

Here's how to fight wet litter for a successful poultry operation

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Because of its makeup, litter in a poultry barn will always contain a certain amount of moisture, most of which comes from the birds themselves. Birds retain only about 30 percent of the water they drink. About 20 percent goes into the air as the birds exhale, and they excrete the remaining 50 percent in their feces, ending up in the litter.

While some moisture in the litter is inevitable, farmers should strive to keep the moisture content to a minimum — about 20 to 25 percent. When litter is wetter than this, it releases ammonia and creates a very unhealthy environment for the birds. The birds suffer greater instances of disease and your bottom line suffers. Ziggity recommends farmers strive for friable litter.

At Ziggity, we have designed a series of protocols for farmers to follow when their operations have litter under the drinkers that is too wet. By following these steps, you can determine the true cause of your wet litter, rather than simply guessing.

There are a variety of causes for wet litter. Among them are leaking drinkers, inappropriately high pressure settings, inadequate air movement over the litter and fecal matter with high moisture content.

The first test is a drinker-leak test. Begin by winching a watering line to your eye level. Then, blow the water off the trigger pins of about 50 drinkers. Observe these drinkers for two minutes to determine if drops of water reform on the trigger and fall off. If any of the drinkers leak, replace them.

Now, you must determine what caused the leak. Take several of the drinkers to a clean table and disassemble them completely. See if the metering pin falls freely from the drinker cap. Examine the parts closely for any evidence of debris or sediment. Pay close attention to the seat area. If there is evidence of sediment, another test, the end-of-watering-line test, is necessary.

In this test, drape a bucket with a black cloth, open the end assembly and let water sieve through the cloth into the bucket. Repeat the same test with a white cloth. Examine the cloths for evidence of particulate material or sediment.

If such buildup is present, you can combat it a couple of ways. First, install a filter ahead of the watering system. Use a 5 to 10 micron cartridge. Also, establish a regular program of flushing the water lines. This can reduce the sediment buildup and keep the particulate matter from settling in the drinkers.

Besides sediment, when you have the drinkers disassembled, examine them closely for signs of biofilm and algae. Biofilm is created when bacteria adhere to the walls of the water pipes and exude a sticky substrate. Biofilm, as well as algae, can cause the drinkers to either leak or become clogged.

If you don't see biofilm, test for it by allowing the stainless steel balls to partially dry. With a clean thumb, press down on one of the balls for two to three seconds. Then lift your thumb straight off the table. Count the number of seconds it takes for the ball to fall off your thumb. If the ball adheres to your thumb for longer than two seconds, you have a sticky drinker problem.

Like sediment, biofilm is best fought with a regular program of high pressure flushing — 1.5 to 3.0 Bars (20 to 40 psi) of pressure. With biofilm, however, Ziggity recommends using a hydrogen peroxide-based cleaner to prepare the system for flushing. When properly formulated, the hydrogen peroxide cleaner will scrub the pipes' walls and break up the biofilm.

If there are no signs of sediment or biofilm clogging the drinkers and drinker parts are not worn, it's time to look at your management procedures — in particular your pressure settings.

During the drinking process, birds can only retain a certain amount of water in their beaks. If more water discharges from the drinker than what the bird can retain, the oversupply spills onto the litter. The key to achieving the correct pressure settings for your system is to take litter readings.

For the first week of a chick's life, you should adjust the water pressure to the absolute minimum. Virtually all manufacturers of nipple-type drinkers without catch cups recommend using very minimal pressure settings for day-old chicks. This is because the young chicks simply cannot trigger the drinker with a higher pressure. Ziggity recommends settings as low as 2.5 cm (1 inch) of column height pressure.

If after the first week, the litter under the drinkers is too wet, do not turn up the pressure. Stay with the absolute minimum until the litter becomes dry under the lines.

If the litter is dry and/or starting on Day Eight, select one drinker line, preferably the one that is the most difficult to keep dry. Adjust the column pressure 1 inch (2.5 cm) higher in the test line. Do not adjust the other lines. Wait for about 24 hours and examine the litter immediately under the drinkers. If the litter is still dry, adjust the column pressure in the other drinker lines up by 1 inch (2.5 cm). Repeat this process until a slight dampness develops under the test line. Repeat this process throughout the growout.

If for any reason, litter becomes wet under the drinker lines, immediately reduce column pressure by 50 percent. Wait for the litter to crust over dry and then repeat the above procedure.

Another reason for wet litter is inadequate ventilation to dry the litter and move the moisture out of the poultry barn. In warm weather, it makes sense to ventilate the barn. The air movement helps keep the birds cool, as well as removing moisture from the barn.

In cooler weather, you'll find it necessary to heat the barn, not only to protect the birds from cold, but also to continue the evaporation process. Too often, farmers will attempt to save money by cutting back on heating. Research by University of Georgia poultry scientists shows, however, that the money saved on fuel is far outweighed by the money lost on underperforming birds as a result of elevated litter moisture and ammonia levels.

Finally if nothing else seems to be the cause of the wet litter, examine the birds' droppings closely. If they are too watery, you may need to consult a veterinarian. A variety of conditions can cause watery droppings, and all should be countered as soon as possible.

Wet litter will hurt production and increase condemnations. But, if you follow these protocols, you are more than likely to find the cause or causes of that wet litter, allowing you the chance to remedy the situation.

Ziggity Systems, Inc. is the only manufacturer 100 percent focused on poultry watering for improved performance. For more information, write Ziggity Systems, Inc. at 101 Industrial Parkway, P.O. Box 1169, Middlebury, Indiana 46540-1169 USA, call +1 574.825.5849, fax +1 574.825.7674, or visit its Web site at www.ziggity.com.