PITESKY'S POULTRY

Flu Season Signals

Do you know your poultry respiratory diseases?

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Just like we humans are entering "flu season" our chickens are also entering flu season.

In a previous 2015 *Chicken Whisperer Magazine* article ("What's all this talk about Avian Influenza") we focused solely on one infectious respiratory disease, avian influenza (AI) also called avian flu due to a devastating outbreak of Highly Pathogenic Avian Influenza (HPAI) at the time in the United States. While HPAI is indeed catastrophic—the 2015 HPAI outbreak in the United States, over 50 million commercial poultry were depopulated—there are other infectious respiratory diseases that are also a threat to the overall health of our backyard flocks.

While these other infectious respiratory diseases are not as catastrophic as HPAI with respect to mortality, they can cause some mortality (death) and morbidity (sickness) and hence affect the health and productivity of our backyard flocks. Consequently, this article will focus on those more common less catastrophic infectious respiratory diseases.

Common respiratory diseases

When it comes to backyard chickens, common bacterial respiratory diseases include Mycoplasma and Fowl Cholera). Likewise, common viral respiratory diseases in backyard chickens include infectious bronchitis and infectious laryngotracheitis).

While these diseases can affect poultry year-round, they are more commonly associated with the fall and winter. We'll summarize the most common respiratory diseases to help identify common clinical signs associated with respiratory diseases in order to facilitate quarantine, diagnosis, treatment (if possible), and—most importantly—prevention.

Respiratory problem signs

When humans get some type of respiratory "bug," we often show certain clinical signs including sniffles, sneezing, and coughing. Likewise, chickens make similar sounds when they have a respiratory disease. Specifically, when chickens and other domestic poultry have respiratory distress you will often hear one or a combination of the following sounds:

- gentle rattle (i.e. "tracheal rattle")
- sniffling
- snuffling
- hawking
- reverse sneeze
- sometimes (although more rare) a cough or two.

You might also see some irritation and inflammation around the mucus membranes of the eyes. If you think you hear something, pick up a chicken and hold the breast up against your ear and listen or feel for any abnormal breathing such as rattling.

More than one bird

At the flock level, the best way to observe the abnormal clinical signs is to be aware of what normal breathing sounds like at the flock level. So, pay attention to what you hear (or don't hear) when you have a healthy flock. This will attune yourself to what is normal and if or when you hear a "tracheal rattle" (for example) you will know there is something abnormal going on in your flock.

Why is this important? Because the quicker you are able to identify a problem, the quicker you can isolate (i.e. quarantine) sick birds, and the quicker you can work with a veterinarian and/or diagnostic lab to further identify the problem and protect your flock.

The best time to observe chickens for respiratory problems is in the evening when the chickens are resting. However, one good trick during the day is clap your hands or whistle when you enter the coop. The chickens will often stop in their tracks and you can then hear abnormal breathing (i.e. rattling etc.) if it is present.

In addition to listening, look for shortness of breath, inflammation around the eyes and an enlarged head due to swelling of the sinuses. Other general signs of sick birds include:

- Sitting huddled together
- Fluffed up feathers
- Lethargy

Common diseases

While each of the diseases described briefly below could justify their own articles (and indeed books have been written about them), the goal here is to provide the basics. Also remember there are other infectious diseases that are not covered here. To that point, it should be noted that AI and *Exotic Newcastle Disease* (END) which are both considered respiratory diseases are considered foreign animal diseases in the United States and hence are reportable diseases meaning that if they are identified in a flock by a veterinarian or diagnostic lab that state and federal authorities need to be contacted.

Mycoplasma—Mycoplasma is a bacterial pathogen that can be associated with respiratory diseases in poultry. In fact, Mycoplasma is probably the most common cause of infectious respiratory disease in backyard poultry.

However, it should be noted that not all Mycoplasmas cause respiratory disease and some species of

mycoplasma may actually be commensal meaning they don't cause disease at all. The bacteria can be transmitted bird to bird or via a trans-ovarial route (i.e. from the hen to the developing embryo). Hence if you have a mycoplasma outbreak, it may require testing, treatment, or depopulation of not only the affected birds but the parent flock. While some antibiotics like tylosin and tetracyclines have been effective at diminishing the effects of infection, treated birds are still considered carriers of mycoplasma.

TREATMENT NOTE: Work with your veterinarian on treatment options and the advantages and disadvantages of using antibiotics. The commercially available killed *Mycoplasma gallisepticum* (or MG) vaccine has been shown to reduce but not eliminate colonization of MG following a challenge. Therefore, the long term value in preventing infection is considered minimal. With respect to live vaccines, they are also commercially available. However, it is not recommended that people use them without the help of an expert in large part because of concerns about accidental exposure to non-target flocks.

