is necessary to ducklings and goslings. For the first week, a chick waterer works well. After that, they are too large to submerge their heads and clean their faces in the water. All waterfowl must be able to do this. Avoid using a bowl of water. Here's why: First, ducklings and goslings may walk in their drinking water and/or leave droppings in it. Second, if they stay wet, they may catch a fatal cold.

Put together a waterer that allows older ducklings and goslings to submerge their heads, but not get in it or tip it over. (If it tips over, you will have a mess of wet litter and chilled babies.) Commercial brooders for waterfowl have a water trough outside the brooding area that the youngsters reach by sticking their heads between wire bars. These bars are adjustable to allow for growth. One home-style method is to take a flat pan and get some wire that the birds can reach through. You bend the wire into a cylinder that just fits in the pan and attach it so the youngsters can't move it. This creates a small "pond." They can't get in, but they can put their heads in. A heavy rock in the center prevents tipping.

Just remember that the nature of waterfowl is to play in the water, and as the surrogate parent, you have to control this for the first few weeks. And be aware that you'll go through lots of soggy cardboard boxes, even with the best watering situations.

SWIMMING

A mother duck or goose knows just how long to let her kids swim and when to take them out of the water and warm them and let them dry. But we don't really know this. If you really want to see them swimming, set up a "swimming hole" away from their brooder in a warm place and let them swim, always supervised, for a short time daily. (Be very sure there is a ramp with good traction so they can easily get out of the water or they may tire and drown.) Then dry them and return them to a warm, draft-free brooder. You can start doing this after they're two-three days old. It's best if the water is room temperature while they're little.

FEED

Waterfowl often fill their mouths with feed and then hurry to the waterer to get a big drink and wash it down. Therefore, you don't want the water too far from the feeder, or they'll drop all the feed on their way there. Also you don't want it too close, to prevent the feed from getting too wet and developing molds (which can kill). Try to set up your feeder so the youngsters can't climb into it.

Feed should be available at all times. Use a crumbled feed like Homestead Duck & Goose. Supplement goslings' diets with fresh grass clippings or lettuce. It's even better if the ducklings and goslings can get a short run daily—if it's warm outside—to pick their own grass. If they get greens, they also need to get grit.

Warning: Never give young waterfowl medicated chick feed. Ducklings are voracious eaters and can overdose themselves and die from a medication that is correctly proportioned for chickens.

ADDITIONAL RESOURCES

www.the-coop.org
General poultry information

www.feathersite.com
Photos and breed descriptions

www.idealpoultry.com
Hatchery lists

www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/defend-the-flock-program
Government site for disease and biosecurity

www.ampltya.com
Official site of the American Poultry Association

www.homesteadpoultryfeed.com
Homestead® Poultry Feeds nutrition information and management

HUBBARD®
an Alltech® company

Mankato, MN | 1.800.869.7219 | www.hubbardfeeds.com