

Poultry Health & Management Report

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Checklist for Summer

The effectiveness of the "little things" can make a big difference in your bottom line, and this "summertime check list" compiled by Dr. Berry Lott of Mississippi State University can help you zero in on those "little things" of summer.

1. Increased static pressure - Check for dirty evaporative pads, closure of inlet opening, increased number of fans operating, and mechanical changes such as belts, louvers, leaky curtains, fans.

2. Decreased static pressure - Check for worn fan belts, dirty louvers, dirty fans and/or fan blades, if vent boxes are leaking, gaps between cool cell pads.

3. Excessive temperature rise down house (excess 5 degrees F) - Check for leaky curtains, not enough air down the house, inlet curtains restricting incoming air, dirty fans and/or louvers and sufficient water over pads.

4. Excessive cake - Check for adequate ventilation, leaky waterers, leaky foggers, excessive operation of foggers and if fog is hitting objects in the house.

5. Temperature too hot in the house - Check if enough fans are running, fan belts have excessive wear, fans and louvers are dirty, evaporative pads are dirty, enough water is going over the pads, curtains have too many leaks, excessive leaks in the dog house and inlets curtains are restricting inlet air.

6. Low air velocity - Check for worn fan belts, dirty fans and louvers, dirty evaporative pad and inlet curtain restricting air flow.

Taste, Influence on Water Consumption

Although factors influencing the sense of taste in birds are complex and not fully understood, researchers have found that

the taste of water can influence both feed and water consumption. University of Arkansas researchers maintain that, if producers monitor water usage and understand what normal water usage patterns are for each day of age, challenges can be identified and corrected before profits are lost.

"If birds don't eat, they don't gain weight," point out University of Arkansas researchers Dr. Frank Jones and Dr. Susan Watkins. "Since feed and water consumption are closely correlated (1 pound of feed consumed to approximately 1.67 pounds of water consumed), it is critical to pay attention to water consumption and head off problems before they start."

The researchers offer three suggestions regarding water:

1. Closely monitor water consumption, particularly early in the flock. Install meters in both the front and back of the house. Readings from these meters provide crucial information to determine if birds are properly spread through the house as well as determine if water lines are correctly adjusted. Record water meter readings starting Day 1 of the flock and make your readings at about the same time each day. The researchers stress that identifying and solving water issues can more than pay for the cost of meters.
2. Develop water usage patterns and compare each flock's consumption numbers to the average you have developed, paying particular attention early in the life of the flock.
3. Be aware that not all water supplies and water additives are compatible to the bird's taste. Pay close attention to water usage when trying new products to assure that water usage is not decreasing. Make a note of products which the birds appear to like as indicated by increased consumption not accompanied by flushing in the birds.

You can read "How Does Taste Influence Water Consumption in Broilers?" in full in the spring issue of "Avian Advice":
http://www.uark.edu/depts/posc/pdfs/avianadvice_spr09.pdf

Ammonia, Broiler Performance

Although "I have a little ammonia in my house, but it's not bad" is a common statement, Dr. Berry Lott of Mississippi State University contends that "the truth of the matter is that the average grower is unable to detect ammonia in the house until it is excessive." And, while most growers are unable to detect ammonia levels below 50 parts per million (ppm), research shows that levels of as low as 25 ppm can be detrimental to the bird.



"It has been established that levels of 25 ppm will cause an increase in mucus secretion in the windpipe," Dr. Lott states. This increased mucus secretion can inhibit the chicken's cilia from moving foreign material out of its windpipe, allowing foreign organisms "the opportunity to colonize, grow and cause the disease."

To get rid of ammonia, Dr. Lott has one word of advice: Ventilate. "Sure, ventilation costs money, but the alternative is not good. It costs you more money not to ventilate," Dr. Lott stresses. "My general story is that every \$1 spent on additional fuel will return \$2 in grower payment."

Dr. Lott urges growers to use 5-minute timers, as this will create a cycle that will not allow the ammonia levels to get as high as they normally would with a 10-minute timer.

To read Dr. Lott's paper in full in "Chicken Talk," please visit www.msstate.edu/dept/poultry/ctalk.htm

Beetle Control Products

Five new insecticides have been introduced in the past few years, and North Carolina State University conducted a field trial in turkey brooder houses that included all five products: Credo SC (Bayer), Oxyfly (Novartis), Standguard (Elanco), Actishield (Alpharma) and Elector PSP (Elanco).

The field trial involved applying all treatments one week prior to placement and comparing each to a standard treatment (Ravap). Application rates were the highest recommended for each tested product.

Field trial results from this NC State study are available at http://www.ces.ncsu.edu/depts/poulsci/newsletter/newsletter_dec08.pdf

"The results also give some indication of how well the products can be expected to perform in broiler production as well," states Dr. Mike Stringham, extension entomologist, NC State. Dr. Stringham adds that "proper applicaiton and careful rotation of available insecticides to manage resistance are just as important" as selecting the best product for your enterprise.

Additional beetle control information authored by Dr. Stringham, "Getting the Most from Insecticide Treatments," can be found at http://cumberland.ces.ncsu.edu/files/library/26/NCPIN_2009_Spring.pdf

Stacked U.S. Soybean Traits Could Double the Value

For decades, improving U.S. soybeans through trait selection has focused primarily on developing agronomic and production traits for new U.S. soybean varieties that can improve yield, better tolerate such things as drought and provide improved resistance to soybean pests and diseases. Now, there are new output traits entering development stages that focus on production and improving the overall benefits of the end products - soybean meal (SBM) and soybean oil.

