# Virginia POULTRY Dispatch



April, 2022

## Upcoming Events



YOUTH DAY

To Be Announced

#### **AUGUSTA CO. FAIR**

July 26-30, 2022 Fishersville, VA

## POULTRY HEALTH & MANAGEMENT SEMINAR

Wednesday, August 3, 2022 JMU Festival Harrisonburg, VA

## FRIENDS OF FEATHERS GOLF TOURNAMENT

Thursday, August 4, 2022 Spotswood Country Club Harrisonburg, VA

#### **ROCKINGHAM CO. FAIR**

August 15-20, 2022 Harrisonburg, VA

#### THE NEXT VIRGINIA POULTRY

#### The President's Corner



Dear VPF Members and Friends:

We are excited to present our inaugural edition of our digital newsletter, the Virginia Poultry Dispatch. We plan to distribute this

newsletter in April and August, followed by a year-end report. The Virginia Poultry Dispatch is designed to cover timely topics of interest to the poultry community in Virginia and provide an advertising opportunity for allied member companies that provide products and services for our industry.

I want to thank our State Veterinarian, Dr. Charles Broaddus, for submitting an article on the threat of avian influenza. Dealing with the threat of the High Path Avian Influenza circulating in wild birds and infecting commercial and backyard flocks in more than 22 states must be our industry's top priority at this time. Every member of the poultry community must practice strict biosecurity every minute of every day to avoid the economic devastation an outbreak could cause in Virginia. Thank you all for keeping biosecurity top of mind every day!

After two years of COVID-19 disruptions, VPF is pleased to announce that our signature events – the Virginia Poultry

## **DISPATCH**August, 2022



#### Addressing Mental Health

Over the past few years, farmers and ranchers have experienced significant economic stressors.

These challenges contribute to higher rates of stress, mental illness, and suicide in farm families.

To help address this mental health crisis, farm advocacy groups have developed resources like the National Farmers
Union's Farm Crisis Center and American Farm Bureau Federation's Farm State of Mind website, which features a directory of rural mental health resources in every U.S. state.

Farm Credit has its **Rural Resilience** program, which focuses on mental health and stress management.

If you, or someone you know needs assistance, please call the National Suicide Prevention Hotline:

800-273-TALK suicidepreventionlifeline.org

Health and Management Seminar and Friends of Feathers Golf Tournament – will be August 3 and 4 at the James Madison University Festival Conference Center and Spotswood Country Club in Harrisonburg. To register and/or sponsor these events, visit the Events page at <a href="https://www.vapoultry.com">www.vapoultry.com</a>. Thank you for supporting of our events!

We recently expanded allied company membership options, and thank the businesses that have taken advantage of this opportunity to enhance their support of VPF. Allied Partners include: Aviagen Turkeys, Cambiando Vidas, Farm Credit of the Virginias, Holtzman Oil and Propane, Marel, Merck Animal Health, and Virginia Farm Bureau. Thank you also to Allied Supporter, Boehringer Ingelheim. The full range of membership options are available here.

VPF's mission is to promote a positive business climate for poultry in Virginia through government and public affairs, education, and youth programs. The generous support of members and sponsors is essential to our success. We appreciate all of our event sponsors and members, which include farmers, poultry companies, and allied companies that provide products and services to our industry. Thank you for enabling VPF to be the unified voice of Virginia's poultry community!

Please reach out to me directly at <a href="https://hobey@vapoultry.com">hobey@vapoultry.com</a> or my cell phone at 540-478-8199 anytime with suggestions or ideas for VPF programs and activities or whenever we can be of assistance.

Sincerely, Hobey Bauhan President







## A Minute With the Vet

Virginia State Veterinarian, Dr. Charles Broaddus

Here at VDACS, Highly Pathogenic Avian Influenza (HPAI) has been at the top of many of our minds for the past several months. We realize that day in and day out, poultry growers and others involved in Virginia's poultry industry have many other issues to be concerned about, but the risk of HPAI in our domestic birds seems to have never been higher than it is this year.

