MPA GROWER MEMBERS HONORED WITH USPOULTRY ENVIRONMENTAL FARM AWARD

by Gwen Veneble and Anna Peak

TUCKER, Ga. – Allred Acres in Laurel, Miss., was one of five farms across the United States to receive U.S. Poultry & Egg Association’s Family Farm Environmental Excellence Award during the 2016 International Production & Processing Expo, in Atlanta.

U.S. Poultry & Egg Association (USPOULTRY) sponsors the annual awards in recognition of exemplary environmental stewardship by family farmers engaged in poultry and egg production. Applicants were rated in several categories, including manure management, nutrient management planning, community involvement, wildlife enhancement techniques, innovative nutrient management techniques, and participation in education and outreach programs.

Applications were reviewed and farm visits conducted by a team of environmental professionals from universities, regulatory agencies and state poultry associations.

Allred Acres is owned and operated by Robert and Angela Allred. In addition to raising pullets for Wayne Farms LLC since 1986, the Allreds raise cattle and grow hay. The Allred's 200-acre farm raises 72,000 birds per flock in six poultry houses.

Allred Acres utilizes a nutrient management plan, with not only the environment but economics in mind. Ninety-nine percent of their litter is applied to their own farm. They take multiple soil samples from each field to ensure that litter is applied at agronomic rates, which ensures the litter, a valuable organic fertilizer, is not wasted.

The Allreds are careful to control stormwater runoff that is capable of eroding land and negatively impact surface water quality. Any time land is disturbed, runoff is controlled by grading surrounding areas to control the direction and velocity of the stormwater flow. In addition, rotational grazing practices are followed to avoid leaving bare soil that can erode easily during rain events. In the winter they plant 60 acres of wildlife habitat areas, which consist of clover, rye grass and winter wheat. This has promoted an increase in the wild deer, fox and squirrel population.

The Allreds believe that environmental stewardship, farming and wildlife management are all connected, remarking, “When a farmer carefully and responsibly attends to one, the other two benefit from such practices.” Paul Hill, 2016 USPOULTRY chairman and chairman of West Liberty Foods, Ellsworth, Iowa, presented the award to the Allred family.
Your production complex has unique needs. That’s why we work closely with you to better understand these needs. We’ll develop an optimum strategy and a custom vaccine solution that promotes your flock’s health. And as new challenges emerge, we’ll continue to work with you to look for new solutions. Partnering with you on this journey is our commitment to you.

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Recognizing the rising costs of a college education and the need to recruit more young people into the poultry industry, the Mississippi Poultry Foundation Board of Trustees voted last month to increase the amount of scholarships it awards to students. The Trustees approved quadrupling the amount in scholarships it awards and to create a new $25,000 endowment with the Mississippi State University Foundation, among other changes.

“The Mississippi Poultry Foundation, created in 2005, has enjoyed generous support from the poultry industry and has grown to where we are in a very sound financial position, so we decided it was time to award more in scholarships,” said Board of Trustees Chairman Mark Hickman, CEO of Peco Foods, Inc. Since its founding, the MPA Foundation has awarded $66,500 to 62 students through 2016.

The changes the trustees approved include:
- Increasing the scholarships from four at $1,500 each to four at $4,000 each. Two of these are awarded to MSU Poultry Science students and two are awarded to MPA grower members’ children or grandchildren. The higher amounts will be awarded for scholarships starting in 2017.
- Establishing a $25,000 endowed scholarship fund at MSU. This is an open fund with the Mississippi State University Foundation that may be increased through additional contributions and may receive proceeds from bequests, trusts, life insurance, real estate and personal property. On average, this endowment will generate $1,000 annually for scholarships. Accumulated earnings, in excess of current projected needs, may be returned to the corpus to enhance future awards. The MPA Foundation Board of Trustees will evaluate additional annual contributions to the endowment with the MSU Foundation in an effort to hopefully grow it substantially over time.
- Increasing the donation to the MSU Extension Service Poultry Chain competition from $2,500 to $3,000 for the 2016 competition. The Poultry Chain involves elementary through high school students competing in raising chickens. The competition ends at the Mississippi State Fair.
- Creating a $1,000 scholarship to be awarded for the first time this fall to the top ranking high school senior in the Poultry Chain Competition on condition that that winner enrolls in Poultry Science at MSU (in the event the student does not choose Poultry Science, that award would not be given but could roll back into the fund or two could be given the next year.

“Mississippi State University and our Department of Poultry Science are extremely grateful for the Mississippi Poultry Foundation’s continued support, which provides more opportunities for aspiring students who will soon lead the agricultural industry,” said George Hopper, dean of the College of Agriculture and Life Sciences.

The Mississippi Poultry Foundation has a scholarship committee composed of high school, community college and university educators who review applications and choose scholarship winners for the MPF scholarships and scholarships awarded from what are known as restricted donations. The Mississippi Poultry Foundation also receives additional restricted donations from MPA members for scholarships. These include:
- First Financial Bank contributes $1,500 annually for two undergraduate poultry science students.
- International Paper donates $5,000 annually for graduate students.
- A new donation from BankPlus of $1,000 for a graduate student.
- A new donation from Southern Ag Credit of $1,500 will also support graduate students.

“Poultry is Mississippi’s largest agricultural industry and we are proud to encourage the hard work of the industry’s future leaders while they are pursuing their educations,” Hickman said.
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Take Advantage of USDA’s Limited Time Renewable Energy Program for Poultry Farmers

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Accelerated Depreciation - Depreciate the project cost over 5 years.

Based on a $35,000 Solar System (Average Poultry House Size) with a 25% Tax Rate Bracket

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Savings</th>
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<tr>
<td>30% FEDERAL TAX CREDIT:</td>
<td>$10,500.00</td>
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<tr>
<td>25% REAP GRANT MONEY</td>
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<tr>
<td>1st YEAR ACCELERATED DEPRECIATION TAX CREDIT:</td>
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<tr>
<td>ANNUAL ENERGY SAVINGS:</td>
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<td>6th Year Savings Total</td>
<td>$61,127.76</td>
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If you are in a higher tax bracket you will save even more!

TIME IS RUNNING OUT!
Application deadline quickly approaching!

Call Sunpro Solar at 601-213-4300 to start saving
The third annual Poultry Health Seminar took place on February 24. The one day meeting was held in the central location of the Mississippi State Poultry Diagnostics Lab in Pearl, MS. Attendees were able to listen and speak to eight experts concerning food safety and other health related issues ranging from on farm to processing facilities.

