



Poultry Health & Management for the Small Flock

Whether for eggs or for meat, in order to have success with your small or large poultry flock, you need to make sure you start and end with a healthy flock. This is best done through proper management and prevenattive practices. However, as a livestock owner, it's likely that you'll have to deal with sick animals at some point. Being able to identify a disease issue in your flock will also aid you in the decision-making process and in preventing continued outbreaks. With an extensive number of diseases and disorders that could enter your flock, use this as a guide on how to manage and prevent some of the major diseases that could impact your small flock.

Understanding Disease Transmission

Diseases are something we work hard to prevent, but on occasion they manage to creep into our flocks. Direct causes of disease can be either infectious or non-infectious. Infectious causes of disease include pathogenic viruses, bacteria, parasites, fungi, and protozoa. Indirect, non-infectious, causes of disease include nutritional imbalance, injury, toxins, and excessive stress. Effective control of disease requires an understanding of how diseases are introduced and spread.

Pathogenic bacteria enter the body of the chicken in several ways; through the digestive system, the respiratory system, and through cuts and wounds. Depending on where the bacteria settle and the conditions they encounter, the infection they cause can either be chronic (long term), or acute (short term, frequently resulting in death). Viral pathogens generally enter a chicken's body through the respiratory or digestive system, but can also gain access through the eye or a wound, including an injection site. Generally parasites and poultry co-exist without substantial damage to the host. Poultry can develop resistance to some parasites and a low level of parasitism is normal, but they become a problem when the balance tips in the parasite's favor and overwhelm the bird. Differences among strains of the same pathogenic microbes can cause different symptoms and differences in severity of a disease.

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To Know Abnormal, We Must Know Normal

With so many diseases to keep track of, it's more important to know how to identify sick poultry in order to prevent diseases from entering your flock in the first place. Observe your flock regularly so that you know what is normal and abnormal, looking not only at appearance but behavior as well. Early detection is critical in controlling spread of disease and future outbreaks. Once you observe clinical signs of disease (i.e. – the more obvious indications that there's a problem), it is usually too late. Refer to the table below for some of the early signs that may indicate a problem before compared to normal behavior.

Normal	Abnormal
They are curious, whimsical, and are constantly pecking around and scratching at the ground.	Lethargic, inactive, depressed, or segregated from the rest of the flock.
Their wattles and combs should be bright in color, eyes clear, and feathers shiny.	Appear dull, droopy or sunken.
Chickens usually lay about one egg a day.	Reduced egg production.
Depending on size and type of bird, they will usually consume around 1/4 pound of feed per day (more for turkeys).	Decreased weight gain/weight loss.
They will drink on average 1 quart of water per pound of food consumed -- more in hot weather.	Decreased feed and/or water intake.



Healthy chickens have bright feathers, wattle, combs, and eyes. Sick chickens will typically be dull, droopy, and may look generally uncomfortable.

Once past the early stages of illness your birds will begin to exhibit clinical signs, which may often be a deceased bird. Clinical signs of disease in poultry vary widely, and several diseases can often exhibit the same symptoms. It is more critical to be able to identify an issue and consult with a veterinarian for a definitive diagnosis.

Clinical signs of disease may include:

- Diarrhea
- Lameness; Paralysis of leg or wing
- Labored breathing, wheezing, gasping, or coughing
- Swollen combs or eyes
- Red, runny eyes
- Nasal discharge
- Death

Prevention is the Best Treatment

You can prevent a majority of bacterial, viral, and parasitic diseases by controlling the environment in which you raise your chickens and by practicing good animal husbandry techniques. Extremes in the environment - cold, heat, humidity; overcrowding; access to toxins and rodents can all contribute to diseases and disorders in the flock, such as cannibalism and heat stress. Awareness of these problems, good biosecurity, and buying poultry from NPIP certified, reputable hatcheries are good management practices that can reduce or eliminate disease in the small flock. If an outbreak of disease occurs, use it as an opportunity to evaluate and adjust your management practices within your flock.

What's NPIP?

The National Poultry Improvement Plan (NPIP) is a cooperative program that was organized by federal/ state governments and industry to monitor hatcheries. NPIP was originally initiated to eliminate Pullorum Disease (PD) caused by salmonella. It has since extended to cover many other diseases that could severely devastate the poultry industry. Buying from certified NPIP stock means your flock is free of these diseases, as the hatchery follows set protocols for biosecurity and is testing annually to ensure it is free of those diseases.

Many hatcheries will also vaccinate chicks, or vaccinate upon request, for certain diseases that are best prevented through vaccination, such as Marek's disease, Newcastle's diseases, and coccidiosis.

Biosecurity—Have a Plan

Before disease occurs, disease-causing organisms must somehow enter the flock. Biosecurity is simply a set of practices or procedures to prevent the importation of infectious organisms in a flock and their transmission between animals. Having a flock biosecurity plan requires very little investment or startup cost, so it is well worth the time and pays off in the long run. Most elements of a biosecurity plan are common sense, especially if you understand how the disease is transmitted and spread. These are some steps and actions you can take to practice good biosecurity and implement a plan for your small flock.

1. Access management—reducing the risk of a pathogen being carried into your flock:
 - Prevent contact between poultry and wild bird species, rodents, and insects. Keep feed where wild animals can't access it.

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- Do not share equipment with other poultry owners—sanitize if you do.
 - Have visitors sanitize their boots and wash hands before entering flock, especially if they own poultry.
2. Health management—measures taken to ensure good health:
- Purchase from NPIP hatcheries and vaccinating against disease.
 - If breeding, breed for resistance.
 - Brood chicks and adults separately until about 5 months of age.
 - Separate sick birds from healthy birds.
 - Don't mix certified flocks with birds of unknown status.
 - If adding to flock, quarantine in separate area for 30 days.
 - Cull birds that have frequent issues or exhibit disease.
3. Operational management—general management practices to promote the well-being of your flock:
- Secure buildings with good ventilation and no draft.
 - Well-balanced and nutritious diet—keep in clean, sanitary condition.
 - Good quality and clean water—free of shavings and manure.
 - Clean and sanitize an area before introducing new chicks.
 - Proper litter management—keep bedding clean, dry, and deep in coop.
 - Good mortality management.

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To help monitor and prevent the spread of reportable diseases, flock owners are urged to report any unusual or unexpected illness or death to the New Hampshire State Veterinarian's office by calling (603) 271-2404. Reportable diseases are those that are considered to be of great public health importance or economic importance to the livestock industry. A full list of reportable diseases can be found on the New Hampshire Department of Agriculture, Markets, and Food Division of Animal Industry website; <https://www.agriculture.nh.gov/divisions/animal-industry/index.htm>. Flock owners are also encouraged to utilize the NH Veterinary Diagnostic Lab to aid in further diagnosis through the post mortem examination service; <https://nhvdl.unh.edu/>. As small flock owners it is our responsibility to promote the health and well-being of New Hampshire's poultry industry through proper management, prevention, and early diagnosis.

Created: August 2008
Updated: December 2017

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