One of the first sets of output traits being investigated and funded by the soybean checkoff includes low-phytate-phosphorus and low-oligosaccharide (undesirable sugars) soybeans. This stacked-trait soybean could potentially add value to the meal through improved energy digestibility and also decrease environmental outputs of phosphorus in livestock and poultry waste.

Last summer, both the stacked trait soybean and a commercial variety were grown for use in animal feeding trials. Harvested last November, samples of both are being evaluated for soluble sugar content. The analytical information will be presented to soybean checkoff farmer-leaders and evaluated within the context of animal feeding trial protocols previously established by the checkoff. The project will then enter the soybean processing stage, where the soybeans will be processed into soybean meal and white flakes. Once the meal and white flakes are analyzed for amino acid content, phytate levels and carbohydrates, they will be ready for feeding trials with chickens, pigs and calves.

Soybean-checkoff-designated researchers will conduct the poultry trials. Other project partners for the feeding trials include Land O'Lakes, which will utilize heated white flakes in a proprietary process that will then be used in calf-milk-replacer research, and

JBS United, which will perform the swine trials. By establishing the value of this new stacked-trait U.S. soybean to the feed industry, soybean farmers could demonstrate the potential for adding further value to their already stable and valuable product and better meet the changing needs of poultry and other animal agriculture producers.

Flock Fertility Tips

An understanding of the natural mating behavior in chickens can help breeder managers assess whether flock fertility is good, average or poor, and extension poultry scientist Joseph Mauldin of the University of Georgia urges this information regarding observation of mating behavioral sequences:

1. The best times to observe the flock are early in the morning or late in the afternoon since mating behavior generally follows a diurnal pattern.
2. In the broiler house, pay attention to the frequency of females coming off the slats so they can be mated.
3. Note when a large percentage of females are reluctant to enter the litter area as this is a sign that the males may be overly aggressive and fertility will suffer.
4. Walk the outside perimeter of the slats a couple times per day shortly before and shortly after egg production begins. This forces the hens to move toward the nests and enter the litter areas.

Dr. Mauldin describes mating behavior sequence, sperm content at times of day and such in his "Natural Mating and Fertilization" paper available at

<http://www.poultry.uga.edu/extension/tips/documents/0109HBtipJMweb.pdf>

6-Year Poultry Manure Study

The potential for nutrients to move from headland-stacked poultry manure into surface or groundwaters is the latest of five poultry manure studies undertaken during the past six years by UW Discovery Farms, Pigeon Falls, Wis.



Researchers have concluded that poultry manure can absorb and hold large amounts of water, suggesting that headland stacks have limited potential to pollute surface or groundwater if stacked in the proper manner and on proper sites. Researchers Kevan Klingberg, Dennis Frame and Paul Kivlin point out that emphasis should remain on choosing proper stack locations as well as proper stack construction.

Other studies completed by the UW Discovery Farms team include:

- Characterization of Poultry Manure
- Potential Runoff of Stacked Poultry Manure
- Stockpiling Manure and Soluble Salts: Site Remediation for Crop Production
- Effect of Headland Stacking of Poultry Manure on Groundwater

Each of these studies and the latest "Water Quality Impacts of Headland-Stacked Poultry Manure" study have a two-page brief and a six-page factsheet available online at www.discoverfarms.org/special/poultry/index.htm



Nutritionist or Consumer Activist?

Respected nutritionist or consumer activist nutritionist? In a presentation at the National Institute for Animal Agriculture annual meeting, Lisa Katic, formerly with the U.S. Dairy Council and now president of KConsulting, Washington, D.C., noted that some nutritionists have a hidden agenda, and many of today's consumers are taking information provided by these nutritionists as proven research. Katic's presentation highlighted eight individuals who are receiving media attention for their information regarding nutrition and nutrition policy and shared snippets of

what these individuals are saying about food, food industry and agriculture. She also explained where each individual fits in the nutrition scene--and if they are among today's consumer activists or an unbiased nutritionist.

To hear Katic's 20-minute presentation in full and view her slideshow presentation, go to <http://www.trufflemedia.com/home/content/2009-the-changing-face-of-agriculture> and click on "Lisa Katic" on the right side of the web page.

Stress & Your Health

Too much stress--particularly the kind that doesn't seem to let up--can have a significant impact on health. Seven signs that stress may be impacting your health include 1) more headaches than usual; 2) more colds; 3) sleep problems; 4) general anxiety; 5) digestive upsets; 6) lower libido; and 7) chest pain or rapid heart beat. Researchers point out that symptoms should not be taken lightly.

Dr. Michael Rossmann, AgriWellness Inc., points out that, during times of stress and anxiety, "we devalue ourselves, lose confidence and our hope dissipates" and "we tend to focus on the negatives." While market prices and input costs are out of our control, Dr. Rossmann says we can insulate ourselves from stress through careful management of our behavior. He suggests seeking out positive social opportunities--including more time with family rather than working extra long hours and wearing ourselves out even more.

To stimulate the production of beneficial hormones and decrease the production of adrenaline and cortisol which can lead to anxiety and depression, Dr. Rossmann says it's okay to "retreat into fantasy and acceptable forms of pleasures" as an effective self-management tool. Those activities include reading particularly enjoyable literature, listening to our favorite music and engaging in positive day dreaming. "What it comes down to is not working harder but behaving smarter," he summarizes. "Retreats into social, behavioral and psychological circumstances that allow us for even brief moments to change our body chemistry all help us immensely--and our openness to positive alternative ideas, to the possibility of accepting help and to viable solutions increases."

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