Presenters travelled from around the country to speak at the seminar. Each presenter was generous in providing invaluable knowledge and practicality to meet the needs of those who participated in the seminar. Mycoplasma gallisepticum (Jeff Evans, USDA ARS), Mycoplasma synoviae (Natalie Armour, MSU PRDL) HPAI Update (Jim Watson, State Veterinarian), Bronchitis (Alejandro Banda, MSU PRDL), Protection and Performance of Broilers Vaccinated with 89/03 and rHVT-IBD Vaccines (Ivan Alvarado, Merck Animal Health), Case Report: Building a Problem (Joel Cline, Veterinarian for Wayne Farms), Variant Reovirus (Kelli Jones, CEVA), Selected Cases of Salmonella Causing Severe Disease in Broiler Chickens (Martha Pulido, MSU PRDL), White Chicks (Phil Stayer, Veterinarian for Sanderson Farms), Antibiotic Free (ABF) Survey (Tim Cummings, Zoetis), and Antibiotic Issues in Commercial Poultry (Phil Stayer, Veterinarian for Sanderson Farms).

MPA would like to graciously thank this year’s sponsors: Ceva, Jefo, Merck, and Zoetis. Their support made it possible to invite the leading academics and researchers who furthered the understanding of the participants.
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Growing Mississippi’s Economy Since 1937
MPA POULTRY MANAGEMENT SCHOOL
MAY 17 & 18, 2016

We will begin at 1:00 p.m. on May 17th, finish up the first day around 4:30 pm and then head out the VFW for some hospitality time and as usual, we will have Bones’ crawfish. Also Bruce Rutledge is going to be cooking other foods for those who can’t eat crawfish. There will be buses running to take you to the VFW and back to your hotel.

The next morning, May 18 we will begin at 8:00 a.m. and finish up around noon with a great lunch sponsored by First South Farm Credit.

We have lined up a very informative school with excellent speakers. Please take a look at the attached schedule.

Also, for your convenience, we have reserved blocks of rooms, for those that want to spend the night. Rooms are blocked at the following hotels:

- The Hilton Garden Inn (662) 615-9664. You must reserve your room before May 1, 2016. The room rate is $119.00.
- The Holiday Inn Express (662) 324-0076 You must reserve rooms before April 19, 2016. The room rate is $98.00.
- The Comfort Suites (662) 324-9595 You must be reserved before April 16, 2016. The room rate is $109.00.
- Hampton Inn (662) 324-1333. You must reserve your rooms before April 26, 2016. The room rate is $109.00.

Please mention MPA/Management School when you contact the hotels so you will receive the special room rate.

Please use the attached registration form to register.

TENTATIVE
2016 MPA POULTRY MANAGEMENT SCHOOL
TUESDAY, MAY 17, 2016

11:00 A.M. REGISTRATION COLLEGE OF VETERINARY MEDICINE LOBBY
1:00 – 4:30 P.M. GENERAL SESSION MAIN AUDITORIUM
GREG JORDAN MPA VICE CHAIRMAN OF BOARD - PRESIDING
1:10 – 1:50 How to Manage Antibiotic Free Birds
- A Panel Discussion
  Henry Welch – Peco Foods
  Dr. Joel Cline – Wayne Farms, LLC
  Kris Torbert – Wayne Farms, LLC

1:50 – 2:30 Litter Management
Trisha Marsh Johnson, DVM, MAM, DAC PV Veterinary & Environmental Technical Solutions

2:30 - 2:45 BREAK Sponsored by - Cobb-Vantress, Inc. and International Paper

2:45 - 3:30 Litter, Down Time and Density
Dr. Leonard Fussell - Cobb-Vantress, Inc.

3:00 – 4:10 Salmonella
Dr. Martha Pulido,
Poultry Research & Diagnostic Lab

4:10 – 4:45 Water Pressure
Dr. Jody Purswell – USDA

4:45 BOARD BUSES TO GO TO THE VFW

5:00 - P.M. HOSPITALITY TIME AND DINNER:
Sponsored by: Allied Industry
PLACE: VFW of Starkville, Old Highway 25.
VFW sponsored by Jones-Hamilton Company

CRAWFISH BOIL - other foods for those who can’t eat crawfish.

WEDNESDAY, MAY 18, 2016

7:30 – 11:00 A.M. REGISTRATION COLLEGE OF VET MEDICINE

Coffee and continental breakfast will be available

8:00 - 8:30 Animal Welfare from a Buyers Perspective
Bryce Burnett, Chick-fil-A

8:30 - 9:00 Enteritis and Dermatitis
Audrey McElroy, Merck Animal Health

9:00 - 9:10 BREAK
Sponsored by - Cobb-Vantress, Inc. and International Paper

9:10 – 10:00 AI Update
Dr. Jim Watson,
Mississippi Board of Animal Health

Disease Update
Dr. Natalie Armour
Poultry Research & Diagnostic Lab.

10:00 – 10:30 Variant Reo
Dr. Joel Cline
Wayne Farms, LLC

11:00 LUNCH
Sponsored by: FIRST SOUTH FARM CREDIT
Served at the Hill Poultry Science Building

DOOR PRIZES (YOU MUST BE PRESENT TO WIN)

Registration Fee $125.00 per person for members, $150.00 per person for non-members, and free to MPA Grower Members. Due to Contractual obligations, MPA cannot refund registration fees after May 1, 2016. Make checks payable to MPA or call the MPA office (601) 932.7560 with credit card info. Checks must accompany your registration forms.
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WAYNESBORO STORE 601-735-4371 M-F 8A.M. – 5P.M.
113 TURNER STREET WAYNESBORO MS

BAY SPRINGS STORE 601-764-2445 M-F 8A.M. – 4:30P.M.
172 GEORGIA PACIFIC ROAD BAY SPRINGS MS

We do new houses and retrofits on existing houses for broiler, breeder and pullet farms. We also are a full service poultry supplier with 24 hour service.

AGRI-BUSINESS
Producers, including beginning and underserved farmers, have a new option to gain access to land. The U.S. Department of Agriculture (USDA) will begin offering farm ownership microloans, creating a new financing avenue for farmers to buy and improve property. These microloans will be especially helpful to beginning or underserved farmers, U.S. veterans looking for a career in farming, and those who have small and mid-sized farming operations.

