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BROILER TIP . . .

THE IMPORTANCE OF CLEANING AND MAINTAINING EVAPORATIVE COOLING PADS

Some contract growers having built new houses typically experience above average bird performance, but as the houses age the high level of performance that once was achieved is now difficult to obtain. One of the reasons for the decreased bird performance may relate to worn or faulty equipment. For example, worn belts, dirty shutters, and/or faulty pulleys can reduce air speed by as much as 25-30%. This would be the same as running seven tunnel ventilation fans instead of nine or ten. Reduced efficiency in the cooling pads may also have a dramatic impact on cooling the birds thus affecting flock performance.

Many growers do not take the time to clean cooling pads on a regular basis. Some growers never clean their pads and as a result bird performance suffers and the life span of the pad is severely reduced. For example, cooling pads nearly four years old that have not been cleaned and maintained may be operating at only 50-70% effectiveness. Also, pads that are neglected often require replacement in 5 years. In these situations during a summer growout, a high incidence of late-mortality and reduced final live weight results simply because the cooling pads and/or tunnel ventilation fans are not being maintained properly.

Algae accumulation and calcium deposit are the most common problems reducing pad performance. Algae have three basic requirements for growth: moisture, nutrients, and light. Cooling pads provide these requirements and make excellent environments for algae growth. The problem with algae is that it deteriorates the pad such that it will not remain rigid and resulting in restricted airflow. Providing shade to the pads, allowing the pads to dry daily, and using effective chemicals are ways to minimize algae growth. Avoid using chemicals as a daily maintenance program because they tend to be corrosive. Chemicals that should be avoided because they are highly corrosive to the pad include chlorine, bromine tablets, or copper salts.

Calcium deposits appear to be more of a problem in certain areas of the state. For example, the amounts of calcium deposits on pads tend to be greater in South Georgia than Middle or North Georgia. This difference in calcium deposits from region to region of the state is probably due to variation in water hardness. Water hardness is a measurement of the amount of calcium and magnesium in the water. Calcium deposits that form on the surface of the pad can be problematic in restricting airflow when the water is high in mineral concentration. Thomas (2001) recommended several tips to reduce scale formation associated with cooling pads. It was suggested that growers should make sure the flow of water is uniform throughout the distributor pipe, increase the flow rate of the pad, clean and flush the distributor on a regular basis, and bleed off concentrated water.

Last fall, a couple of service personnel and I visited a broiler breeder farm that had a severe problem of algae on the cooling pads. These pads were approximately two years old and had not been cleaned since they were installed (Figure 1). After cleaning the pads, algae and calcium deposits were removed and the pads looked as though they were virtually brand new (Figure 2). Cleaning pads are a fairly simple task, but some growers may not know how to properly do the job. Listed below are steps to clean both evaporative cooling pads and fogging pads. It is suggested to clean pads twice a year (fall and spring).

Re-circulating Pads

1. The first step is to remove the screen from the filter.
2. Add a chemical cleaning solution (Ex: Aqua Max™, SanI-Kleen™) to the storage tank and turn on the pump to allow the pad to run for approximately one hour to ensure the pad is completely wet.
3. After allowing the pump to run for an hour, a pressure washer can be used to rinse the pads. It should be cautioned the sprayer contains a high rate of pressure that may damage the pad. It is recommended to use a 3/8 U nozzle when rinsing the pad. The pad should be rinsed from top to bottom.
4. After the cleaning process is complete, remove the mixture from the storage tank.
5. In order to reduce algae growth, add a chemical for algae control (Ex: Evap 100 Algicide™, Green-Shield™, Physan 20) to the storage tank on a weekly basis during summer months.

Spray On Pads

1. Wet pad thoroughly. pressure washer can be used with a 3/8 U shaped nozzle. Be careful not to use a high-pressure rate that will damage the pads.
2. Add a cleaning solution (Ex: Aqua Max™, SanI-Kleen™) and mix with water and apply the mixture with the use of a garden sprayer. Spray the pad thoroughly until each section of the pad has received the mixture. The solution should remain on the pad for approximately 20 minutes.
3. Then, rinse the pad using a pressure washer. The pad should be rinsed from top to bottom.
4. In order to reduce algae growth, spray pads with a solution containing a chemical for algae control (Ex: Evap 100 Algicide™, Green-Shield™, Physan 20™) weekly during summer months.

** **If a pressure washer is not available, a water hose can be used effectively. Using a water hose requires additional time to wash the pad thoroughly.**
** **Growers should use the manufacturers recommended application rate when using a cleaning solution and fungicide.**
** **It is not The University of Georgia's policy to endorse a particular product.**

Reference

Thomas, P., 2001. Evaporative cooling pad management. Georgia Broiler Flock Supervisor's Warm Weather Ventilation Workshop.

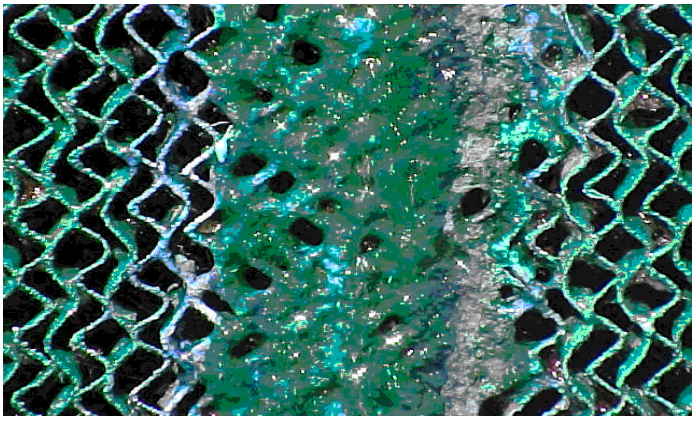

Figure 1. Before cleaning.

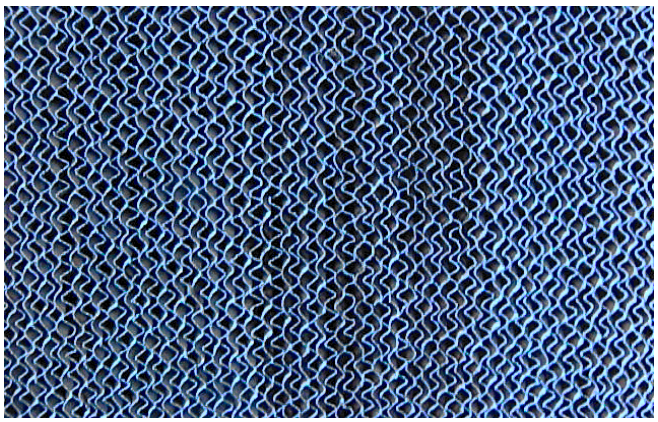

Figure 2. After cleaning.

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