Managing Gangrenous Dermatitis in Poultry Houses

Gangrenous Dermatitis, a bacterial infection also known as gangrenous cellulitis or wing rot, is a significant problem for broilers and turkeys throughout the growout that can be transmitted by consumption of contaminated droppings, feed, water or litter. The infection affects the tips of the wings, thighs, back and breast—and sometimes feet and legs. Soon after showing signs, affected birds may lie down and as a result are often trampled to death.

Gangrenous dermatitis usually starts with the appearance of small pimples on the skin and soon progresses to a large area that seems to decay and have blood-tinged edema beneath the skin. Skin appears bright red, tears very easily and may have clear or reddish fluid weeping from the surface. At these sites, feathers are easily pulled out. Birds suffering from dermatitis are depressed, will not eat and may stagger or exhibit uncoordinated behavior. Gangrenous dermatitis mortality may range as high as 20% in severe cases. The disease usually runs its course in a week or 10 days, but because dermatitis is often under reported, it is difficult to know its true impact on the industry.

Causes of Gangrenous Dermatitis

For gangrenous dermatitis to occur in a large population of birds, generally three things are required:

Some type of injury to the skin, the disease-causing organism in sufficient number, and some type of immune suppression.

This disease is usually caused by a clostridial infection which may be secondary to some type of skin injury. Generally, there are enough hazards around to cause injury and infection. Staphylococcus organisms and E.Coli may also be involved. Farms where infectious bursal disease is a problem could also lead to an increased incidence of this disease. Nevertheless, it is advisable to survey facilities, eliminate hazards and maintain a healthy environment for the animal. Since infection is easily transmitted, it's important for ongoing litter management to create an unfavorable environment for their growth.

The Role of Poultry Litter Management in Dermatitis Development

Clostridium, one of the main causes of dermatitis, prefers a pH of 6-8 for growth and toxin production—a common rage for many poultry houses. Acidification of both the house pad and the litter to below a pH of 4.0 will reduce spore production and hatching as well as kill vegetative cells.

Implementing the correct timing of PLT® and PWT® applications and the correct interval between applications is critical to creating an unfavorable environment for bacterial growth. It is also vital to apply the proper amount of each product.
PLT® should be applied at a minimum of 100 lbs / 1,000 sq. ft. In cases where there is heavy mortality, higher application rates of 175 lbs / 1,000 sq. ft. will be necessary. When targeting water pH, be sure to maintain water below a pH of 4.0 continuously without allowing the PWT® mixing container to run out. A minimum 27 gallon container is recommended for mixing and administrating through the medicator.

**Quick Tips for Managing Gangrenous Dermatitis**

1. Properly nourish each bird with vitamins and trace minerals, including adequate levels of sodium, phosphorus, protein and essential amino acids, to promote the development of strong skin and optimal feather growth.
2. Remove any items from the house that may damage skin.
3. Reduce the number of light hours so birds rest and eat as much as possible.
4. Maintain a healthy environment to reduce stress. Using PLT® and PWT® at recommended levels to decrease litter and water pH while also maintaining optimal ventilation, house temperatures and relative humidity will lower the amount of stress placed on birds.
5. Carefully plan feed deliveries to keep birds calm and avoid aggressiveness during eating.

**Fight Back Against Dermatitis**

If you’re faced with an outbreak of gangrenous dermatitis, be sure to pick up the mortality several times a day. Bird cannibalism is the number one spread of gangrenous dermatitis; once pecking starts it can quickly develop into a vicious habit. It is also important to sprinkle the area where the mortality was lying to lower the pH in the immediate environment.