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Editorial matter from sources outside APEA is sometimes presented for the information and interest of our members. Such material may or may not coincide with official APEA policy, Publication does not necessarily imply endorsement by APEA.

alabamapoultry.org











I want to say a big thank you to everyone who helped with our Capitol Omelet Breakfast March 16. It was a great success. I especially want to thank Auburn University Drs. Bill Dozier and Jeremiah Davis for allowing their staff to attend and the Poultry Science Club for cooking for our friends in Montgomery.

We are diligently watching the avian influenza situation, and we are preparing to react in case of detection in commercial poultry in Alabama. So far, all cases have been north of our state. We want to thank Alabama State Veterinarian Dr. Tony Frazier and his team for their leadership in this area.

We have started the 2022 Evening of Fun campaign, and I am looking forward to seeing everyone in Birmingham on June II for a great evening with country music singer Tyler Farr. Special thanks to all our VIP members, integrators and grower-producers for their continued support of APEA. I know with your help, this campaign will be a huge success, as it has been for years.

A big congratulations to Koch Foods on the opening of its new feed mill in Attalla. This project proved difficult due to the pandemic, but Matthew Herman and his group pulled it off. I am so glad Gov. Kay Ivey was able to join us for the grand opening. The new facility reminds me of the importance of our industry and of our commitment to bringing an economical protein source to feed our state and the world.

Please remember our annual meeting is set for July 18-19 in Sandestin, Florida. I hope everyone will make an effort to attend this fun event.

Again, let me say what an honor and privilege it is to be president of this great association. Thanks to all for your support.





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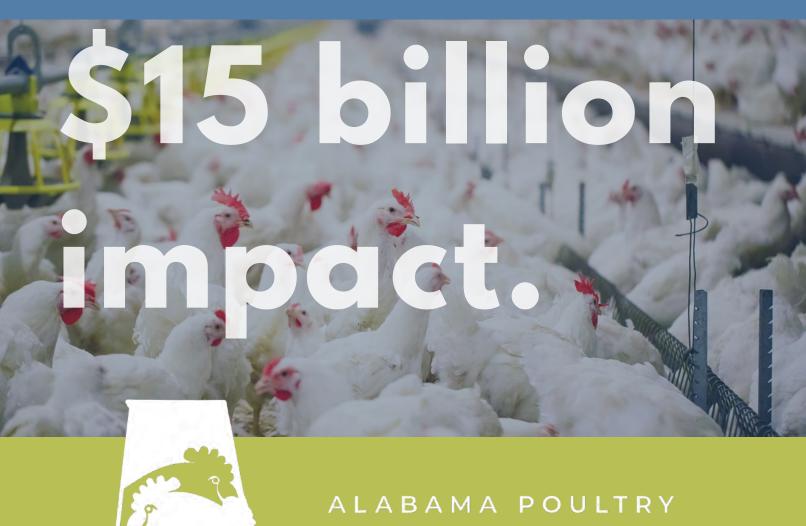


ON THE COVER

Tyler Farr is the headline performer at this year's Evening of Fun concert June 11 in Birmingham.

Photo courtsey of Tyler Farr.

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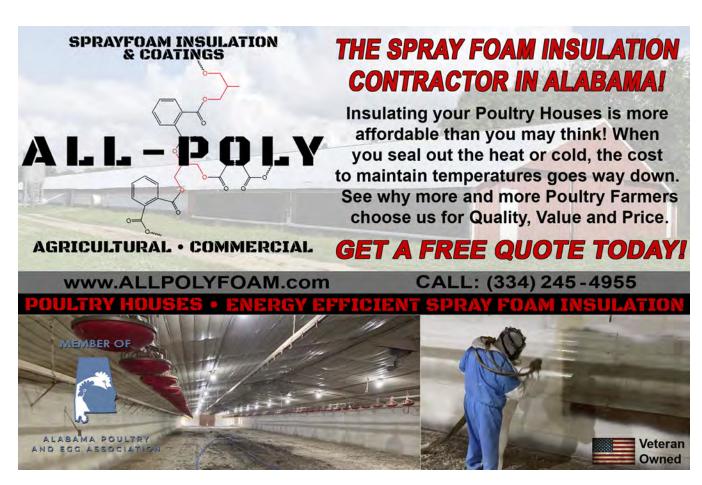
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FEATURING

