

ANR-P2 2021

# Poultry Production

## Health Considerations for Raising Backyard Chickens

Growing poultry can be very satisfying and a great personal experience. These birds are remarkably efficient in converting relatively low-cost feed to value-added and nutritious meat and eggs. Additionally, compared to other animal species, caring for a flock of birds has a lower cost making them an excellent choice for hobbyists and profitable agriculture. However, poultry can be carriers of disease-causing (pathogenic) microorganisms, like Salmonella and Campylobacter, without showing any symptoms. This can cause human health complications for those who manage a flock and also could be carried to the meat and eggs of the birds, causing foodborne diseases. In Tennessee in 2020, more than 19,000 samples of Tennessee animals tested positive for Salmonella (TDA, 2021). Additionally, in 2021, there was an ongoing outbreak in 47 states with Salmonella associated with backyard poultry operations (CDC, 2021c). This factsheet will provide some useful tips to help you stay safe when managing your backyard poultry production.



### Human health

When it comes to keeping yourself and your family members healthy, it is a good rule to always assume that any poultry will be carrying diseases that can make humans sick. Young children under 5 years old, people over 65, pregnant women, and people with compromised immune systems are more likely to get sick and it is not recommended for them to be around poultry. Also, keep in mind the following items related to human health:

- WASH HANDS after coming into contact with ANYTHING that has to do with your birds.
- Have a space OUTSIDE to wash/disinfect equipment.
- DO NOT bring your birds, their feed dishes, or anything else that has come in contact with your birds into your kitchen to wash them in the same place that you handle food.
- Have separate boots for coop work. DON'T wear them in the house.
- Don't kiss or snuggle your birds.
- Birds often do not show any signs of illnesses even when they are shedding viruses or bacteria that can make humans very sick.

### Biosecurity

It is important to always isolate new birds coming into your farm for 30 days. Also, take care of your existing flock before you take care of the new birds. Between flocks, it is important to wash everything (i.e. equipment, cages, hands, boots). It is a good idea to limit visitors, both animals and humans, to help prevent the spread of disease. When attending your flock begin with the younger birds then move on to the older flock.

### Chick Health

Purchase chicks from a reputable hatchery that participates in the National Poultry Improvement Plan Program and consider vaccinations for Marek's and Coccidiosis.

Often chicks are purchased as "day old" chicks that are shipped from hatcheries directly to the buyer. They can be shipped because for the first 24 – 36 hours of the chick's life it is living off of residual energy from the yolk in the egg, but when it gets to you it will be VERY thirsty. It is often recommended to dip each chick's beak into the water source in your brooder when you unpack them from the shipping container – some feel that this can help them locate the water source more quickly. Placing marbles in the water can also be a method for helping chicks find the water source. Using an electrolyte in the water can be beneficial to help combat the stress associated with shipping.

Make sure that the brooder you are transferring them into is about 90 – 95°F for the first week. The chicks are unable to control their body temperature until they grow their adult feathers and chilled chicks can quickly become sick chicks. You can decrease the

temperature gradually by about 5 degrees Fahrenheit each week over 6 weeks until it gets down to 70 or 75°F by the 6th week. A good way to tell if your chicks are cold is to look where they are situated – if they are bunched up under the heat lamp in a pile, they are cold. If they are all around the edges of the brooder, they are too hot. If they are all on one side, look for drafts. Heat lamps can cause fires so it is important to monitor the environment where the heat lamp is located.

New chicks require about ½ square foot of space per chick – and this can be increased gradually to 1 square foot at market age or at maturity. Monitor your chicks every day to ensure adequate spacing. Also, monitor your chicks every day for signs of stress or ill health (not eating or drinking, reduced activity, droopiness, sneezing and wheezing, bloody droppings etc.) and other management issues (feces build up around the vent, sufficient clean water, a warm draft-free environment).

## Bird Health

To help promote bird health, it is important to ensure that birds have a clean environment. Birds will produce a lot more manure than you expect so be sure that you have a manure management plan in place before you get your birds.

Also, establish a veterinary-client relationship with a veterinarian in your area who deals with poultry. Having that professional relationship in place before you have a health crisis will help both you and your veterinarian be able to better treat your birds.



As with chicks, it is important to monitor older birds regularly so that you know what your animals' "normal" activity is. Knowing what your birds look like when they are healthy is key to knowing when something has changed – healthy birds eat and drink regularly, typically have good body condition, are strong and stand with their heads and tails up, are aware of their surroundings and have clear eyes and nostrils. Their combs and wattles are brightly colored, and their legs are smooth, clean, and appear waxy with no heat in the joints.

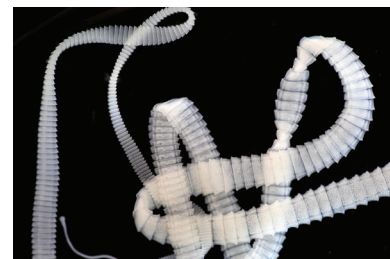
Watch for birds that keep to themselves, or who have stopped eating or drinking as much. Keep an eye out for decreased egg production, birds with discharge from their nostrils or eyes, birds that sound raspy when they breathe, and birds that have any sores on their skin or legs.

