

CHICKEN CARE: NON-CORNISH BREEDS

Physiology of Non-Cornish-Breed (“Layer”) Chickens

The average lifespan of a domestic chicken is ten to fifteen years for “layer” hens and many exotic breeds, although commercial layers may have a much shorter life span due to health issues, usually related to the reproductive tract. Commercial layers typically live between five and eight years, although they have been known to live longer. Their average lifespan is often closer to five years.

Commercial chickens are selectively bred to lay huge quantities of eggs, and even the heritage breeds are laying far more than their ancestors did. Unless they are spayed, which is not always an option, they often have health issues related to heavy production sometime during their life, and a majority will die as a result of reproductive issues. These genetic predispositions, along the intensive confinement systems they are raised in, can result in later health problems and early death. The non-commercial breeds usually have fewer health issues, although they, too, are being bred to lay more and more eggs.

Mature female commercial layer chickens (hens) weigh between three and five pounds. Other layer breeds that are not used in production, including Rhode Island Reds, Barred Rocks, and Wyandottes, can weigh between six and eight pounds. Mature male chickens of the layer breeds, weigh between five and 12 pounds. Male chickens are called roosters. Exotics come in all shapes and sizes from tiny bantams, who can weigh less than a pound, to larger breeds such as Orpingtons, who can weigh as much as 10 pounds. Chickens’ normal body temperature is 103 °F to 107 °F, with young chickens ranging between 102 °F to 106 °F.

There are many breeds of chickens, but because the majority of chickens we rescue are industry birds, we will focus on them in the information below. The majority of the hens from the industry are white Leghorns hens, and Red Stars are the second-most common bird we take in at our shelters.

Nutritional Needs of Layer Hens

Water. Clean, fresh water must be available at all times. The use of a poultry fountain is recommended to avoid spillage and to keep water as clean as possible. In warmer weather, check water often throughout the day. For colder weather, the use of a water heater pallet is recommended if you live in an area that experiences freezing temperatures.

Feed. Chicken feed can be purchased at most farm supply stores. Currently there are feeds on the market that do not contain antibiotics or animal bi-products and that comprise a complete diet for these birds. We recommend a complete-diet pellet or crumble feed and, thankfully, there are now many feeds to choose from, including Layena, which can be found at most feed stores. There are also many organic chicken feeds for layer chickens on the market today. A complete diet pellet designed for these birds is essential to keep them healthy and happy. Without the nutrients found in these feeds, health issues, such as soft-shelled eggs and osteoporosis, may occur.

Feeders. The use of standard poultry feeders is fine for flocks of birds. You must have enough feeders to accommodate all the birds at one time to prevent more aggressive birds from monopolizing access to the feed and ensure that weaker birds are able to eat enough. This will take some trial and error. With layer breeds, the food can be left out all day. These birds do *not* have the tendency to become too heavy, but, instead, often can be too thin, leaving little reserve when they become ill. Keeping weight on can be an issue with commercial layers. This is not the case with many heritage breeds who can easily become too heavy.

Handling Chickens

When you are trying to pick up a chicken or catch a chicken, do not attempt to chase her around a yard or large barn. Instead, herd your chickens as a flock — without singling out one bird — into a smaller pen area (or their barn if it is not large) and close the door. Attempt to corner the bird and use multiple people, if necessary, so the bird is not being chased or stressed. Often, if you just touch hens lightly on the back, they will squat down and can be captured easily. Once you have captured the chicken, place one hand gently but firmly onto the chicken's back, while putting the other hand in front of the bird's chest to keep her from moving forward. Then move both hands firmly over the wings so that she cannot flap and lift herself off the ground. If you lose control of the wings or the bird is stressed and straining wildly, start over. Allow the chicken to calm down before you begin any treatments or medications. For health checks, smaller layer chickens can be slowly flipped on their backs. Once in this position, they often enter a sort of hypnotized state. This does not work on larger breeds, who often have difficulty breathing when they are flat on their backs, so use caution if you try this method. Learn to handle your birds so that you are comfortable treating them.