We have been following the cases of HPAI across Europe over the last year, but our concern really became heightened in December of 2021, when the virus was detected in some poultry on "our side of the pond," in Newfoundland, Canada. Soon after that, the virus was found in wild waterfowl in NC, SC, and VA, and shortly thereafter, the detections in backyard and commercial flocks started coming, including a backyard flock detection in Fauquier County, Virginia. The most current list of backyard and commercial flock detections can be found at:

https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/2022-hpai

Throughout the past few months, we have been preparing daily for any additional detections of HPAI in Virginia. We work on various aspects of planning most every day, in close coordination with our partners in the poultry industry and with USDA. Our shared goal with you all is to respond to any detections of HPAI in commercial or backyard poultry just as quickly as possible, with the objective being to prevent spread of the disease from the infected farm.

The single most important thing that any poultry owners can do to prevent HPAI in poultry is to take practical measures to prevent exposure of wild waterfowl or their feces to domestic poultry. This means that anytime poultry have access to the outdoors, where wild waterfowl are or may have been, there is a risk of those poultry becoming infected with AI. Any inadvertent exposure of poultry to wild waterfowl, or the introduction of wild waterfowl feces on the bottom of someone's boots or truck tires to a poultry operation is a risk. Taking practical, commonsense precautions to prevent the inadvertent exposure is very important.

Communication will be critical when we experience HPAI detections in Virginia. We are committed to sharing as much information as possible with you, and working as quickly as possible to respond. We are here at your service, and appreciate the opportunity to support you all in this joint effort to prevent and respond to HPAI detections in Virginia.



## VPF SCHOLARSHIP RECIPIENTS



Congratulations!

VPF is proud to announce that our youth committee has awarded \$10,000 in Virginia Tech scholarships! The following young adults will receive scholarship funds:

Katie Kirkpatrick Jackson Lohr Michele Mickelwait Rachel Mohler Sarah Murray Tanner Wise



# General Assembly Update



An important component of Virginia Poultry Federation's mission of promoting a positive business climate for poultry through engagement in government affairs is following the annual General Assembly Session and weighing in on legislation affecting our poultry community. In this article, we report on the 2022 session, but first describe some of the changes in power in state government.

In 2019, Democrats won majorities in the House and Senate, and controlled the legislative and executive branches of state government for the 2020 and 2021 legislative sessions. House Democrats pushed a progressive agenda, passing such legislation as an increase in the minimum wage and adoption of California vehicle emissions standards. VPF joined with other business groups to form the Coalition for a Strong Virginia Economy to push back on efforts to repeal Virginia's Right to Work law and various mandates on employers.

The election in 2021, in which Republicans won Governor for the first time since 2009 and a slim majority in the House, changed Virginia's progressive legislative trajectory. In 2020 and 2021, moderate Democrats in the Senate were an important check on anti-business bills; in 2022, they were essential to Governor Glenn Youngkin's agenda, some of which they prevented from passing. They generally stopped efforts to roll back laws adopted during the previous Democrat Administration of Governor Ralph Northam. However, at the end of the day, bad bills for business stood little chance with the new makeup of the General Assembly.

The General Assembly adjourned sine die on March 12 without adopting a state budget and unfinished work on some bills. A special session was called to begin April 4 to finish work on the budget and the few remaining bills.

All-in-all, it was a favorable legislative session for the poultry industry, agriculture, and business generally. VPF shared with legislators our positions on state issues, and tracked and weighed in on a number of bills. Following are some highlights of issues VPF addressed or tracked.



## Regulation of Above Ground Storage Tanks

VPF opposed HB 899, a bill introduced by Delegate Alfonso Lopez (D-Alexandria) to create a new regulatory program at DEQ for above-ground storage tanks containing certain substances designated as hazardous. The legislation, which died in subcommittee, would create an unnecessary burden and cost on operations that the poultry industry manages in accordance with strict guidelines and regulations to protect employee and public safety and the environment.

#### **DEQ Citizen Boards**

VPF supported <u>SB 657</u> from Senator Richard Stuart (R-Westmoreland) to transfer permitting authority from the Department of Environmental Quality (DEQ) citizen boards to the Department. Specifically, the bill limits the authority of the

## IRS Tax Conformity – Paycheck Protection Program & Rebuild VA Deductions

The Coalition for a Strong Virginia Economy, in which VPF participates, supported tax conformity legislation (HB 971 by Delegate Kathy Bryon, R-Bedford County) that expanded and made retroactive tax benefits related to Paycheck Protection Program loans and Rebuild Virginia grants to ensure COVID-19 aid granted to businesses would not be treated as taxable income. In February, Governor Youngkin signed this legislation, which contains an emergency clause making it effective immediately.

