

# Poultry Production Troubleshooting

*Tony Pescatore and Jacquie Jacob, Animal and Food Sciences*

**When investigating a problem with a poultry flock, the following questions should be asked:**

**1. What are the type, quantity, age, and source of birds on the farm?** It is important to know whether any poultry on the farm is of mixed species. Some diseases can be carried by one species showing no outward signs but can be lethal to other

poultry species. For example, turkeys and peafowl are particularly susceptible to blackhead, which is caused by a protozoan parasite. While the free-living forms of the protozoa cannot survive long, they can be transmitted in the cecal worm, a

parasite of chickens. For this reason, it is recommended that turkeys not be raised with chickens or on ground typically used for pasture-raised chickens.

Type of Bird		Quantity	Age	Source
Chickens:	Laying hens			
	Replacement pullets			
	Broilers			
	Dual-purpose breeds			
Exhibition poultry:	Breeders			
	Young stock			
Turkeys				
Waterfowl				
Game birds:	Pheasant			
	Quail			
	Partridge			
	Guinea fowl			
Other:				

**2. What feed is being fed to the birds?** Poultry need a complete feed that contains protein, energy, vitamins, and minerals. Laying hens need diets that are 14 percent to 16 percent protein;

broilers should have diets that contain 20 percent to 22 percent protein during the first three weeks. Turkeys, game birds, and other fowl need higher protein than chickens. Cracked corn and scratch

grains do not supply needed nutrition. Ducks should not be fed medicated chicken feed. If raised on pasture or fed whole grains, grit should be provided.

Type of Feed	Amount/Proportion

**3. How is water supplied? What is the source of the water?** Water is the most important nutrient for poultry but is often overlooked. Birds can live for lon-

ger periods without feed than they can without water. Drinking water should be clear, tasteless, odorless, and colorless. Water from a farm well or pond

could have quality problems related to hardness, bacterial contamination, pH, etc. that will affect the health of a flock.

What is the source of the water?	
How is water supplied (troughs, bell drinkers, nipple drinkers, etc.)?	

**4. How are the birds housed?** Poultry have a variety of housing options: cages, floor (sometimes referred to as free-roaming or cage-free), free-range (i.e., outside with shelter only provided at night), floor and outside run (i.e., with access to the outdoors, which they actually use), pasture-raised (i.e., on pasture but kept in portable pens), and flight pens (typically used for game birds). Each housing system comes with its own advantages and disadvantages that could influence the health status of the flock.

How are the birds housed? *Check all that apply:*

- Cages
- Floor
- Floor and outside run
- Pastured
- Free-range
- Flight pens

Other (describe): \_\_\_\_\_

**5. What is the amount of room provided per bird?** Chickens need a minimum of 2½ square feet per bird on the floor and about 80 square inches of room in a cage. This amount can increase or decrease with the size of the birds involved. For example, a turkey needs three to four

times the space required by a chicken. Similarly, quail require considerably less space than a chicken.

Overcrowding poultry can result in feather-pecking and cannibalism. In addition to floor space, the birds must have sufficient access to waterers and feeders.

Birds should have enough feeder space so that all of the birds can eat at one time. If not, competition from other birds can result in poor nutrition for some of the flock, feather pecking, and cannibalism.

Type of Bird	Floor Size			Space per Bird	
	Width (ft)	x Length (ft)	= Area (sq ft)	÷ # of Birds	= Sq ft/Bird

**6. What symptoms do the birds exhibit?**

Areas to be evaluated include:

- Conditions of the body, feathers, skin, comb, eyes, face, nostrils, mouth, wattles, neck, legs, and feet of individual birds
- Behavior of the birds
- The consistency of the fecal material
- Flock performance in terms of egg production, growth, or feed consumption

What symptoms do the birds exhibit?

*Check all that apply:*

- Emaciation
- Stunted or uneven growth
- Sudden drop in egg production
- Poor shell quality
- Listless
- Lying on breast
- Paralysis of legs, wings, or head
- Twisted neck
- Curled toes
- Swollen hocks (i.e., knee joint)
- Swollen foot pad
- Twitching or muscular spasms
- Trembling
- Loss of feathers
- Cannibalism, feather pecking
- Soiled hackle feathers

- Skin lesions
- Vent irritated
- Crusted or swollen scales on feet
- Coughing/nasal rattle
- Swollen, puffy head
- Swollen eyes
- Off-color comb
- Scabs on the comb
- Watery eyes
- Crusts over the eyes
- Nasal discharge
- Visible external parasites
- Loose/watery droppings
- Blood in droppings
- Off-color droppings (green, yellow)
- Foaming droppings

Other (describe): \_\_\_\_\_

**7. Have any birds died?** It is common for a few birds in a flock to die with no outward symptoms. A sudden increase in mortality, however, can indicate a problem.

Type of Bird	Number of Deaths	Date

**8. Have birds been sent to a diagnostic lab?** Submissions to the diagnostic labs should be done by a veterinarian.

Diagnostic laboratories are located in Lexington and Hopkinsville. A fee is charged at the labs.

Diagnostic Lab	Veterinarian	Date Submitted

**9. What vaccination program is being used on the farm?** As a rule of thumb, chicks should be vaccinated at the hatchery for Marek's disease. Other vaccines should not be used unless the premise has a history of the disease. Vaccines

must be properly stored before use. Once vaccines are mixed, any remaining vaccine must be discarded and cannot be kept for later use. The cost of vaccines should be considered when developing a poultry health program. Vaccines can

come in large volumes or doses per vial. Small producers should evaluate the overall cost of vaccines on a per-bird basis and not be concerned with the number of doses.

Type of Bird	Vaccination	Date Administered

How are vaccines stored?

**10. Does this farm (or area) have a history of this type of disease or symptom?** Some disease-causing organisms (bacteria, virus, protozoan) can survive

in the environment, so it is important to know whether there have been any previous incidences. Also, many organisms can be transported on clothing,

shoes, equipment, etc. so any incidences of the same problem in the area should be noted.

Diseases or symptoms encountered:

