



CHEEPS & CHIRPS

... Points for Poultry Profitability

VOLUME 1, ISSUE 2

MARCH, 2008

INSIDE THIS ISSUE:

Poultry House Evaluation Service Progress 1

Perdue Growers Host Georgia Experts 1

Cold Cathode Lighting in Broiler Houses 2

Presenting a Positive Image 2

Update on Ammonia Emissions Reporting Requirements 3

Poultry House Evaluation Service Progress

An infrared camera manufactured by FLIR Systems, Inc. was purchased for the Poultry Energy Efficiency project. The camera can make a picture, or thermal image, based on the temperature of surfaces that are viewed in the camera lens. During winter weather, cold areas inside the barn indicate areas of excessive heat loss or cold air infiltration.

The Poultry House Evaluation Service project has completed thermal imaging for 20 farms at two complexes. Images taken inside the barns have helped growers see some hidden and previously unnoticed problems. They have also helped evaluate the severity of problems that were already suspected. In some cases, thermal images have revealed that suspected problems, such as leakage at the top of a

concrete curb, were either not really a problem or had been successfully addressed by previous repairs or upgrades.

Although many different areas of excess heat loss have been found, some common problems have been:

- Damaged and missing insulation

- Water damage
- Air leakage around doors and openings.

The following pictures show a few examples from the imaging done thus far.

Written by:
Doug Overhults
University of Kentucky

... continued on pg. 4



Image 1. Dark areas show air leakage at the bottom, top and center of the end door. Significant air leaks are also visible along the ceiling line at the top of the wall.

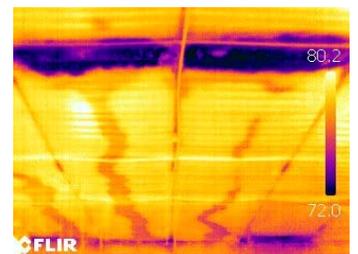


Image 2. Roof leaks have damaged insulation in the dark areas near the center of this building and also in the dark trails where water has run on top of the ceiling down toward the eave.

Perdue Growers Host Georgia Experts

In the midst of February's freezing weather, a group of 41 producers gave a warm welcome to two University of Georgia specialists. Mike Czarick, Extension Engineer at UGA gave an in depth presentation on minimum ventilation. He emphasized the importance of poultry house tightness as it relates to proper ventilation in warm and cold weather. Casey Ritz, Extension Poultry Scientist at UGA, presented solutions to the group on ammonia control. He related

the need of proper litter management and discussed the products available to reduce ammonia.

The Perdue Integrator Educational Committee hosted this workshop on February 21st at the McLean County High School. This committee consists of nine producers and two Perdue managers, who determine topics of educational meetings, secure speakers and make necessary arrangements. Notebooks containing speaker notes and newsletters were distributed

to each producer. Funds for this event were made possible through a grant received by the Kentucky Poultry Federation from the Agriculture Development Board.

A thank you goes to Perdue Farms for their support; Melissa Miller, Ky Poultry Federation; and the State Agriculture Development Board for making this funding available.

Written by:
Nancy Butler
Butler Poultry

Cold Cathode Lighting for Broiler Houses



Cold Cathode bulbs can replace incandescent bulbs in broiler houses.

“The lights are capable of a full range of dimming from 100% to near zero.”

“... cold cathode bulbs with a screw-in base that fits most standard light fixtures are only available in 5-watt and 8-watt sizes.”

Cold cathode lights are one potential energy saver for broiler houses. The name may sound strange, but cold cathode lights are really just another type of fluorescent light. They have been used extensively in signs and other applications where a curved tube style light is needed, but they have not been used very much as screw-in bulbs. Here are a few questions and answers about using cold cathode lights in broiler houses.

Q. What is the advantage of cold cathode lights in a broiler house?

A. The biggest advantage is that they can be dimmed with most light dimmers, including those used to dim incandescent bulbs. The lights are capable of a full range of dimming from 100% to near zero. Cold cathode lights also start at low temperatures, can be cycled on and off without significant bulb life reduction, and are flicker free when dimmed.

Q. Are they as energy efficient as compact fluorescent lights (CFLs)?

A. No. The light output, measured as lumens per

watt, is a little less than CFLs. For example, an 8-watt cold cathode light has a rated initial lumen output of about 40 lumens per watt. A 10-watt CFL provides about 52 lumens per watt. Incandescent bulbs produce only 12-15 lumens per watt.

Q. How does bulb life compare to compact fluorescents?

A. The expected life of cold cathode bulbs is over two times that of a CFL. An 8-watt cold cathode bulb has a rated life of 18,000 hours, whereas the rated life of a 10-watt CFL is 8,000 hours.

Q. Are bulbs available in a variety of sizes?

A. No. One disadvantage at the present time is that cold cathode bulbs with a screw-in base that fits standard light fixtures are only available in 5-watt and 8-watt sizes.

Q. With small size bulbs, how do I get a higher light level at the beginning of my flock?

A. One solution is to install an additional lighting cir-

cuit in the brood half of the barn. On this new circuit, CFLs can be installed in between the cold cathode lights and turned off when no longer needed. In barns that only have lights over the feed lines, an additional row of cold cathode bulbs could be installed in the center of the barn.

Q. How much do the bulbs cost?

A. An 8-watt cold cathode bulb costs about \$10, approximately four times the cost of CFL bulbs. Cold cathode bulbs do have a longer life expectancy than CFLs, but the initial cost is still substantially higher at the present time.

Q. Should I replace my CFLs with cold cathode bulbs.

A. Making that change would not produce any energy savings to help offset the cost. Cold cathodes are much more cost effective when replacing incandescent lights.

Written by:
Dr. Doug Overhults
University of Kentucky

Presenting a Positive Image

In many corners of the country there are groups of people that want to portray poultry production in a negative light. These groups relate their arguments against poultry to issues regarding the environment, animal welfare, hormones/antibiotics, and grower concerns. The negative images they present are further sensationalized by the media and local politicians. Negative stories are news. It is hard to sensationalize stories about people who are in the habit of doing good things. The negative issues will be reported. Therefore, it is up to the employees and growers of the

poultry industry to tell the positive aspects of the poultry industry.

What have you done lately to project a positive image? Projecting a positive image is not creating a false image, but identifying the positives of the industry and conveying this information to others. You are not a single individual; rather you are a part of thousands of growers, employees, farm families and corn growers that depend on the poultry industry for their livelihood. So what can one individual do? First you need to know your industry and where it fits into the global

food supply. You need to know your company, what does it stand for, what are its corporate beliefs. You need to know where the chickens from your complex go. Poultry plays an important role in agriculture in many states. Do you know what contribution the poultry industry plays in your state's economy?

In order to project a positive image you must be involved in your community. You can be active with the chamber of commerce, the Farm

... continued on pg. 3

Update on Ammonia Emissions Reporting Requirements

Air quality and emissions from poultry houses have been a topic of concern for many years. US EPA has had discussions with all segments of animal agriculture under a program known as the Air Consent Agreement. A few years ago, UK Cooperative Extension led a series of meetings across the “broiler counties” to explain the Air Consent Agreement with US EPA and how it might impact your farm activity. The educational materials are still available on the UK Cooperative Extension web site:

<http://www.uky.edu/Ag/AnimalSciences/nutrientmanagement/nutrientmanagement.html>

Since those meetings a lot has happened. As part of a national Air Consent Agreement between US EPA and poultry and livestock producers efforts to conduct research on air emissions from animal facilities are under way. The first study completed in the nation was done right here in Kentucky, a landmark broiler house emissions study that

was completed last year. The Kentucky study found that ammonia emissions were near 10 lb/day per house at the beginning of a flock and increased to about 60 lb/day per house near the end of the flock. Other studies are underway across the nation for broilers, layers, dairy cattle and swine operations.

The Kentucky study was initially focused only on ammonia emissions from broiler houses. Ammonia has become a concern due to confusing reporting laws that were meant for industrial discharges of ammonia from refrigeration systems. There has been substantial ambiguity in how key federal regulations are interpreted with respect to animal agriculture. Specifically, there are two regulatory rules that require reporting of hazardous materials emissions. These two rules (CERCLA and EPCRA, see side bar) appeared to impact broiler production because of building ammonia emissions that can exceed 100 lb/day for a farm

with several houses and large birds. Federal courts in Kentucky previously ruled that the poultry industry must report emissions under CERCLA, whether the farms in question were owned by the integrator or were contract farms. Due to the complicated nature of measuring ammonia emissions an individual farm may not know when a reporting threshold has been reached.