## Packaging Stewardship Program and Fund

VPF opposed HB 647, legislation from Delegate Betsy Carr (D-Richmond) that requires certain producers that sell packaged products to pay a fee on the packaging materials used. It exempts producers of perishable products that use less than 15 tons of packaging materials annually, but that threshold would not exclude poultry plants, which already have recycling and reuse programs. The purpose of the bill seems to be to foster recycling. VPF opposed this

#### **Natural Gas and Propane**

VPF supported HB 1257, legislation from Delegate Terry Kilgore (R-Gate City) that sought to preserve access to natural gas and propane. Some localities have taken measures to phase out use of natural gas, and this bill, as introduced, limited such local measures. Unfortunately, the Senate amended the bill to limit its scope and positive impact.

#### **State Budget Priorities**

The General Assembly adjourned without passing a two-year budget. As of this writing, a conference committee consisting of eight Senators and six Delegates continues to negotiate Virginia's state budget for the two years beginning July 1, 2022. The House and Senate-passed budgets are about \$3 billion apart, largely due to differing priorities over tax reductions and spending. The House-passed budget implements Governor Youngkin's proposal to return surplus revenues to taxpayers. The Senate's budget cuts some taxes, but directs more of the surplus toward spending priorities.

VPF supports funding for the Agricultural BMP Cost-Share Program and technical assistance and operations at soil and water conservation Air Pollution Control Board and the State Water Control Board to issuance of regulations and transfers the Boards' existing authority to issue permits and orders to the DEQ.

The bill stems from circumstances in which a citizen board, in a politically charged atmosphere, overrides the recommendations of the Department professional staff, rendering an adverse decision for the applicant. Most recently. the State Air Pollution Control Board denied a minor air permit for a compressor station in Pittsylvania County associated with the controversial Mountain Valley Pipeline. The board took this action contrary the recommendations of the DEQ professional staff, which indicated the permit was one of the most stringent of its kind in the country.

The bill also requires DEQ to provide in writing a clear and concise statement of the legal basis, scientific rationale, and justification for its decisions. Similar legislation (HB 1261) from Delegate Rob Bloxom (R-Accomack) gives the General Assembly a role in appointments to the citizen boards. HB 1261, which VPF also supported, passed the House and Senate in different formats and the differences remain to be worked out in a conference committee.

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legislation, which died in subcommittee, because it would create significant regulatory burdens and costs for the poultry industry.

**Anaerobic Digestion** 

VPF helped write and supported S.B. 248/H.B. 831, bipartisan legislation introduced by Senator Scott Surovell (D-Fairfax) and Delegate Tony Wilt (R-Rockingham) that adds a definition for anaerobic digestion within the Virginia Fertilizer Law. The bill also defines digestate, one of the products generated through anaerobic digestion, and ensures that digestate is handled appropriately under the Virginia Fertilizer Law.

Anaerobic digestion is a process through which bacteria break down organic matter such as animal manure, wastewater biosolids, and food wastes—in the absence of oxygen. Anaerobic digestion for biogas production takes place in a sealed vessel called a reactor. Digestate is the residual material left after the digestion process, and can be used in many beneficial applications, such as a nutrient-rich fertilizer, organic-rich compost, or simply as a soil amendment on agricultural land.

Anaerobic digestion offers an environmentally sound alternative to managing DAF sludge and other byproducts from poultry processing plants. Digestate is similar to other products, such as compost, which fall under the Virginia Fertilizer Law. The legislation. which the General Assembly adopted, differentiates digestate from other products and ensures that it is labeled appropriately depending upon the nature of the feedstock used to produce it.

districts. The Department of Conservation and Recreation's (DCR) Needs Assessment for cost-share calls for \$259 million over the biennium to meet Chesapeake Bay restoration goals. The House-passed budget contains full funding for the Needs Assessment. The Senate budget fully funds the first year but removes \$26.4 million from the reserves in year-two. Both proposals continue funding for the poultry litter transport incentive program administered by DCR.

VPF supports adequate funding for VDACS to support programs in animal health, including avian influenza prevention and response capabilities, and other agency operations. This year, VPF supported budget language and enhanced funding of \$5 million annually, which if adopted would give VDACS the flexibility and resources to help producers if AI impacts poultry in Virginia.