The microloan program, which celebrates its third anniversary this week, has been hugely successful, providing more than 16,800 low-interest loans, totaling over $373 million to producers across the country. Microloans have helped farmers and ranchers with operating costs, such as feed, fertilizer, tools, fencing, equipment, and living expenses since 2013. Seventy percent of loans have gone to new farmers.

Now, microloans will be available to also help with farm land and building purchases, and soil and water conservation improvements. FSA designed the expanded program to simplify the application process, expand eligibility requirements and expedite smaller real estate loans to help farmers strengthen their operations. Microloans provide up to $50,000 to qualified producers, and can be issued to the applicant directly from the USDA Farm Service Agency (FSA).

This microloan announcement is another USDA resource for America’s farmers and ranchers to utilize, especially as new and beginning farmers and ranchers look for the assistance they need to get started. To learn more about the FSA microloan program visit www.fsa.usda.gov/microloans, or contact your local FSA office. To find your nearest office location, please visit http://offices.usda.gov.

USDA EXPANDS MICROLOANS TO HELP FARMERS PURCHASE FARMLAND AND IMPROVE PROPERTY

U.S. Poultry & Egg Association presented the organization’s annual Lamplighter Award to four individuals at the International Poultry Expo, part of the 2016 International Production & Processing Expo.

The award pays tribute to individuals for “sustained and exemplary service” to the poultry and egg industry.

One of the four honorees this year is Brenda Flick. Ms. Flick began her career at Sanderson Farms, Inc., in 1987 and is currently manager of environmental services.

Before joining Sanderson Farms, she was employed by Georgia-Pacific Corporation for 16 years in the environmental department.

She has served as chairman of the Environmental Committee for the National Chicken Council, president of the Mississippi Water Environment Association, chairman of the Environmental Committee for the Mississippi Manufacturers Association and has been chairman of the Environmental Committee for the Mississippi Poultry Association since 1996.

BRENDA FLICK, MPA ENVIRONMENTAL CHAIR, RECEIVES USPOULTRY’S LAMPLIGHTER AWARD

Brenda Flick and Sherman Miller, COO of Cal-Maine Foods, Jackson, Miss., and outgoing USPOULTRY chairman
INTRODUCING THE NEW KLARION™ CLEANING AND DISINFECTING SYSTEM

Cleaning hatchery equipment has just become easier, more economical and safer than ever before. Here’s what one hatchery manager from a leading producer has to say about the Klarion system:

“The whole facility is cleaner and we’re saving a lot of money. The cleaner environment for the chicks has helped with livability.”

“The solutions produced by Klarion are a lot safer than the chemicals we had been using. If I went back to my old chemicals, I think half my workers would quit!”

“I highly recommend that every hatchery carefully consider this system.”

NOW YOU CAN REDUCE CLEANING COSTS BY 30% OR MORE AND IMPROVE WORKER SAFETY

KLARION OVERVIEW & BENEFITS:

• Produce a powerful cleaner and disinfectant in your hatchery on demand, in the concentrations and quantities you need
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The 2016 MPA Legislative Luncheon this year had a strong turnout with over two hundred people present. MPA allied and company members were present to speak with legislators and vigorously promote our industry to the many lawmakers and public officials present.

This year, Chef Dan Blumenthal, executive chef at Bravo, taught guests how to make nutritious omelets packed with chicken and vegetables. Mississippi Commissioner of Agriculture and Commerce, Cindy Hyde-Smith, also attended the event, where she cooked an omelet with Dan on stage. To help ensure all the guests were taught how to make his delicious omelets, Dan trained over ten lawmakers and staff of both parties to assist the other guests. The remainder of the event was a time for the lawmakers and public officials to enjoy their own omelet creations and feast on chicken wings and nuggets, as well as witness firsthand the delicious and nutritious value that our commodity produces.

The event was co-sponsored by the Mississippi Egg Marketing Board, and Sanderson Farms provided chicken wings and nuggets to go with the omelets.
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EGGS BOLSTER STATE’S TOTAL POULTRY VALUES IN 2015

TARKVILLE, Miss. -- Spared from avian influenza outbreaks in 2015, Mississippi’s poultry industry benefitted significantly from higher egg prices but still felt the pinch from export declines.

Preliminary estimates indicate a 3.4 percent increase in the state’s poultry value. The largest growth is an almost 40 percent increase for eggs. Chickens (replacement egg layers) may be up 5 percent, and broilers were near even with a 0.4 percent increase, according to recent estimates from the Mississippi State University Extension Service.

Extension agricultural economist Brian Williams said poultry remains the state’s largest agricultural commodity for the 21st year. Total poultry value is $3.2 billion, which included $2.9 billion for broilers, $328 million for eggs and $7 million for chickens used as laying hens. Poultry ranked ahead of the estimated $1.2 billion forest industry and $930 million soybean commodity.

“The highly pathogenic avian influenza outbreak primarily hurt turkey and egg production, and most of the outbreaks were in Minnesota and Iowa,” Williams said. “Most of Mississippi’s industry is broiler production, but we are also home to Cal-Maine, the nation’s largest egg production company.”

None of the Cal-Maine facilities across the country experienced an outbreak in 2015. The egg shortage caused by the outbreak bolstered prices for companies that were able to maintain production.

“Last Thanksgiving, a dozen eggs were $1.85 to $2, but this year, they were $3 or more,” Williams said. “Thanks to avian influenza, there has been a shortage of laying hens and eggs. About 10 percent of the nation’s laying hens were lost. None of them were in Mississippi.”

In fact, Mississippi did not have any positive tests for the highly pathogenic avian influenza, and none of the out-of-state outbreaks were in broiler houses.

Tom Tabler, poultry specialist with the MSU Extension Service, said the avian influenza scare reduced some of the nation’s export markets.

“While no broilers were impacted by avian influenza, Mississippi did feel the impact on the overseas markets. The fear of avian influenza hurt broilers, especially dark meat and paw exports,” he said. “Domestic demand has struggled to keep up with increasing supply due to shrinking export markets.”

Tabler said if avian influenza remains in check, many of these markets should begin to open back up this year. Additionally, poultry has remained competitive with beef and pork prices.

“The industry will closely monitor production levels in the coming months. As the beef and pork folks work through issues that have plagued their industries recently, the possibility of an oversupply of meat in the marketplace may be a consideration, especially if export markets are slow to return,” he said.

Tabler said the poultry industry is always aware of biosecurity issues, but the highly pathogenic strain has taken growers’ efforts to the next level.

“Instead of having shoes, hairnets or other protective clothing designated for one farm, we are recommending a different set for each poultry house on a farm,” Tabler said. “The biggest concern has been that when the migratory birds return South from last summer’s visits to infected nesting grounds, the chance for local outbreaks would increase, especially in the first months of 2016. We are not going to drop our guard.”

Tabler said absolutely no infected birds enter the food supply.

“Once commercial birds are infected, they will be euthanized and buried on the farm or composted in-house. Any transportation of infected live or dead birds could spread the infection,” he said. “Infected houses undergo a more extensive cleaning and disinfecting than for a typical cleanout.”

The 2015 avian influenza outbreak made the state’s poultry industry increase its already significant biosecurity efforts, but the potential for another outbreak in 2016, especially in Mississippi, makes it hard to predict the state of the industry in the coming months.

“No one knows what will or will not happen. We are being vigilant, using good common sense and following strict biosecurity procedures, and that’s about all we can do at this point,” Tabler said. “Some things, such as where wild geese and ducks fly, are out of our control.”

Tabler said the poultry industry is always aware of biosecurity issues, but the highly pathogenic strain has taken growers’ efforts to the next level.

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MEMBER SPOTLIGHT: MISSISSIPPI LAND BANK

Our roots date back to the foresight of President Theodore Roosevelt, who created a commission in 1908 to study the financial lending needs of rural America. Thanks to his initiative and those who saw that agricultural families were underserved, Congress passed legislation in 1916 known as the Federal Farm Loan Act. The Federal Farm Loan Act formally created the Farm Credit System, which we, at the Mississippi Land Bank, are proud to be a part of.

Thanks to this legislation, we began serving Mississippians over 90 years ago. Headquartered in Senatobia, we proudly serve Mississippians in 31 counties with ten locations in Senatobia, Clarksdale, Cleveland, Indianola, Corinth, Tupelo, New Albany, Starkville, Kosciusko, and Louisville. Three of our counties, Noxubee, Oktibbeha, and Winston are just a few that are seeing a growth in poultry housing construction and production.

We strongly believe that our accessibility to our customers is a fundamental right they deserve and should expect from the Mississippi Land Bank. That is why each customer who walks through our doors is greeted by a member of our team with a friendly smile and a level of respect that only comes from a partnership, not a business agreement. What we have to offer to our customers truly is a partnership. In fact, our customers are actually shareholders of Mississippi Land Bank. As an agricultural credit cooperative, Mississippi Land Bank is owned by the member-borrowers who purchase stock/participation certificates in the cooperative. At the end of each fiscal year, the board of directors may choose to either retain the association’s net income to strengthen its capital position or distribute some or all of the net income to members by declaring a dividend on stock, or a patronage refund. A patronage refund is distributed to members in proportion to their use of the cooperative or the amount of interest earned on their loan by the association.

We are proud of our patronage fund and how it has the ability to lessen the financial burdens of our customers, but it’s our products and services that often result in customers choosing to partner with us on a repeated basis. We have developed products for long-term loans, intermediate-term loans and short-term loans. One of our fastest growing long term loan programs is our poultry program, which was started in the 1960s. Originally designed to serve producers in the Lee County area, it has evolved to meet the growing expansion demands in Noxubee, Oktibbeha, and Winston counties.

We strive to demonstrate our appreciation to our customers who produce poultry by developing lending programs that are tailored to meet their specific needs like we have for Mr. Russell Dodds and his son Mr. John Dodds. Mr. Russell Dodds began his poultry farm in 2008. When we asked why he continued to partner with Mississippi Land Bank he said, “It’s so much easier to do business with a land bank. There is a lot less red tape.” When his son, Mr. John Dodds, was only nineteen years old growing his cattle herd and in need of a baler, we tailored a package he could afford and loaned him the money. Three years later we tailored another package for him, but this time it was for 6 poultry houses.

We are proud of all our customers, especially our poultry customers. They are innovative, knowledgeable and provide an amazing product and service to our state. Not only do they help provide jobs to thousands of Mississippians, they provide a healthy and nutritious protein source. It truly is an honor and a privilege to partner and serve them.

To hear more on how we can serve you, please do not hesitate to contact Bill Cook, Tyler Anderson, or Bart Harris at (662) 323-8150.
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- Durable and rugged performance
- Simple to install
- Water filtration not required
As a grower member of MPA, you receive several benefits from the Association, especially important are government relations and grower relations. The Association works to support a unified industry and to represent the industry to our government and the public.

The poultry and egg industry will continue to face significant legislative and regulatory challenges in years to come. As regulations increase from USDA, FDA, EPA, Miss. DEQ, Miss. Dept. of Revenue, and other federal, state and local agencies, MPA communicates on behalf of the industry to legislators and regulators.

MPA has a solid track record and list of accomplishments on helping growers in recent years. Just a few examples are:

- **Eliminating** the sales tax on electricity, propane and natural gas for plants and for farms.
- **Lowering** the sales tax on farm equipment and parts and labor for repairs to farm implements to 1.5%. This includes poultry house equipment and parts.
- **Doubling** the amount farmers can borrow from the Emerging Crops Loan Program.
- Passing legislation to prevent local governments from imposing bans on food items so preventing a patchwork of local menu requirements.

Further Benefits:

- Working to maintain and increase funding for MSU divisions important to poultry.

**We hope you will make the decision to become a part of the Mississippi Poultry Association and help us to maintain our position as the #1 Agricultural Commodity in the State of Mississippi. Please contact Bill Rosenblatt at (601)932-7560 for more information.**

**Studies Show Poultry House Energy Retrofits Save Money**

A study conducted in 2006 by Auburn University documents the costs and returns of retrofitting a poultry house with spray foam sealants.

Six Alabama test houses had curtain sidewalls treated with a 1-inch sprayed polyurethane sealant manufactured by BioBased Technologies:

- **These houses realized a 35% savings in fuel costs in comparison to identical, untreated houses.**
- **Annual fuel savings were 1,850 gallons per house after treatment.**
- **Static pressure of the houses increased from 0.12 before treatment to an average of 0.27 after treatment.**
- **High-to-low temperature differences in the treated houses are only 3 – 4 degrees compared to untreated houses that experience 7 – 8 degree differences.**
- **Further advantages of this retrofit application were seen in slight improvements in bird performance data over a 7 flock, one year period.**
- **The R-value of the sidewalls increased from approximately R-1 to R-8 at the curtains. Above and below the curtains the R-values increased from R-2 to R-9.**
- **At prevailing propane prices for the time ($1.39 per gallon) and grower pay rate ($0.05 per pound) the cost of retrofitting the structures was paid back within 10 – 12 flocks.**

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The ENOUGH Movement, a global community dedicated to finding practical solutions for a food-secure world, is commemorating its second year by growing into a new, interactive digital report on ENOUGHmovement.com. The site fosters discussion on the global implications and realities of food security and ways to take action.

“Humanity is using the resource equivalent of 1.6 earths a year, and that’s just not sustainable for the next generation,” said Jeff Simmons, president of Elanco Animal Health. “Never has there been more urgency around discussing food security - as the Earth’s population is estimated to reach 9.7 billion in 2050, experts say that will mean a 60 percent increase in demand for meat, milk and eggs. Adding more animals isn’t the answer. We need innovative solutions and collaboration to move the discussion forward.”

Considering the projected increase in demand for animal protein, the new ENOUGH Movement looks critically at how the current trend of adding more animals creates an unsustainable model ill-equipped to support population growth. It also explores potential solutions that can not only increase efficiency, but safeguard animal welfare in an environment where emerging diseases are a threat.

The ENOUGH Report is anchored in true sustainability and focuses on four key pillars: Innovation, Choice, Access, and Nutrition. Each pillar offers a modern approach to tackling the global issue of food insecurity.

· Innovation: Evolution in technology, animal management practices, and innovation enable more efficient and resource-conscious production of nutritious food.
· Choice: Consumers deserve the ability to choose the food that fits their budget, taste, and nutritional needs, while farmers ought to be able to choose the production methods that work best for them and their farm animals.
· Access: Food should move from places of plenty to places of need; easing access to affordable, nutritious food for those that need it most.
· Nutrition: A person’s diet should meet more than simple caloric needs - it should provide the protein and nutrients that support healthy growth and development in children and health in adults.

“Without new approaches, we won’t be able to meet the demand for safe, sufficient, affordable protein produced in a sustainable way,” added Simmons. “We must continue to find new solutions and better ways to produce animal protein that both protect the welfare of the animal and meets consumers’ expectations. Ultimately, we must ensure our efforts are right for the health and welfare of animals, right for people and right by the planet.”

For an opportunity to join the conversation directly, sign up at ENOUGHmovement.com. Discover ways to become part of the solution, take action and hear stories of those affected by food insecurity as well as those fighting to find a solution. Follow the conversation on Twitter @ENOUGH2050, @Elanco, @JeffSimmons2050, and on Facebook at ENOUGH Movement and Elanco.
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John Milner serves as counsel to the Mississippi Poultry Association and has special expertise in poultry-related environmental issues. Partners Gene Wasson and Richard Cirilli, Jr. also have impressive abilities in the environmental sector.

Environmental Law Group

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Agriculture and environmental groups are arguing over EPA’s authority to make exemptions from hazardous substance emissions reporting requirements for animal feeding operations (AFOs). Agriculture groups take the position that Congress gave EPA broad discretionary authority on the matter and environmental advocates argue that EPA does not have that discretion since there was no ambiguity when Congress established the reporting requirements.

If the environmentalists win this case, poultry growers could be forced to file burdensome reports on the amount of ammonia and hydrogen sulfide their houses emit. The U.S. Poultry and Egg Association argues EPA does not have to require the reports, but environmentalists say EPA must require them. EPA argues the environmentalists have no basis for their claim.

The arguments are outlined in new briefs filed March 14 with the U.S. Court of Appeals for the District of Columbia Circuit in Waterkeeper Alliance, et al. v. EPA. The consolidated case involves challenges from both environmentalists and the National Pork Producers Council (NPPC) over exemptions EPA largely gives AFOs under the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) and Emergency Planning and Community Right-to-Know Act (EPCRA). EPA has urged the court to dismiss the case on procedural grounds, saying that the advocacy petitioners lack standing for the suit.

The U.S. Poultry and Egg Association (US Poultry), which is an intervenor in the case on behalf of EPA, defends in its brief the exemptions as lawful: “EPA acted within its statutory authority when it established administrative reporting exemptions from CERCLA and EPCRA notification requirements for air releases of hazardous substances from animal manure at farms”.

Reporting Exemptions

EPA’s 2008 final rule exempted confined animal feeding operations (CAFOs) from reporting requirements for their ammonia and hydrogen sulfide emissions under CERCLA and exempted all but large farms from EPCRA reporting requirements. The exemptions under the rule relate to CERCLA requirements to report hazardous substances above a certain quantity to the National Response Center, and EPCRA requirements to report such releases to local and state emergency response officials.

Environmentalists say that ammonia and hydrogen sulfide are produced when livestock and poultry waste decompose and are hazardous substances subject to these requirements. EPA’s reportable quantities for these are 100 pounds per day, they say. They also say animal feeding operations emit large quantities of these two chemicals, citing statistics that AFOs emit 73 percent of total ammonia emissions in the country.

In 2009, the environmental petitioners requested the D.C. Circuit to review the exemption rule, arguing it violates CERCLA and EPCRA. But the suit was sidelined when EPA sought to resolve the litigation by an agreement with the groups that allowed for a voluntary remand of the rule without vacatur, while EPA gathered more data it said it needed before creating mandatory reporting requirements for CAFOs. Remand vacatur permits agency orders or rules to remain in effect after they are returned to a lower court by the reviewing court for further agency proceedings. EPA, however, never issued those reporting rules. The D.C. Circuit last September granted a motion by the environmentalist petitioners to recall its years-old mandate that allowed for the voluntary remand of the rule without vacatur. The court’s action triggered a new review of the legality of the 2008 rule.

In its March 14 brief, US Poultry argues that Congress granted EPA broad discretion in determining the breadth of the emergency release reporting programs, and notes that Congress “did not place substantive limits on EPA’s ability to set” reportable quantities (RQs) under the two laws.” US Poultry states that the environmental petitioners are contending that the inclusion of some statutory exemptions gives evidence that Congress deliberately withheld authority from EPA to develop administrative exemptions from reporting requirements “because ‘Congress generally acts intentionally when it uses particular language in one section of a statute but omits it in another.’” US Poultry’s brief goes on to state: “But that general rule of statutory construction cannot overcome the virtually unbounded discretion that Congress gave EPA to determine when reporting is required by letting EPA establish RQs of its choosing.”

EPA Discretion

Further, US Poultry says the exemptions fall under the so-called de minimis doctrine. The exemptions are consistent with the D.C. Circuit’s precedents regarding de minimis exemptions to statutory requirements. Under the doctrine, a statute’s literal meaning does not have to be followed if “the precise terms lead to absurd or futile results, or where failure to allow a de minimis exception is contrary to the primary legislative goal,” citing the 1993 D.C. Circuit decision in Ohio v. EPA. US Poultry therefore contends that “EPA properly determined that an administrative exemption for ongoing releases from animal manure was appropriate to avoid futile results and to avoid frustrating the statutory goal of release reporting. Additionally, US Poultry says the reporting exemption in consistent with “prior EPA rulemakings that established comparable administrative reporting exemptions and thus, it does not mark a reversal in EPA’s position.”

MPA will continue to monitor and to coordinate with the U.S. Poultry & Egg Association concerning this significant issue. If you have any questions concerning this article or would like to have further information, please contact John Milner, MPA Counsel, at jmilner@brunini.com or (601) 291-4696.
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After the unprecedented outbreaks of H5N2 Highly Pathogenic Avian Influenza last spring, poultry producing states spent the fall and winter preparing for a possible re-occurrence of outbreaks once migratory waterfowl began their southern migration.

Bordering the Mississippi River and being a part of the Mississippi Flyway means Mississippi is potentially at great risk for exposure to the virus as waterfowl move south and then north again during their annual migration. Fortunately, an unusually warm winter delayed the migration until December of last year, reducing the number of waterfowl moving through our state. In Mississippi we met with state agency, university and industry personnel updating our response plans and making sure we had adequate equipment and supplies on hand for a potential outbreak.

As part of a surveillance program, the US Department of Agriculture funded a program designed to test 40,000 hunter harvested waterfowl during this past duck season. Fortunately, none of the over 44,000 national samples had the H5N2 virus that caused so much trouble last year. Here in Mississippi, over 900 samples were collected, with 9 samples found to have an H5 or H7 influenza virus. These are the viruses that can get into our poultry operations causing disease with the potential to mutate from low path avian influenzas to highly pathogenic forms.

On January 14th, a turkey operation in Dubois County Indiana noticed an increase in mortality and discovered an infection with H7N8 Highly Pathogenic Avian Influenza. Further testing revealed 9 more farms showing evidence of infection. The farms were immediately depopulated, and testing of all commercial and back yard poultry within the control zone revealed no further evidence of disease. The control zone was released on February 23rd, and the 10 turkey and one layer operations have been released to re-stock after the final cleaning and disinfection process is complete.

There are several reasons that this outbreak was able to be contained so well this year. All of the infected birds were depopulated within 24-36 hours of detection, stopping the production of virus, thereby limiting the potential for spread of disease by exhaust fans contaminating the environment and by people moving on and off the farm. The other issue is that everyone was on high alert, and the birds were tested as soon as any sign of unusual illness and increase in mortality was detected.

This outbreak is a reminder that practicing biosecurity and being on constant alert for disease is a full time job. The H7N8 virus that infected these turkey farms came from migratory waterfowl and somehow found its way into the initial turkey farm where it mutated from a low pathogenic virus to a highly pathogenic virus and was spread to 9 other farms. Detecting the disease in the infected flock quickly, allowed the other 9 farms to be discovered before the virus was able to mutate to the highly pathogenic form. This was an important step in catching the disease early and stopping it in its tracks.

The virus that caused this outbreak, as well as other Avian Influenza viruses lives in migratory waterfowl, not causing them any problems, just waiting on a chance to come in contact with domestic poultry where they can cause disease and high mortality. As I mentioned previously, these viruses have been found here in Mississippi, so we must remain vigilant and practice good biosecurity to protect our livelihood and the economy of Mississippi.
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COMPOSTING MORTALITY IN AN AVIAN INFLUENZA OUTBREAK

The 2014-2015 outbreak of highly pathogenic avian influenza (HPAI) is classified as the largest animal health emergency in US history. Approximately 49.6 million birds were affected in 21 states. As of October 2015, USDA reported 232 detections (211 commercial facilities and 21 backyard flocks), with the last confirmed case occurring in Iowa in June, 2015. There is concern, however, that the disease may reappear in conjunction with migration of waterfowl which are the main reservoir for the virus. At this point, a sound biosecurity program is the best defense against the virus affecting commercial or backyard flocks in Mississippi.

There is no cure for HPAI and the death rate is extremely high; 95 to 100% of infected birds will die. During the most recent outbreak, infected birds either died or were humanely euthanized to control the spread of the disease. In a situation where there are millions of birds to dispose of, proper carcass management is vital for managing nutrients, preserving and protecting the environment, and preventing disease spread. If the carcasses are not handled correctly, improper disposal may lead to odor nuisances, disease spread, and environmental issues if the resulting leachate (fluids from carcass decomposition) finds its way into groundwater or surface waters. In addition, HPAI virus that may be present in carcass tissues and fluids supply the nitrogen necessary for microbial protein synthesis. Composting is, by definition, a controlled biological decomposition process that converts organic matter into a stable, humus-like product.

Successful composting is part art and part science. The chemical and physical properties of the raw materials affect the rate of decomposition. Particle size and surface area of the waste material influence the type of microorganisms involved and the degree of biological activity in the composting process. Therefore, smaller carcasses, or those that have been cut or ground, usually compost more easily than large, whole carcasses. Moisture content is also critical to the composting process. Ideal moisture content seems to be approximately 50 to 60 percent. At 70% moisture content, the composting process begins to go anaerobic; which slows down the decomposition process and increases odor and fly issues. Moisture levels of less than 50% also slows the composting process. High moisture levels can be controlled by increasing the amount of bulking material used. Low moisture problems can be overcome by sprinkling the windrow with a measured amount of water.

Composting is a fairly forgiving process. If you mess it up, you can fix it. However, fixing it takes time and time will not be on your side if you are dealing with an AI outbreak. Therefore, it’s best to get it right the first time. Thus, the reason for a qualified SME to assist in windrow construction, qualified equipment operators, and sufficient carbon sources), water, and space. Optimal conditions for carcass composting include a carbon to nitrogen ratio (C:N) around 30:1 and a moisture content of approximately 50 to 60 percent. If the C:N ratio is less than 25:1, organisms cannot utilize all of the nitrogen available, and excess nitrogen is then lost as NH₃. This will likely result in an unpleasant odor, possible air pollution issues, and reduced fertilizer value. C:N ratios of greater than 30:1 slows the composting process.

