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BROILER TIP . . .

MINIMIZING GANGRENOUS DERMATITIS LOSSES

Skin diseases cost the U.S. broiler industry millions of dollars each year due to carcass condemnations, trimmed parts, and mortality. Gangrenous dermatitis has become the second most prevalent skin disease in broiler production. Outbreaks typically occur with broilers between four and eight weeks of age. Signs of affected birds include depressed appetite, incoordination, leg weakness, dark skin lesions coupled with edema, and mortality. In Georgia, as high as 5% of the broiler houses for a given complex have been noted as being affected by a dermatitis outbreak at any given time. If dermatitis becomes a problem on your farm, proper management techniques can help reduce its occurrence.

A combination of both aerobic and anaerobic bacteria from *Clostridium*, *Staphylococcus*, and *E. coli* groups are known to be the causative agents of gangrenous dermatitis. Skin scratches and wounds initiate dermatitis because bacteria involved with its occurrence are not normally able to penetrate healthy, intact skin. Dust, feces, litter, and mucous membranes serve as potential sources for contamination. The incidence of gangrenous dermatitis is accentuated by a compromised immune system. Infectious bursal disease virus and chick anemia virus have been associated with a majority of the diagnosed gangrenous dermatitis cases.

Financial losses are considered substantial with gangrenous dermatitis since mortality usually occurs late in the life of the flock just prior to marketing. Death losses in the 50 to 300-birds/house/day range are typical. Norton et al. (2000) estimated economic losses at \$0.80 to \$1.31/bird with mortality occurring from five to seven weeks of age.

Managing broiler flocks to decrease the incidence of scratches and reduce microbial load are paramount in minimizing disease outbreak. Broiler growers and flock supervisors may want to consider the following management tips to minimize or prevent the occurrence of gangrenous dermatitis on the farm.

- 1) Vaccination procedure: Because of the role of immunosuppressive viruses with gangrenous dermatitis, monitoring titers for infectious bursal disease virus and chick anemia virus can be used as a tool to evaluate if chicks are being vaccinated properly.
- 2) Disinfectants and heat: When outbreaks occur, bacteria load can be reduced between flocks by removing old litter and cleaning the house with disinfectants. Heating the house to 100 F for 24 hr can also be effective at reducing *E. coli* and *Staphylococcus* populations.
- 3) Litter cleanout: Disinfectants and high temperatures may not affect virus survival. A strategy to reduce virus load is to remove the litter between the flocks, but this practice must be balanced with the cost associated with

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new litter and the incidence of dermatitis.

4) Bird removal: During a gangrenous dermatitis outbreak, all birds exhibiting disease signs (live and dead) should be removed immediately to prevent the disease from spreading throughout the flock. Live birds pecking dead birds can contract the disease or live birds having the disease can contaminate healthy birds via feces, feeding equipment, etc.

5) Skin scratches: Because gangrenous dermatitis initiates with a scratch, several management practices can be implemented to reduce nervousness and unnecessary activity.

a) Prevent feed outage: When birds become hungry, bird activity increases resulting in a higher incidence of scratches. Growers should contact their broiler company when feed inventory in the bin(s) becomes low.

b) Loud sounds and sudden changes: It is a good practice to acclimate birds to foreign sounds such as mowing or bush hogging the first couple weeks of the growout to prevent nervousness during last few weeks of production when less housing space is available per bird and scratches become more prevalent. Sudden changes in management or environment should be avoided to prevent nervousness. For example, avoid turning on the lights abruptly to work on housing, equipment, etc.

c) Lighting programs: Lighting programs are used as a management tool to minimize bird activity to decrease scratches, improve bird health, and minimize late mortality and leg problems. However, lighting programs that are too restrictive can promote increased bird activity during the light period due to increased feeding activity.

d) Protruding nails or sharp objects: Growers should check the inside perimeter of the house for protruding nails on the side and end walls that might create skin scratches and wounds.

6) Litter treatments: Litter treatments are becoming popular as a means to reduce ammonia production and microbial contamination by decreasing litter pH. Some broiler companies feel that litter treatments are effective in reducing the occurrence of gangrenous dermatitis; however, caution must be exercised because scientific evidence is limited on the effects of litter treatments on the incidence of gangrenous dermatitis.

7) Antibiotic supplementation: Field experiences suggest that the addition of antibiotics to the water may reduce the occurrence of gangrenous dermatitis. Again caution should be exhibited because the efficacy of antibiotics at relieving a dermatitis problem has not been documented with research data.

SUMMARY: The incidence of gangrenous dermatitis can be reduced with proper management. However, the use of litter treatments and supplemental antibiotics are not a substitute for good management practices.

REFERENCE

Norton, R.A., J.B. Hess, and S.F. Bilgili, 2000. Gangrenous dermatitis reemerges in broilers. *Watt Poultry USA*. March: 38.

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****Consult with your poultry company representative before making management changes.****

“Your local County Extension Agent is a source of more information on this subject”