Shelter Requirements for Layer Hens

Building. A garage or shed makes a fine chicken home. A good size for a flock of about 25 birds is 10 feet by 12 feet and high enough for you to be able to walk comfortably inside so that you can clean the area. The shelter must be waterproof, predator-proof, and well ventilated. If you have older chickens or chickens who have trouble walking, make sure there is a ramp for the birds to get in and out of their shed. Plenty of clean dry straw should always be provided for bedding, and wet and soiled bedding should be removed daily. We recommend that you clean the entire building on a weekly basis (i.e., scrub floors, walls, etc.). For protection from predators, chickens must be kept safely in their shelter at night. The shelter should be equipped with areas where the chickens can perch. Light breeds such as layers and exotics love to perch high off the ground where they can be safe, so they will often perch in the rafters and trusses of a barn or shed. This is fine in warmer months, but in an uninsulated barn, they will be vulnerable to frostbite if they are above the heat lamps, so make sure that all birds roost below the lamps when temperatures are below 20 °F.

If you have freezing winters in your area, provide a heat source that is safe to use around straw, such as a ceramic-element brooder lamp. When temperatures are extremely hot,

provide fans. Chickens can die of heat strokes in areas where the temperatures are in the nineties, so they must have an area where they can stay cool.

Layer chickens also require nesting areas to lay their eggs, so you will need to provide enough nest boxes for your hens. A ratio of one nest box for every two to four birds is ideal.

Fencing. Fencing is necessary to keep predators out and chickens in. A 4- or 5-foot high woven wire no-climb fence with 2-inch by 4-inch mesh is recommended. If you have exotic birds, especially jungle fowl, you may need a 6- to 8-foot fence, even if you clip their wings. If you are planning to construct a fence, shop around for the best buy because prices and styles of fencing vary greatly. For areas where predators such as foxes are prevalent, burying the fence by bending or trenching is a good idea.

Health Care for Layer Chickens

Maintenance Care. As with all animals, sanitary housing, clean pasture, nutritious food, and plenty of sunshine will greatly reduce health problems. Provide your chickens with a space that is large enough that they can live in the area from spring through fall on grass pasture without having it turn to mud. Proper drainage of the area is key to keeping the pasture healthy. Trees to provide shade, brush and bushes to hide in, and dirt areas where chickens can take dust baths are features that make a great yard for your chickens.

During your daily contact with your hens, always be on the lookout for physical or behavioral changes. In particular, watch for bloody or watery diarrhea, listlessness, pale coloring, loss of appetite, limping, gurgling sounds, changes in comb color (pale or dark purple), floppy combs, and coughing or sneezing. If you notice any of these symptoms and do not know how to treat the bird, consult with your veterinarian. It can be difficult to find a veterinarian who is willing to treat chickens, but they do exist. Your best bet to find someone who works with “exotic” birds and other non-traditional companion animals.

Many conditions, such as respiratory problems and parasites, can affect the whole flock. Water treatments are often used in these cases, especially if the number of birds you are caring for makes individual treatment impossible. There are many antibiotics and anti-parasite treatments designed to be administered by adding the medications through drinking water. Many of these treatments require a prescription, so it is important to establish a relationship with a vet in your area who can work with your birds.

Common Health Issues of Layer Hens

Coccidiosis/Other Parasites. Coccidia are protozoan parasites. Symptoms of coccidiosis (the disease caused by coccidian infection) include bloody diarrhea and listlessness. Keeping the bedding clean and dry will help control the spread of this disease. If you suspect your chicken has coccidia, consult your veterinarian immediately.

We recommend having a fecal sample analyzed by a lab (not just a local vet) when birds first arrive and every three to six months thereafter. If parasites are detected, you will

need to administer the necessary worming treatment. Wormers can be purchased at farm supply stores in easy-to-use formulas that are added to the birds' drinking water. The type of parasite present will determine which wormer is appropriate. Coccidia is hard to completely eliminate, so treatments may need to be done often.

Lice and Mites. Lice infestations can be discouraged by providing your chickens with an area of dirt for "dust baths" (throwing dirt on themselves); this area must be kept clean and dry. Check your chickens regularly for lice (they look like small, moving yellow or clear dots on the birds' skin, and they usually congregate around the vent area). Lice powders are available at farm supply stores. Flea spray or diatomaceous earth powder (available at garden stores) may also be used. For larger infestations, the birds may need multiple treatments, and the premises may need to be treated as well. Mite infestations are much harder to treat. These are tiny black bugs, about the size of pepper, that leave dirty, greasy-looking areas in patches on the birds. They are usually found at the back of the legs under the feathers, the tail bone area, and neck. These parasites are far more difficult to eradicate because they can live in the environment for weeks without a host, and therefore their living area must be treated as well. Mites can also cause damage to the tissue of the bird and severe anemia, which, if left untreated, can be fatal.