TYLER FARR

7:00 PM • JUNE 11, 2022

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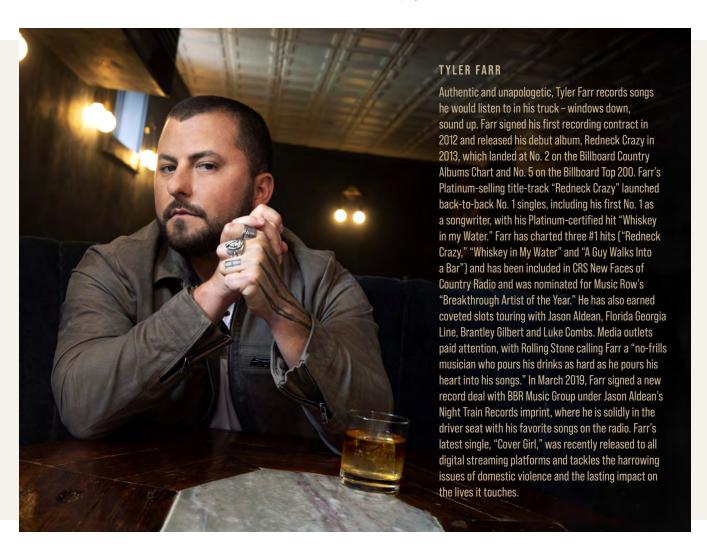
labama's poultry industry generates more Athan \$15 billion in revenue each year. It accounts for an astounding 67% of annual farming revenue in the state and employs more than 86,000 workers on farms, processing facilities and allied industries.

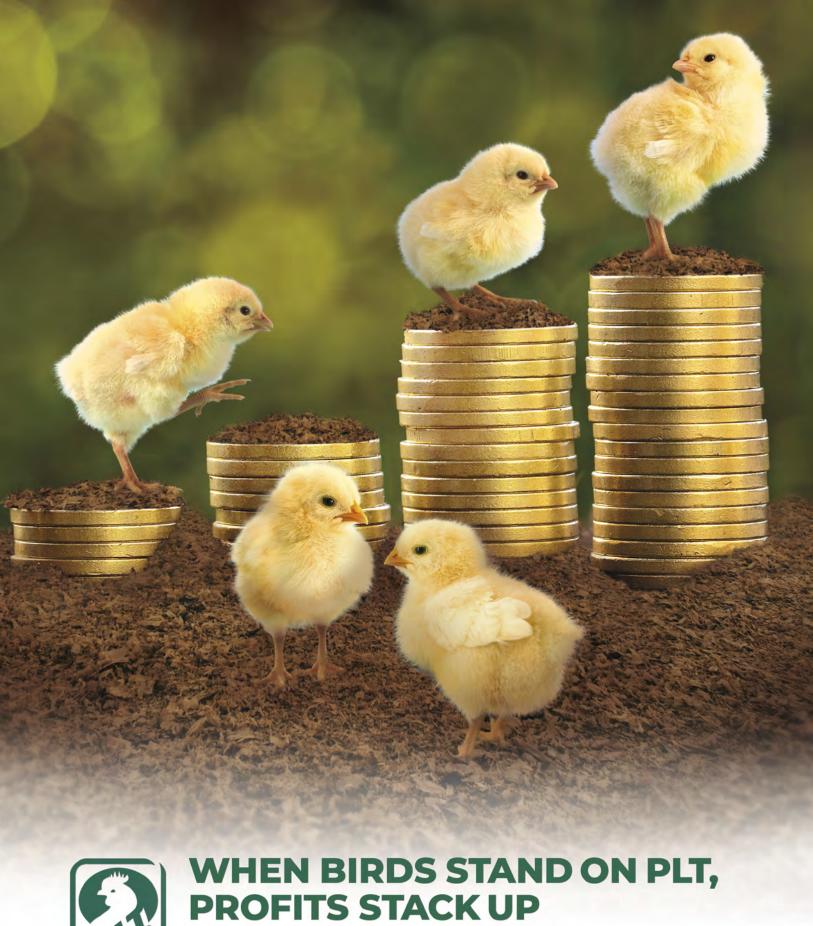
The Alabama Poultry and Egg Association, or APEA, supports this industry through education, promotion, research and public affairs involvement.

