ALABAMA COOPERATIVE Extension SYSTEM

Auburn University

Poultry Ventilation Pointers

Three Simple Steps for Evaporative Cooling Efficiency

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Poultry producers invest a significant amount of money in recirculating evaporative pad cooling systems because they expect to get, and generally do get, improved performance in hot weather that more than pays back the costs. Having made such an investment, it makes sense to take the simple steps needed to insure your system keeps on working as designed and delivers the maximum cooling with least trouble. Here's how –

Make sure your investment keeps on paying off as intended

ONE: Operate the system properly.

Avoid short on-off cycles, but do dry out pads at night

Proper operation means running adequate water over the pads – for example, 0.75 gpm per linear foot of six-inch pad – on thermostat control only (no timers allowed!) to keep pads wet and cooling during the hot part of the day, but turning the water off while leaving fans on at night long enough to dry the pads out completely. Using timers or doing anything that results in short on-off cycles causes rapid mineral build-up and clogging of pads. On the other hand, you need to dry out pads regularly to help avoid algae build-up.

Bleed-off (or flush & refill) is needed to minimize mineral build-up

An important operating item is to maintain bleed-off at about one gallon per hour for every linear foot of pad. Because minerals do not evaporate with the water leaving the pad, minerals will build up in the recirculating water system and cause problems unless the water is refreshed at least this much. If you can't do continuous bleed-off, you should flush and refill the water system on a weekly basis.

TWO: Protect your system water from sunlight and contaminants.

System must be protected against sunlight and contaminants

Because light, especially direct sunlight, will result in fast algae growth and clogging, all parts of the system should be covered, painted or shaded to keep light out. No clear tanks, hoses, filter housings, etc are permitted, and no direct sunlight can be allowed on pads.

Also, do not allow feed dust, fertilizers, chemical sprays, grass clippings, etc to get on pads or into the water system. Any farm operations carried out in the vicinity must be planned and managed with this in mind, since contaminants can rapidly cause serious problems.

THREE: Do the routine maintenance, and do it right.

Inspect system regularly, monitor static pressure for signs of clogging

Daily: Inspect all parts of the system carefully to spot problems. Monitor static pressure regularly – increased static pressure under the same conditions (number of fans running, etc) is a definite sign of clogging pads. Don't wait for little problems to grow large. Treat for algae build-up as needed (see below).

Install proper filters, treat at least weekly with algicide (not chlorine or bromine)

Weekly: Clean the water system filters. (And, by the way, make sure to use stainless steel mesh filters, not cartridge types that restrict water flow.) Also on at least a weekly basis, apply an algicide such as *Evap-100 Algicide*, by Biosentry (1-800-788-4246), following label directions. If algae have not become a problem, a half-strength preventative dosage should be injected into the system. Do not use bromine or chlorine in any form (bleach, swimming pool tablets, etc) because it will destroy your pads. If you aren't doing continuous bleed-off, flush and refill the system every week.

Every three months: Drain, flush out and disinfect the entire system.

These simple steps will help you avoid possibly disastrous breakdowns and insure your system keeps on doing its best for your birds' comfort and for your bottom line.