Molting. Chickens will molt (lose feathers) annually, generally during the spring or fall. During their molting period, the birds may lose a large portion of their feathers. This natural process lasts between four and ten weeks. During a molt, birds will often act "off" or sick, so keep in mind that this may be related to molting.

Bumblefoot. Bumblefoot is indicated by the presence of a scab on the foot. When the scab is removed, there is usually thick yellow pus; bloody, serum-like pus; or white discharge present. There are multiple treatments for this type of bumblefoot. A vet should culture the area and perform a sensitivity test in order to determine the proper medication for treatment. The foot will also need to be wrapped, and because the wraps must remain dry, keeping the bird inside is essential. If the infection is severe, oral or injectable antibiotics may also be necessary. In the case of a mild infection, topical antibiotic creams may suffice.

Heat Exhaustion. In hot weather, watch your chickens closely for signs of heat exhaustion. Make sure that their barns have proper ventilation and cooling equipment. Signs of heat exhaustion include excessive panting, drooping, dark-colored head, and collapse. At first sign of heat exhaustion, get the chicken inside immediately, put a fan on low, mist the bird lightly with cool water — and, if the condition appears to be dire, contact your veterinarian. Keep the bird quiet and calm and handle no more than necessary.

Crop Stasis. Crop stasis refers to a condition in which the crop becomes distended and stops functioning properly. In most cases, the crop needs to be emptied to see if it will go back down to its normal size. Because a distended crop can lead to aspiration of the fluids from the crop into the lungs, immediate treatment is important. There are many causes of

crop issues, including blockage in the intestines, yeast and bacterial infections of the crop, and even cancer, so having a vet diagnose the cause is important.

Soft-Shelled Eggs. Laying chickens require a balanced diet to sustain healthy egg production over their lifetime. Inadequate nutrition can cause hens to stop laying shelled eggs or to lay soft-shelled or malformed eggs, which can cause health issues including prolapse of the cloaca or the chicken becoming egg-bound. Calcium is one of the most important minerals for egg production, and it is often lacking in industrial layers. We feed all of the eggs on the farm back to the commercial layers, after hard boiling and smashing them, shells and all, to help replenish the excess calcium they lose. The shell is the last step in the egg's formation, and it is made up mostly of calcium carbonate. The calcium used to form the egg shell is taken in through diet, so proper amounts of calcium are essential to your chicken's health.

Egg-Bound. When a hen is "egg-bound," she is unable to pass an egg that has become stuck somewhere in the reproductive tract. Causes include low calcium levels or being hypocalcemic (low calcium levels in the blood). Lack of vitamin D can also be a factor. Other causes are malnutrition, caused by being fed a seed-only feed or low-protein feed. Layer hens also become egg-bound as a result of producing very large eggs that they are unable to push out or soft-shelled or malformed eggs that get stuck. Chronic vent gleet or cloaca infections can cause scar tissue at the vent and prevent eggs from being laid, also resulting in the chicken becoming egg-bound. This condition can be an emergency depending on where the egg is stuck along the reproductive tract. Signs of being egg-bound include straining, open mouth breathing (usually from pain and the stress of pushing), and inappetance. Egg-binding can lead to cloaca prolapse, which can be fatal. If you think your hen is egg-bound, she needs to be seen by a vet immediately.

Cystic Right Oviduct. Female chickens have two ovaries and oviducts, usually only the left one is functional. If both are functional, the right oviduct may be cystic. Large cysts are ballooned sacs containing clear watery fluid, which can range in size from a pea to a softball. A large cyst, which may contain a pint of fluid, causes the vital organs of the hen to become compressed and produces pathological conditions involving these organs. We can generally drain these cysts without surgery, which gives the hen a healthy existence.

Internal Layers. These birds have an accumulation of eggs in the abdominal cavity at necropsy. This is a result of eggs that have reversed direction and been discharged into the body cavity instead of progressing down the oviduct and being laid. Yolk in the abdominal cavity often will be reabsorbed by a healthy hen, but shell membranes or hardened egg masses will cause secondary problems. For severe cases, surgery is required to save the hen.

Abdominal Fluids. Abdominal fluids can build up in the abdomen of your hen for many reasons, including cancer, Marek's disease, egg yolk peritonitis, liver disease, or cardiac problems. Diagnosis of the cause is key; if this condition occurs, your chicken should be seen by a vet immediately. The vet can show you how to drain the fluids and keep your

bird comfortable while treating or providing supportive care relative to the cause of the condition.