APEA's success is made possible through supporters like you who invest in Alabama's future. Sixty-five percent of our revenue comes from "Evening of Fun" ticket sales. These funds support APEA programs such as student scholarships, continuing education for industry personnel and producers, research, product promotion and public relations. Thank you for helping us make this year successful. Poultry is good for you and great for Alabama.

"Evening of Fun" ticket purchases may be deducted as a business expense for federal income tax purposes but not as a charitable contribution.

\$25 of each ticket purchased is contributed to the Alabama Poultry Trust. The trust financially assists candidates who support our state's economic growth. If you do not wish to contribute to the trust, you may receive a refund without any threat of reprisal. Refunds must be requested before July 1, 2022.







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Koch Foods opened a new \$60 million grain storage and distribution facility, creating 32 new jobs in Atalla. Gov. Kay Ivey joined company, city and state officials for the grand opening March 17.

KOCH FOODS BEGINS OPERATIONS AT NEW \$60 MILLION FACILITY

ATTALLA, Alabama — Representatives of Koch Foods joined state and local leaders in Etowah County March 17 to formally open the company's state-of-the-art grain storage and distribution facility in Attalla.

Koch Foods said the new poultry feed mill will create 32 new jobs with an annual payroll of \$1 million. The company invested more than \$60 million in the project.

The Attalla facility, served by rail and designed with technologically advanced features for maximum efficiency, will support the company's expanded processing plant in nearby Gadsden.

Koch officials joined Gov. Kay Ivey to cut the ribbon during an opening ceremony for the 130-acre facility, which can hold more than I billion bushels of corn.

"A few years back, I was thrilled to learn Koch Foods had chosen Atalla as its location for their new, state-of-the-art grain storage and distribution facility," Ivey said. "Since becoming your governor, one of my top missions is working to be sure Alabama's business climate remains second to none. Koch Foods is a shining example of the success companies can find here in our state."

"We announced this project in November of 2019, and to bring it to fruition on time during a pandemic speaks highly to the cooperation of all those involved — the Koch employees, the contractors, the state, the city and all the local agencies," said Mark Kaminsky, chief operating officer of Koch.

"It is this cooperation that has led Koch to invest over \$400 million in Alabama over the last five years," he added.

The new facility sits on 130 acres and can store more than 1 billion bushels of corn.

GROWTH PLANS

In 2018, Koch announced an \$80 million expansion of its Gadsden plant as part of a growth project involving 200 new jobs.

Park Ridge, Illinois-based Koch employs more than 3,700 employees in Alabama with an annual payroll of \$182 million. Koch works with over 200 local businesses and farmers at its four processing complexes in the state.

The Gadsden-Etowah Industrial Development Authority team, the City of Attalla and key partners including Norfolk Southern Railways joined to bring the project to fruition, said David Hooks, executive director of the Gadsden-Etowah IDA.

"This project qualifies for two of the industrial sectors the Gadsden-**Etowah Industrial Development** Authority has targeted – Logistics and Food & Farming," said Hooks, who added the project solidifies Etowah County's position as a "national leader in both sectors."

Source: Made in Alabama





s Winter Storm Izzy pushed mid-January temperatures below freezing, poultry farmers Eric Lovvorn and Ben Hunt marked one concern off their to-do list — securing fuel to heat their eight chicken houses and 240,000

That's because natural gas is now pumped directly to their farms near Ranburne. The neighboring farmers converted from propane in 2021, a move saving time, money and stress, Lovvorn said.

"We don't have to worry about running out," said the 37-year-old Cleburne County Farmers Federation vice president. "The way fuel prices are going up across the board, the timing to have natural gas couldn't be better."

In January, natural gas was \$1.15 a gallon. Propane contracts were \$1.70 to \$1.90, Lovvorn said, with some residential prices reaching \$2.70.

The difference adds up as farmers can burn 100 gallons of fuel a day during bitter cold. It's especially true with young flocks, which need 90-degree heat. Lovvorn and Hunt invest savings from fuel costs into energy-efficient improvements, such as LED lightbulbs, new brooders (heaters) and sprayfoam insulation. Because of the upgrades, Lovvorn estimates their houses, built in 1989, will last at least another decade.

Excluding mortgage payments, heat is their largest bill. Poultry farmers routinely spend more than double their water or electrical bills on heat.