The composting process begins with an initial breakdown of soft tissue from the carcasses by naturally present microorganisms which produce heat, NH₃, CO₂, and volatile organic compounds as by-products. Following a period of soft tissue decomposition, thorough mixing of the bulking agent and carcasses promotes an ideal blend of carbon and nitrogen for optimum composting. The bulking agent helps trap leachate and odors produced during the process and lessens the threat to the environment. Heat (>130° F) produced through proper composting will destroy most pathogens including the AI virus. When the composting process is complete, microorganisms will have degraded the carcasses to
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the point that only a few larger bones remain.

Estimating carbon (bulking agent) needs

It is critical to determine how much carbon will be needed to provide an adequate energy source for the microorganisms. Without adequate carbon, the composting process will not proceed in a timely manner. In event of an AI outbreak situation, time will be a critical factor. The large number of carcasses that could be involved will make rapid mass disposal critical to the success of managing the outbreak. With this in mind, USDA has developed the following guidelines for estimating carbon (bulking agent) needs:

Methodology

Described below is one approach to estimating the amount of additional carbonaceous materials needed to compost poultry carcasses. There are a total of 3 methods described in the USDA publication Mortality Composting Protocol for Avian Influenza Infected Flocks. However, this method may most closely apply to the situation in Mississippi. All three require estimating the carbon (bulking agent) needs:

1. Weight-Based Estimate of Carbon Needed
   a. Effective in-house composting must have a minimum of 1.5 pounds of carbon material (based on bulk density of 30 pounds/cubic foot material) per pound of bird, (1 pound of carbon per pound of bird for the base and cover and the remaining carbon for the mix).
   b. Determine total pounds of birds
      i. Pounds of birds = number of birds × average weight in pounds.
   c. Determine total pounds carbon needed
      i. Total carbon = pounds of birds (from above) × 1.5.
   d. Determine pounds of litter in house
      i. Cubic feet of litter in house (see above)
      ii. Pounds of litter = cubic feet of litter × weight of a cubic foot of litter (average bulk density = 30 pounds; Range = 25 to 35 pounds).
   e. Determine amount of additional carbon needed
      i. Cubic yards of additional carbon needed = ((total pounds of carbon needed-pounds of litter in house)/weight per cubic feet of carbon material)/(27)
      1. wood chips, litter or wet sawdust = 30 pounds/cubic foot
      2. dry sawdust = 15 pounds/cubic foot.

In-house composting of AI infected flocks will likely be the best option should an AI outbreak occur in Mississippi. However, outside composting may be another option (especially in a cage layer situation where in-house composting is not an option) if adequate precautions are taken. There are three critical elements of windrow construction that must be considered. You will need 1) a porous layer, 2) a uniformly mixed windrow core, and 3) and adequate cap surrounding the core. USDA recommends the following windrow construction steps:

Windrow Base Construction

- Before in-house composting, clear carcasses and litter from the windrow location(s) of the poultry house to create a 12–15 foot wide work area for construction of the windrow base(s). Distribute the material on either side of the pathway.
- Before outside composting, an adequate site must be identified. Site modifications and approval from State and local agencies may be required.
- Using the largest loader possible, begin building the windrow base.
- The windrow base should be 12–15 feet wide with a depth of 10 to 15 inches.

❖ Carbon material for the base should be porous and bulky enough to allow adequate air flow into and through the windrow. Ideal materials for the base include bark mulch or coarse wood chips. Other acceptable materials include: straw, wood shavings, active compost, small grain hulls, and corn stover. However, coarse woody material in excess of 2 inches in size should be avoided to ensure that the resulting compost can be land applied as a soil amendment at a later date.

❖ If these materials are not available, poultry litter may be used for the windrow base if it is sufficiently dry, porous, and bulky and contains enough carbon.

❖ To maintain the base’s porosity and avoid compaction, do not drive equipment on the base.

Construction of the Core

- The windrow core should consist of a uniform mix of carcasses and litter. The easiest way to get a uniform mix throughout the windrow is to scoop litter and birds together in each bucket load and add it to the windrow in a manner that thoroughly mixes the contents of the bucket. If additional carbon material is needed, the material should support heat generation (i.e., composting). Suitable materials include fresh wood shavings, active compost, poultry litter, straw, corn stover, and small grain hulls. In many instances this material may need to be blended with the existing litter and carcasses to be suitable.

❖ Any suspect feed should be blended and mixed with the carcasses and litter before windrow construction. Move infected material as little as possible.
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The mix of carcasses and litter should be added from both sides of the windrow. This allows the operators to reach the center of the windrow and avoid compacting the base with the tires or tracks of the loader. The windrow core should be constructed such that 1 foot of base material is exposed on both sides of the windrow. Add water as needed. The core should be dome-shaped and of sufficient height to include the litter and carcass mix from the area adjacent to the windrow. At this stage, the windrow height should not exceed 6 feet.

Continue building the core until all litter and carcasses have been placed on the base.

Capping the Windrow

Prior to capping the windrow, remove any carcasses that are near the edge of the windrow base and include them in the core of the windrow. Cap the windrow with 8 to 12 inches of a suitable carbon material. Carbon material for the cap should prevent flies from contacting carcasses, serve as an insulating blanket, and allow air to flow out of the piles. This material may be finer in texture than the base. Suitable material includes small grain hulls, sawdust, new bedding, and wood chips. Straw, corn fodder, or similar material may also be suitable; however, experience has shown that these products can blow off the windrow and may need to be thicker to serve this purpose than other materials. Ensure that the entire core is uniformly covered with cap material with no carcasses exposed. Avoid compacting the windrow. Do not operate the loader’s tires or tracks onto the sides of the windrow while capping. The completed windrow should be approximately 6 to 8 feet high.

Temperature monitoring is an important part of the composting process. Windrow temperatures should reach at least 130° F, which will kill most pathogens and the A1 virus. The health and safety of the individual conducting the temperature monitoring within a confined space (chicken house) should be monitored. Ammonia is produced naturally from decomposition of organic matter, including plants, animals, and animal wastes and can become concentrated in enclosed structures.