For additional information on the General Assembly Session, visit the <u>Virginia Legislative</u>
<u>Information System</u> or the <u>Virginia General Assembly</u> website. Feel free to contact Hobey Bauhan at <a href="mailto:hobey@vapoultry.com">hobey@vapoultry.com</a> or 540-478-8199 with any questions or feedback.



## Chicken Feed

# with NCC President, Mike Brown



The price consumers paid for groceries jumped 1.4% in February and 8.6% over the past year, according to the February Consumer Price Index. The monthly increase in what's known as the "foodat-home index" was the largest in about two years, but the 12-month increase was the largest since 1981. Those increases helped drive the overall inflation rate 7.9% over the past year, also the largest in 40 years.

Where are Americans truly feeling inflation? In nearly every part of their livelihoods, and certainly not just in the meat case:

- Fuel oil +43.6%
- Used cars 41.2%
- Gasoline 38%
- Hotel rooms 29%
- Rental cars 24.3%
- Utility gas service 23.8%
- Furniture 19.3%
- Propane 19.1%
- Bacon 18.8%
- Steaks 16.9%
- Oranges 16.2%
- Peanut Butter 15.6%

- Tires 15.4%
- Pork 14%
- Chicken 13.2%
- Men's shirts 12.8%
- Bread 12.7%
- Airline tickets 12.7%
- Milk 12.4%
- New cars 12.4%
- Infants' clothing 12.4%
- Appliances 11.1%
- Coffee 10.9%
- Fish 10.4%

But there's been a steady drumbeat from the Biden administration painting the meat and poultry industry as the villain for the recent rise in meat and poultry prices in the grocery store. Recent polls show nearly two-thirds of Americans blamed the government as the source of the problem.

On top of these additional costs Americans are facing right now, the government has touted new regulations and efforts to restructure the poultry industry which will likely add further costs, risk, and exacerbate the current market situation.

As inflation has now hit its fastest pace in decades, is now really the time to be discussing regulatory burdens that would only add more costs to soaring grocery bills for Virginians and all Americans?

NCC will continue to be on the forefront of these proposed regulations urging USDA to leave chicken out of this debate and off the table in expensive and unnecessary government regulations that were left behind by the Obama administration. These were determined to be poor policy ideas then – and continue to be today.

Another topic that is on the top of mind in our industry is avian influenza. While Virginia's commercial poultry operations have been spared to date, Highly Pathogenic Avian Influenza was confirmed on a mixed-species backyard flock in Fauquier County on February 12.

Any detection of highly pathogenic avian influenza (HPAI) in poultry is a concern and the industry remains on high alert. The U.S. has the most robust monitoring and surveillance program in the world – and detailed plans are in place to control spreading among flocks and eliminate the virus completely.

Avian influenza is not a foodborne illness, which means you can't contract it from eating poultry that has been cooked properly. And in the event a flock does test positive, it will not enter the food chain. Additionally, the risk of humans contracting avian influenza is extremely low, according to the Centers for Disease Control and Prevention (CDC). NCC has been active in the media conveying these key messages.

The following biosecurity measures have been identified by NCC, veterinarians and avian health experts as the most important to prevent disease spread and promote flock health:

- Limiting visitors on the farm and minimizing foot traffic;
- Avoiding contact with wild and domestic fowl;
- · Avoiding the sharing of farm equipment;
- Having a clean and functioning footbath at each entrance to the broiler house;
- Ensuring that all visitors or personnel have disinfected or new footwear before entering a house or facility;
- Making sure feed and water sources are covered and free of contaminants, limiting the attraction of wild fowl and pests;
- Having official signage clearly stating the farm is a biosecure zone and any unauthorized entry is strictly prohibited;
- Employing effective pest and wild bird management practices; and
- Adequately training farmers, farm and company personnel in biosecurity and disease.

NCC is encouraging our members to remain vigilant and ensure that biosecurity programs are appropriately implemented as we continue to closely monitor this situation.



## What's Up, Peeps?

A look at some of our youth organizations...





#### Virginia FFA

Virginia FFA recently celebrated National FFA Week with a 10-day "Dig Deeper" Tour of Virginia. During our tour, we were able to visit over 60 schools and through combined events, facilitate leadership workshops and visit with over 85 chapters across the state. While on the road, we also raised over \$35,000 on Give FFA Day - all proceeds from this one day of giving builds our jacket scholarship fund. We offer 2 free FFA Jackets to each chapter in Virginia with these funds. We were also invited to participate in National FFA's National Agriculture Week activities in Washington DC. Virginia FFA Members helped staff a booth on the National Mall, met with National Leaders on Capitol Hill and even shared a stage with USDA Secretary Tom Vilsack.