Before natural gas was pumped to their farm, thousandgallon propane tanks fed into a line fueling each poultry house. Hunt and Lovvorn manually checked gauges to confirm on-farm supply. When winter storms threaten, Alabama's more than 2,500 poultry farmers call propane companies to secure precious product.

"I never had an issue with our propane company, but propane is a limited product," Lovvorn said. "You can only put so much in that tank, and everyone needs it."



We don't have to worry about running out. The way fuel prices are going up across the board, the timing to have natural gas couldn't be better.

ERIC LOVVORN Cleburne County Farmers Federation Vice President

In 2014, a propane shortage shot prices to over \$3 a gallon — if farmers could get it.

Lovvorn's propane bill jumped from \$3,000 to more than \$8,000 per flock.

"I couldn't stay in business long paying over \$2.50 a gallon for propane," he said.

A cross-country natural gas line was just three miles from the farm, but interest was low to invest the million-plus dollars needed to build a pumping station and lay lines to reach Ranburne.

Lovvorn turned to the Alabama Farmers Federation. As a member of the Federation's Agricultural Leaders For Alabama (A.L.F.A. Leaders) class, Lovvorn met statewide elected officials and leaders, including Alabama Public Service Commission President Twinkle Cavanaugh. Lovvorn credits her involvement for securing natural gas in his community.

"We're forever indebted to Twinkle," Lovvorn said. "She helped people in our area improve our livelihood."

Listening sessions showed the natural gas company (now Spire) how the community

craved its product's security, availability and low price.

Cavanaugh said ensuring Alabama farms have the best, most economical energy options is a priority.

"Agriculture is the backbone of our economy, and anything we can do to grow it and support rural Alabama is good for the entire state," she said. "This project will help create jobs and open up even more opportunities in the future. It was a real pleasure to play a role in making this happen."

Back in Ranburne, pipes laid last winter tap into the old propane line, which directly feeds heat into chicken houses. Enlarged openings in each brooder accommodate natural gas's different pressure. A meter tracks usage across the farm.

And once a month, Hunt and Lovvorn pay the bill.

"We have a lot of responsibility when it comes to raising these birds humanely," Lovvorn said. "This is a game-changer for rural America."







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Fifty-five Years and Counting: DOT LANE ISN'T DONE YET

By Caleb Hicks





Bottom Right: Lane, center, at an APEA annual meeting in the '70s.

ot Lane began her career in the poultry industry in 1967. She's 82 now, with no plans to retire anytime soon.

"People ask me when I'm going to retire," said Lane, who is the materials and inventory controls manager for Koch Foods of Gadsden. "This [the poultry industry] is my home. I've never asked but for one job, and that's because my husband told me, 'If you're going to have any money this summer, you're going to have to earn it.' He thought every woman should be educated to be able to take care of herself."

Having grown up Oxford, Alabama, as the eldest sibling to five brothers, the 55-year poultry industry veteran said her upbringing helped shape who she is today.

"My mother was a girly girl, but I would've rather been outside and climbing in trees," Lane said. "I grew up on a cotton and dairy farm, so being 'one of the guys' then and even now was nothing new to me. I think it's helped me deal with personalities throughout the years."

During those years, Lane was the backbone of several acquisitions and mergers of companies, including Walley Milling Company, Spring Valley Farms, Lane Processing, Tyson Foods and more.

In fact, in the late '80s, she successfully led Lane Processing out of declared bankruptcy after the company was signed over to its employees.

"I've always believed in having a plan and a gamebook," Lane said. "We brought the company out of bankruptcy in three years. There were nights I wondered how we were going to get cleaning supplies just to clean the plant. I had made so many connections with people and resources, so I went to them for help."

Not only did those resources come in handy during bankruptcy proceedings, but also during "Evening of Fun" ticket sales for the annual Alabama Poultry and Egg Association, or APEA, fundraising concert, which she began helping with around the start of her poultry career.

"The first year I started selling tickets, I won several awards, including Rookie of the Year," Lane said. "I sold around 300 tickets. They quit counting after 200 because they knew no one was going to catch up to that. I referred to the same resources who helped me through those tough times, and they came through for me once again."

For Harold Hunt, who is Koch's complex manager for the Gadsden facility, Lane is more than just an employee.