Signs of Exposure to Ammonia

Strong odor provides adequate early warning of its presence, but prolonged exposure can be hard to detect due to olfactory fatigue and adaptation. High concentrations can cause airway destruction resulting in respiratory distress or failure. Signs of exposure include the following:

- burning of the nose, throat and respiratory tract;
- coughing; and
- skin and eye irritation.

How to Reduce Ammonia Exposure

- Increase ventilation when possible.
- Reduce the amount of time spent in areas where levels of ammonia are high.
- Wear proper PPE (personal protective equipment)
  - gloves,
  - half face with goggles or a full face respirator with at least a particulate/ammonia cartridge (green) or a multi-gas cartridge, and
- cloth coveralls or disposable coveralls (Tyvek).

If possible, measure ammonia levels in work area with an air gas meter before entering, or know recommended exposure times based on the ammonia levels in work area.

### Exposure Guidelines (NIOSH)

<table>
<thead>
<tr>
<th>Exposure Time (minutes)</th>
<th>Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term exposure (8 hours)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Short term exposure (15 minutes)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>Short term exposure (5 minutes)</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

**If exposed:**

- Seek fresh air.
- Flush irritated skin or eyes with water.
- If needed, seek immediate medical attention.
- Contact your supervisor if irritation of skin, nose, throat, or respiratory tract is persistent.

**Temperature monitoring procedure**

Monitor temperatures of the windrow daily at 10 to 12 flagged locations. The temperature monitoring locations should be spaced equidistantly the length of each windrow. Take two temperature readings at each flagged location; one reading at a depth of 18 inches and another reading at a depth of 36 inches. To ensure consistent temperature monitoring to the same depth, mark the thermometer probe at 18 inches and 36 inches. Place the temperature probe ¼ of the way up the windrow at a 45 degree angle. Ideally, temperatures should be monitored by a single individual for consistency. Temperature probes should be calibrated before use.

Figure 2. Example of temperature monitoring locations.

**Instructions**

- Turn on fans or open the doors and curtains (if present) to all the houses containing compost piles to allow them to air out and to maximize ventilation.
- **USE THE BUDDY SYSTEM.** Entering a house with active compost or dead birds requires a two person team.
- Place the stem of the thermometer approximately 18 inches and then 36 inches into the compost pile half way up the pile at a 45 degree angle.

Figure 3. Insert probe thermometer at 45° angle ¼ way up the windrow at 18” and 36”.

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Leaving the thermometer at each depth and point for at least 60 seconds.
Log the reading from the thermometer from each flag and at both depths (18” and 36”).
Compare readings to previous day’s readings.
After completing the house readings, close the doors and curtains.
Calculate the average temperature for each pile and note it in a log book.
Windrows should reach an average temperature of 131°F for a minimum of 72 hours or be assessed by a SME for possible corrective measures.
Disinfect the thermometer and return it to its protective case.
Each thermometer will be kept at the respective premises being monitored. Do not take a thermometer from one premise to another.
If 3 days after initial windrow construction, compost temperature averages are consistently (more than 3 days) below 100°F or greater than 160°F, a SME should be consulted immediately.
During the second 14-day composting phase, a SME should be consulted immediately if any monitoring location is consistently (more than 3 days) below 100°F or greater than 160°F.

Siting an outside AI compost location
Selection and siting of environmentally suitable and appropriate locations for composting of poultry carcasses infected with AI is an important consideration in the disease management process. Because of the virulent nature of this disease, it is important to locate such sites within or in close proximity to the infected premises. The site access should be able to handle heavy vehicle traffic and allow for biosecurity around the site’s perimeter, securing access to and from the site. Additionally, it is critical to choose sites that will not be adversely impacted by potential releases of nutrient-laden leachate nor will result in nuisance complaints in the event that odors, flies, or scavengers begin to appear on-site.

In general, emergency poultry mortality compost sites should be large enough to accommodate all of the generated carcasses, litter, waste feed, and other contaminated materials, as well as have the ability to store any additional amendment materials that may be needed for successful composting. Along with the criteria noted above, ideal HPAI compost sites should:
- be located such that the prevailing wind directions do not travel to nearby residences (whenever possible),
- be located at the top of the slope of the field, on moderately-well to well drained soils (usually land that is used for crop production),
- have a gentle 2%–4% slope to encourage on-site drainage,
- contain on-site soil depths in excess of 24 inches to seasonal high water tables,
- contain on-site soil depths in excess of 36 inches to bedrock,
- not be located on a flood plain,
- be constructed or designated for the current emergency,
- have (or construct) diversion ditches, terraces, or berms to direct surface water flows and storm water away from active compost piles. (Note that if windrows are located between production houses, then roof and surface drainage should be directed away from the compost area), and
- the edges of the identified site should have these following minimum setbacks, including:
  - 200 feet from a water supply well used for drinking;
  - 200 feet from water bodies, including: ponds, lakes, streams, rivers;
  - 200 feet from a nearby residence (not owned by the premises);
  - 50 feet from a drainage swale that leads to a water body; and
  - 25 feet from a drainage swale that does not lead to a water body.

Summary
An outbreak of avian influenza would pose a serious threat to commercial and backyard poultry flocks in Mississippi. Proper and timely disposal of mortality losses associated with such an event would be critical to managing an outbreak. Mass mortality composting (preferably in-house but possibly outside) will likely be the best option to deal with flock losses, should they occur. The purpose of composting mortality during a HPAI outbreak is to use biological heat treatment methods to degrade the carcasses, inactivate the AI virus, control odors and reduce fly exposure in a safe, biologically secure, and environmentally sustainable manner. The final composted material is a valuable and useful by-product that can then be land applied as a fertilizer source and soil amendment that can recycle nutrients and organic matter back to the soil.

This information was developed, adapted, and approved for use in Mississippi by Tom Tabler, Extension Professor, Jessica Wells, Extension Instructor, and Morgan Farnell, Associate Professor, Poultry Science. Some information is adapted from Extension publication 442-037 Composting Dead Poultry by Eldridge R. Collins, Jr., Extension Agricultural Engineer, Virginia Cooperative Extension; Mortality Management Options During an Avian Influenza Outbreak by Josh Payne, State Poultry Specialist, Oklahoma State University Cooperative Extension Service; and USDA publication HPAI Outbreak 2014-2015: Mortality Composting Protocol for Avian Influenza Infected Flocks.
UPCOMING EVENTS

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September 15-18, 2016

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If you want to join the Mississippi Poultry Association as a Grower Member, call the MPA office at (601) 932-7560 for more information!