Marek's Disease. This is a highly contagious viral infection that affects chickens primarily, but it can also affect turkeys. The disease is one of the most common diseases affecting poultry flocks worldwide. Although clinical disease is not always apparent in infected flocks, birds with weakened immunity or new unvaccinated birds that enter a flock that contains birds carrying the disease can come down with clinical signs. Marek's disease (MD) results in enlarged nerves and in tumor formation in nerve, organs, muscle, and epithelial tissue. Clinical signs include paralysis of legs, wings, and neck; extreme weight loss; irregular-size pupils; blindness; and raised, roughened skin around feather follicles. Affected birds are more susceptible to other infectious diseases.

Fowl Pox. This is a relatively slow-spreading viral disease that affects most bird species, including all commercial chickens. It occurs in both a wet and a dry form. The wet form is characterized by plaques in the mouth and upper respiratory tract. The dry form is characterized by wart-like skin lesions that progress to thick scabs. The disease can occur in birds of any age, at any time. Mortality is not usually significant unless the respiratory involvement is severe. Fowl pox can cause depression, reduced appetite, and poor growth or egg production. The course of the disease in the individual bird takes three to five weeks. You can vaccinate against the disease. Older birds and birds with weakened immune systems have a harder time surviving this virus, but it is possible with supportive care. You can vaccinate against fowl pox.

Ovarian Cancer. Necropsies and research have determined that ovarian cancer is the most common source of tumors of unknown origin in hens. Ovarian cancer is associated with advancing age, which is why most vets are not exposed to it. Often, fluid will accumulate in the abdomen. As the tumors spread, the intestines become constricted, and the hens become emaciated. At necropsy, countless white, firm tumors are found on the surfaces of the intestinal wall and oviduct. Birds that are forced into laying by additional light sources have a greater incidence of these tumors. In the experience of one poultry disease researcher, "birds began to die at 3½ years of age, and all had died of ovarian carcinoma by 9 years of age." (Helmholtz and Fredrickson, *Diseases of Poultry*, 6th edition). Because most production birds are not allowed to live that long, ovarian cancer is not commonly seen. We have not been able to find any treatment that will reverse or this condition, but there are drugs, such as Tamoxifen, that can prolong life and keep the cancer at bay. Because the hens at Farm Sanctuary receive regular health care and have a much longer life-spans than they would in a factory farm, we are seeing this cancer more often. To keep the hens more comfortable, we drain the fluids in their abdomens when necessary.

When birds arrive, they must be isolated in a strict quarantine area, and caretakers must wear coveralls or Tyvek suits, and boots and use foot baths. If animals are in particularly bad shape, do not spread straw on pastures. Pile it in a separate area on the farm until all tests below are conclusive. If birds have signs of mouth sores, nasal discharge, respiratory disease, also use

rubber gloves when handling anything they come into contact with. Masks are also a good idea and should be required if you are concerned that avian flu may be present.

If you are aware that new birds are coming to the shelter, they must be tested prior to arrival and accompanied by proper paperwork.

- If a bird or birds are dropped off, they are to be taken immediately to the bird quarantine area and kept away from all other birds. The area must have a six-foot-high fence if birds can fly, and gates must be secured so they cannot leave the site. If avian flu has been determined to be present in the United States at the time or if birds arrive with signs of the flu, it is best to house them in an area where they have no access — even through a fence — to any other animal.
- If animals are sick, they should be diagnosed by a vet and immediately started on treatments.
- Avian-influenza-infected birds will be destroyed immediately by a licensed veterinarian, and the state vet/USDA should be notified.
- If the animals seem healthy, start them on a coccidia medication immediately and send in a fecal sample the first day possible. Treat with other de-worming medications once results are in, as needed.
- Check for lice and mites.
- All birds must remain in quarantine for at least 30 days and until all necessary blood work and fecal exams come back and are negative.

Resources for Non-Cornish Breed (“Layer”) Chicken Care

Please note: Many of the catalogs listed contain products commonly used in animal agriculture. Unfortunately, there are no farm catalogs that list only cruelty-free items.

Omaha Vaccine Company: PO Box 7228, Omaha, NE 68107; phone 800-367-4444

Nasco Farm & Ranch: 901 Janesville Ave., Fort Atkinson, WI 53538-0901; phone 800-558-9595

Valley Vet Supply: P.O. Box 504, Marysville, Kansas 66508; phone 800-468-0059