Chapters across the state are preparing for and competing in a number of Career and Leadership Development Events in preparation for Virginia FFA State Convention which takes place in June. Find out more and keep up with current events and fundraisers at **vaffa.org**.

#### Virginia 4-H

Find the Virginia 4-H newsletter here!





#### Virginia Ag in the Classroom

Youth today are more disconnected from farming than they've ever been. With farm and ranch families making up only 2% of the U.S. population, and the average person being 3 generations removed from the farm,

many children grow up without any experience of farm life. Virginia Agriculture in the Classroom is working to change that. Through outreach and educational programs, Agriculture in the Classroom has been teaching children about the importance of agriculture and its impact on their lives for almost 30 years. Since its inception, Agriculture in the Classroom has helped provide agricultural experiences to 3.5 million children and provided 350,000 educators with teaching resources.

Agriculture in the Classroom's efforts are entirely donor-funded. Thanks to generous businesses and individuals AITC is able to connect children to agriculture by:

- Providing training, curriculum, activities, and agricultural knowledge to educators, families, and partner organizations so they may bring agriculture to life for their children.
- Supporting and initiating outreach efforts to connect the non-farming public with the source of their food and fiber. Agriculture in the Classroom develops tools for volunteers to engage their communities in important conversations about farming.

- Awarding school grant funding to assist educators' efforts to teach students about the sources of their food and fiber. Agriculture in the Classroom grants are designed to help fund creative projects—both inside and outside traditional classrooms— to increase students' understanding of farming.

To learn more about Agriculture in the Classroom, including how you can support their mission, visit

AgInTheClass.org or on Facebook and YouTube at Virginia Agriculture in the Classroom.



# Spotlight on Brooder Flip-Overs by William Alexander, Hendrix Genetics

#### **Causes and Solutions in Brooding**



The poult start is an extension of the hatching process. The whole process, including poult placement, is only as strong as its weakest link. To begin, a good quality egg is needed that is consistently monitored through the incubation and hatching process. After hatching, the poults must be supported by keeping them at the correct body temperature, 103-104°F (39.4-40.0°C), throughout the processing and holding period. The poults also need to be monitored during the trucking and delivery process. The hatching and delivery process is supported by having the correct access to feed and water upon arrival at the farm. There also needs to be the correct heat and ventilation exchange on the farm. If the birds arrive too hot or too cold, there should be a plan in place to allow the birds to recover without adding additional

stress.

Flip-overs can be caused by many factors

- chilling or overheating the birds in the hatchery or on the truck to the farm
- overcompensating with high temperatures when the birds do not want to move, eat or drink at the farm
- prolonged over-heating resulting in the birds panting becoming dehydrated and flipping

Flock uniformity, health, and overall performance can be compromised from the very start. **Key Actions at the Hatchery** 

The hatch window is a tool that can help to evaluate the incubation and hatch profiles to avoid overheating of poults. It is done by checking the number of poults that have hatched at specific times before the hatch is pulled. At 36 hours, the hatch target should range 1-2% for single stage and 1-5% for multistage hatchers. At 24 hours, the number of poults hatched should not exceed 15%, and at 12 hours the target should be 95% (Lopez, 2016).

It is important to monitor eggshell temperature frequently and adjust incubator settings as needed to achieve temperature targets. The goal is to have the eggshell temperature below 100°F (37.8°C) throughout the hatching process. Poults exposed to higher temperatures in the incubator often have high internal body temperatures. For example, an egg exposed to a temperature over 101°F (38.3°C) can produce poults with temperatures in the range of 106°F (41.1°C) or higher, at the time of pull. Our goal is to have poult vent temperatures from 103-104°F (39.4-40.0°C) (Lopez, 2016). Vent temperatures should be taken at time of pull, during servicing, and in the holding room. Poults that have been overheated do not want to eat or drink and are prone to flipping. A poult's immune system begins to develop when they eat and drink. If birds come into the barn and don't eat or drink immediately, this leaves them more susceptible to disease. The goal of every hatchery is to produce poults of excellent quality, and this is reflected in low mortality after placement and ideal production performance.