Illness can be spread through direct contact with saliva, nasal secretions, or manure and also through contact with items that the birds come in contact with including coops, equipment, people, boots, and wild birds. Be sure to report an incidence of sudden death or sickness to the TN Department of Agriculture.

## Internal and External Parasites

In Tennessee, one of the challenges that we have is that we are home to many of the cooler climate parasites that we see in the north as well as the warmer weather parasites we see in the more southern warmer climates, so monitoring for both internal and external parasites is important.

Internal parasites can include tapeworms, roundworms, cecal worms, and capillary worms. External parasites include various types of ticks, mites, and other biting bugs.



## Health Management Considerations

Work with your veterinarian to establish an overall health plan for your flock. Birds that are treated for any illness or parasite, must be identified in a way that will ensure that they will not be confused with other birds. For example, you might be able to pick "Lucy", your favorite backyard hen, out of the flock every single time, but if someone else has to feed, treat, or care for your flock, they most likely will not be able to. The treated bird must be monitored regularly and accurate written treatment records should be maintained. These records should include the following:

1. What treatment was used.
2. What you were specifically treating for.
3. How much of the product was used.
4. The route of administration (water, injection, nasal spray, etc.).
5. The treatment protocol (how many doses/days).
6. The withdrawal time for the drug.

It is very important to remember that NO bird may transfer ownership OR be processed until the withdrawal period for that drug has passed. Always read labels and talk with your veterinarian when beginning treatment. By law, all label directions must be followed. No extra label use is permitted unless it is specifically prescribed by a veterinarian who is monitoring treatment, consulting on the outcome and providing you with the withdrawal time for the treatment. Things that are considered extra label use include: Using a product in a manner that is different from the labeled directions (i.e. using an injectable drug orally), using it for more days than the label indicates, or using it on a species of animal that it is not labeled for. Be conscious of the withdrawal times for egg and meat consumption.



If you are producing organically, it is important to remember that while many treatments for illnesses are not permitted in an organic production model, organic producers MAY NOT withhold medical treatment from a sick bird to preserve its organic status. All appropriate medical treatments must be used to return an animal to health and prevent suffering. The treated bird must then be pulled from the organic production chain and no longer marketed as organic.

## Basic Nutrition

Providing good quality nutrition is the single most important thing you can do to help ensure healthy birds. Your birds' feed should be selected according to their prospective use. In addition, make sure to have the proper feed and concentrates to maintain your flock. Provide feed according to the chickens' use. If they are for egg production, they will need more calcium to allow for strong shell formation. If they are for meat production, they will need increased protein and energy. Free-range chickens typically require additional nutritional sources on top of what is available to them by free-ranging to ensure that all of their needs are met and balanced. Remember, nutritional needs will continuously change throughout the year depending on things like environmental conditions, egg laying status, and age. Regular monitoring of your birds body condition will allow you to adjust their feed to meet their nutritional requirements.

Commercial concentrate rations include a balanced combination of carbohydrates for energy, protein for cell growth, fats to help with fat soluble vitamins A, D, E and K and mineral absorption. Fats are also a source of energy, they increase palatability and reduce the dustiness of feed ensuring a healthy flock. If you choose to mix your own rations make sure that you are meeting all of those nutritional needs. Your extension agent can help.

Chick Starter, the commercial feed for very young chicks, comes in medicated or non-medicated forms. If you had your chicks vaccinated for coccidiosis at the hatchery remember to purchase the "non-medicated" feed. Using the medicated feed will counteract the effectiveness of the coccidiosis vaccine.

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### References / Resources

APHIS. 2020. *USDA offers resources for new backyard poultry keepers.* Animal and Plant Health Inspection Service. [www.aphis.usda.gov/aphis/newsroom/news/sa\\_by\\_date/sa-2020/backyard-poultry-keeper-resource](http://www.aphis.usda.gov/aphis/newsroom/news/sa_by_date/sa-2020/backyard-poultry-keeper-resource)

Centers for Disease Control and Prevention. 2021a. *Backyard poultry.* [www.cdc.gov/healthypets/pets/farm-animals/backyard-poultry.html](http://www.cdc.gov/healthypets/pets/farm-animals/backyard-poultry.html)

Centers for Disease Control and Prevention. *National Outbreak Reporting System (NORS).* 2021b. <https://wwwn.cdc.gov/norsdashboard/> (accessed on 21 September 2021).

Centers for Disease Control and Prevention. *Salmonella Outbreaks Linked to Backyard Poultry.* 2021c. <https://www.cdc.gov/salmonella/backyardpoultry-05-21/index.html> (accessed on 21 September 2021).

eXtension. *Small and Backyard Poultry.* <http://poultry.extension.org>

Hartsook, C. 2014. *Establishing a backyard poultry flock.* Iowa State University Extension [www.extension.iastate.edu/smallfarms/establishing-backyard-poultry-flock](http://www.extension.iastate.edu/smallfarms/establishing-backyard-poultry-flock)

Tennessee Department of Agriculture. *Animal Health & Lab Diagnostics.* 2021. <https://www.tn.gov/agriculture/department/tennessee-agriculture-interactive-data.html> (accessed on 21 September 2021).

Townsend, L. *External Mite and Insect Parasites of Backyard Chickens.* University of Kentucky, ENTFACT-516. <https://entomology.ca.uky.edu/ef516>

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