Recently, the US EPA announced a proposed change to exempt agriculture from some of the notification requirements of CERCLA and EPCRA, if these air emissions arise from animal waste. All other emissions and releases still would be reported. See the US EPA web site for further details and for instructions on how to comment on this proposed change:

<http://www.epa.gov/fedrgstr/EPA-AIR/2007/December/Day-28/a25231.htm>

DEFINITIONS:

CERCLA: *Comprehensive Environmental Response, Compensation & Liability Act*

EPCRA: *Emergency Planning & Community Right-to-know Act (Title III of the Superfund Amendments & Reauthorization Act)*

Written by:
Dr. Richard Gates
University of Kentucky

Presenting a Positive Image . . . (continued)

Bureau, extension councils and other civic associations. Ask yourself what leadership role you can play in your community through churches, clubs, school boards, and civic associations. Tell your story at every opportunity to civic clubs, business luncheons, schools, tours, local leaders, agriculture leaders and the community in general. Politics is an area that few want to be involved in. However, if not you, then who will be involved? We get the leadership we deserve, so be involved. Take the time to educate your political leadership about your industry. Do not wait until there is a problem or controversy. Reinforce the positive and remind all leadership of the impact of the poultry industry on the local community.

There are many issues that we can

use to project a positive image. This includes:

- The economic impact of poultry to the community, state, and nation.
- Value added to grain. What does having an end user of corn mean to local farmers?
- What is your role in the poultry production system?
- What role does the poultry industry play in providing the nation’s food supply?
- What is your place in the food chain? How much poultry is produced on your farm and how many people does your farm or complex feed.
- Think globally. Where do you fit into the global food system?

Knowing the facts is not enough. We must also project a positive

image through our actions. What image are you projecting with your farm? You can have an image of someone who cares, through a well maintained farm that has the grass mowed; it’s building in good repair, and is neat and tidy. Are you a good environmental steward who has a solid nutrient management plan, litter storage buildings and disposes of mortality properly? Are you doing the right thing and are you projecting that image to fellow growers and your community? Get involved with the youth of your community. Support your local youth through school, youth groups or 4-H and FFA. You do not have to do it alone. Growers can band together and pool their resources. What you do today will affect generations to come. Be involved.

Written by:
Dr. Anthony Pescatore
University of Kentucky

“A positive attitude is contagious. It all begins with you.”



P.O. Box 577
Winchester, KY 40392
Phone: 859.737.1048
Fax: 859.737.1049
E:mail: melissamiller@kypoultry.org



Poultry House Evaluation Service Progress . . . *(continued)*

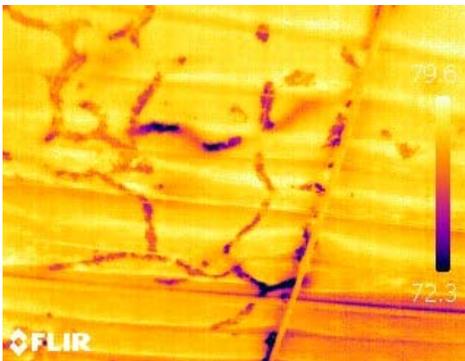


Image 3. The wandering dark lines in this ceiling are likely caused by mice. “Mouse trails” reduce the effectiveness of insulation and increase heat loss. The increased heat loss shows up as cooler ceiling temperature which is indicated in the image by the darker colors.



Image 4. The dark and medium colored areas in this image indicate missing or marginal insulation along the centerline of the ceiling. Additional ceiling insulation in these areas would be beneficial.

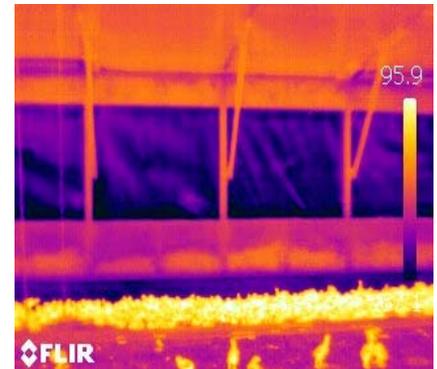


Image 5. The upper half of the framed wall area below the curtain is darker than the lower half. The darker area shows that insulation in this part of the wall has been damaged or has settled toward the bottom. The lighter area near the base of the wall (just above the cold concrete foundation) indicates the area of the wall that is still insulated. Also note that the wall section above the curtain remains reasonably well insulated (light color).

NOTE: In the images, blue areas are cool surfaces and yellow areas are warm surfaces.