#### **Key Actions at the Farm**

Poult activity must be monitored once placed at the farm. They should be alert and active while also seeking out food and water. It is beneficial to assess poult temperature upon arrival to the farm and 6-12 hours after placement to ensure they are comfortable in their environment. Behavioral changes are also a good indicator of poult comfort. For example, if the birds are huddling they are too cold. If they are panting or have open wings, they are too hot. In 2016, Dr. Vern Christensen did a study with tom placements looking at delivery temperature versus 7-day body weight and 7-day mortality. It was shown that poult temperatures between 103-104°F (39.4-40.0°C) had the most consistent body weights and most consistently low 7-day mortality (Christensen, 2016).

Heat is our friend but try not to be over-reactive. If the poults are too cool at delivery, room temperature can be raised a couple of degrees as needed but avoid big jumps in temperature. The average floor temperature across the feed and water shouldn't exceed 95-96°F (35-35.6°C). If it becomes too warm, there is no place for the poults to find their comfort zone, thus producing added stress on the birds. The heat should be reduced 8-10 hours after placement back to a normal 92-94°F (33.3-34.4°C) floor temperature.

If poults will not stop flipping, building a hospital pen can help get the birds back on their feet. They must be put in the pen before they are dehydrated and completely exhausted to be effective. These pens shouldn't be a part of a regular routine. Needing to use these pens means that some place in the poult's chain of being hatched, processed, delivered, or brooded, there was an issue that needs to be corrected.

In the event there is extreme heat and the poults are hot, the heater system should be cycling enough to produce the correct floor temperatures. The ventilation system should be set to run on thermostat, not just on a minimum ventilation timer. It is important to frequently monitor the poults' behavior and body temperatures. If the birds act cold, increase the room and floor temperatures. Even in very warm conditions, some preheating of litter is needed to maintain proper heat ranges. Newer brooders can run their electronic heating systems with the barn's computer timer. To ensure the stoves are cycling, the heater and target temperature can be set the same, but the heat can be set to go off ½ degree above the set temperature for the first 8-12 hours.

Hybrid recommends preheating the barn 72 hours pre-placement in the winter so that the barn is up to temperature 24 hours before the birds arrive. It is important for floor temperatures to be 92-94°F (33.3-34.4°C) across the feed and water. At day 5, it is recommended barn temperature be 88°F (31.1°C) and down to 87°F (30.5°C) at day 7. Following the Hybrid temperature guideline will encourage poults to seek out food and eat in the first week. This helps performance exponentially throughout the grow period. If poults are acting lethargic, it is important to check to see if there are high carbon gases in the barn. Carbon Dioxide (CO<sub>2</sub>) should be less than 2500 ppm and Carbon Monoxide (CO) should be less than 20 ppm (Christensen, 1995). Above these levels, poults can feel cold. Light intensity also helps to make the birds active and encourages eating because it provides a clear view for the birds to find feed and water. People are a poor judge of light intensity, so it is important to measure. It is recommended 8-10 ft candles, 80-100 lux the first 5-7 days.

Easy access to feed and water can reduce flipper issues. Poults that eat and drink start to absorb their yolk sacs. Using paper to attract poults to feed and water the first 2 days is a great tool to reduce dehydration and compacted crops. Compacted crops in early breeder age hatches can be the result of poults finding feed but not water. This results in birds tipping over due to too much feed with no moisture. There are very good hydration products that have been proven to enhance starts on flocks that have next day deliveries.

The culmination of incubation, hatching, delivery, and barn preparation all play a role in the overall success or failure of a poult start. The key is to have monitoring systems in place, such as hatch windows, poult temperatures, with proper trucking and brooder temperature monitoring. Everything will not always be perfect, so it is important to have an idea of what to do in advance of poult placements.

- Lopez, Juan, "The relationship between yolk-free body mass and subsequent performance." International Hatchery Practice, 2016, pp. 17.
- V.L. Christensen et al., "Exposure to Excessive Carbon Dioxide: A Risk Factor for Early Poult Mortality," Journal of Applied Poultry Research 4:3 (Fall 1995): 249-253.
- V. Christensen, "Assessing Poult Quality," Midwest Poultry Presentation, 2016.

Join us as William Alexander presents on Wintertime Ventilation at our Poultry Health & Management Seminar on August 3rd.





### EGGcelent Recipes!

**Memaw's Lemon Pound Cake** 

**Breakfast Casserole** 

**BAKED Fried Chicken & French Fries** 





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