Fowl Cholera—Fowl cholera is a bacterial disease caused by the bacteria *Pasteurella multocida.* Clinical signs include swollen eyes, ears or wattles. You might also see greenish colored diarrhea. Fowl cholera is often introduced through contact and bites from rodents which are often non-clinical carriers of the bacteria. This is another reason that rodent control is so important in poultry. Rodents eat and drink poultry feed and water and can be carriers of multiple bacterial and viral diseases.

Focus on excluding rodents from contact with your coop and flock. Once introduced into a flock the disease can be spread from bird to bird. Hence, it is important to quarantine sick birds as soon as you identify a problem. Some antibiotics including Tetracyclines and sulfa drugs can be effective against the acute form of the disease. (See callout on page16) However, in the chronic form where mortality is lower than the acute from of the disease, the efficacy of antimicrobials is poor. Although treatment may recover the birds, relapses are frequent once the antimicrobials are withdrawn.

Infectious Bronchitis (IB)— IB is caused by a virus. Chickens show respiratory signs including sneezing, tracheal rales and coughing. Chickens often have a "puffed up" appearance, are often reluctant to move and have reduced egg production. If they are in lay, the egg shells often feel and look wrinkled. The virus spreads primarily via the respiratory route. Since IB is a virus, there is no clinical value in treating with antibiotics unless a secondary bacterial infection is noted.

Infectious Laryngotracheitis (ILT)—IB is caused by a virus. Unfortunately for ILT, death is often the first clinical sign noted, but the above listed respiratory signs are often noted. Vaccination should only be considered under the consultation of a veterinarian in part because some of the vaccines can revert to virulence and hence cause disease. As noted for IB, antibiotics are not used when treating a virus.

Being careful

The clinical signs for all the diseases described here are somewhat similar. Therefore, pay attention to the common clinical signs described above. You cannot identify which respiratory disease you have based on the clinical signs, but you can at least identify that you have a sick bird or flock and use the clinical signs to come up with potential responses including submission of a sick bird to a diagnostic lab.

The advantage here is that the diagnostic lab will euthanize the bird and diagnose the disease, thus allowing for a more targeted treatment or prevention approach with the remainder of the flock.

It is essential to work with a veterinarian if considering using antibiotics on your flock. Proper dosages and withdrawal periods are essential for poultry and human health in order to avoid antibiotic residues in eggs and poultry meat. In addition, due to the recently implemented Veterinary Feed Directive (VFD) many antibiotics are no longer available over the counter and hence require a client-veterinarian relationship.

Travel the prevention route

Prevention is always preferred to treatment. To reduce stress and conditions that foster respiratory problems, maintain optimal environmental conditions, practice good biosecurity, and when possible purchase poultry only from hatcheries that are part of the National Poultry Improvement Plan (NPIP). Flocks that are part of NPIP are monitored for multiple diseases which reduces the potential for purchasing birds (or eggs) that are carriers of infectious disease.

Remember, that infectious respiratory diseases can enter your flock numerous ways including via contact and indirect contact with wildlife, and fomites (i.e. non-living materials such as shoes and tires that act as a vector for disease onto your property). Therefore the more you maximize biosecurity practices the safer your flock will be from contracting infectious diseases that are most often not treatable.

You may realize that many of the above recommendations are relatively easy to accomplish for your flock and husbandry style. You may also realize that some are not practical for your specific situation. Philosophically our recommendation is not to make "perfect the enemy of good." In other words do the best you can with your resources and husbandry style. That type of incremental progress could the difference between a healthy flock and a sick flock.

Six Tips For Disease Prevention

Other recommendations to prevent disease include:

- House birds away from open water sources. Discourage your birds from interacting with wild birds and vice versa by confining your birds to their coop/enclosure.
- Do not share/exchange animals, equipment or fed with fellow bird owners. At times, restricting access to your birds altogether may be necessary.
- If contact with waterfowl is made, thorough cleaning and disinfection of clothing, shoes and vehicles used during contact with waterfowl is crucial for preventing the spread of disease onto your farm. If you hunt waterfowl, this is a must follow practice.
- Have designated clothing and boots that stay on your farm as opposed to using those same clothes and shoes when traveling outside your farm and potentially transmitting disease. If you hunt waterfowl, make sure your equipment and clothing are separate from your domestic poultry.
- Wildlife love chicken feed. Store feed in containers that are bird, rodent, and insect proof. Provide clean fresh water to your birds at all times. When obtaining birds isolate them away from other birds for 30 days before adding them into your flock. This will reduce the risk of introducing disease into the original flock.
- Work with your veterinarian, state or federal veterinarian, local university, farm advisor, and so forth. Many of these resources are free!

About the author

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