"Dot takes her job seriously," Hunt said. "I always look forward to getting my morning cup of coffee and having a short conversation with her. She has been a staple at this plant for a lot of years and is loved by all of us in the Koch Foods family."

With her astounding career, Lane can almost guarantee this will be her last job.

"It's almost come full circle for me," she said. "The poultry industry has provided me with a very good living. It helped me and my husband educate our son. After my husband passed away in 1994 after 34 years of marriage, the industry helped me educate my grandsons.

"I feel like this job will be my swan song. I've had a lot of blessings and kept my faith. I haven't sacrificed my integrity for anything, or anyone."



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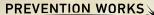


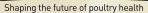
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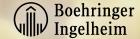


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Spring Creek Farm is an eight house broiler farm located in Franklin County, AL near Russellville. This farm has 8 40×500 houses built in 2000. The farm grows the big bird for Pilgrims out of Russellville, AL on a 63 day growout. The farm has a historical gross annual income on 4 flocks per year at \$380,000-400,000 and on 5 flocks per year \$450,000-475,000. The farm has a dwelling that is a 3 Bedroom and 2 bathroom.

The farm has 21+/- acres and is located down a long easement road. The farm is very secluded and private. The farm has some fenced pasture. There is a small shop on the farm as well. This farm is a great producing farm with the opportunity for a new owner to come into a well maintained farm.

This farm is located around 15 minutes from the city of Russellville and around 30 minutes from the Muscle Shoals/Florence area.

Spring Creek Broiler Farm is a bio secure area. No visitors are allowed unless a PoultrySouth Team Member is present. A PoultrySouth Team Member can provide you with "Qualify for a Poultry Farm" upon request. Real Estate Agents wishing to show the farm should contact a PoultrySouth Team Member for a Co-Brokerage Agreement. No spur of the moment showings are allowed.

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In Memoriam

DAVE OZMENT

May 14, 1941 - April 3, 2022

Former APEA Executive Director Dave Ozment of Vinemont passed away on Sunday, April 3, 2022, at UAB hospital. He was 80 years old.

Dave was born May 14, 1941, in Holdenville, Oklahoma, to Dean and Hazel Ozment. He served APEA as executive director from 1971

A celebration of life was held Friday, April 8, 2022, at Christ Covenant Presbyterian Church, 1310 St. Joseph Drive NW, Cullman, AL 35055. Visitation was held prior to the service. Cullman Heritage Funeral Home was in charge of arrangements.

In lieu of flowers, the family requests donations be made in memory of Dave Ozment to The Foundry, 575 County Road 1676, Cullman, AL 35058, or to Christ Covenant Presbyterian Church, 1310 St. Joseph Drive NW, Cullman, AL 35055.



ALABAMA AGRICULTURE GROUPS KICK OFF DOWN TO EARTH CAMPAIGN IN PIKE ROAD

Alabama farm and forestry organizations debuted a yearlong public education campaign — Down to Earth: Agriculture Sustains Alabama — during a chock-full celebration March 31 in Pike Road.

At an afternoon press conference, Gov. Kay Ivey proclaimed March 31 Down to Earth Day. Ivey, whose rural roots run deep, lauded the collaborative campaign, which will showcase sustainable, high-tech and efficient techniques farmers and forest landowners have followed for decades.

"It's an absolute pleasure to kick off the Down to Earth campaign with so many friends from the agriculture and forestry communities. Make no mistake about it — our farmers and forest landowners are the backbone of Alabama's economy," said Ivey, a Wilcox County native whose father raised cattle and timber in Monroe County. "For agriculture and forestry to continue to



Alabama ag organizations kicked off their campaign with a field trip for fourth-graders during the launch.

thrive, it is imperative that we continue to be good stewards of the land and practice sustainable methods to keep our forests full and our soil fertile. That's what Down to Earth Day is all about — encouraging sustainable methods so our land remains Alabama the Beautiful for generations to come."

Ivey's remarks followed a fun-filled field trip for Pike Road School System fourth-graders at the Pike Road Agriculture, Recreation and Performing Arts Center, or ARPAC. Through hands-on activities at a dozen stations, 200-plus students learned about Down to Earth's Big 6 topics: carbon emissions; animal and plant efficiency; data and technology; conserving natural resources; smart land use; and sustaining for the future.

A team of farmer-spokespeople representing diverse commodities and counties will spread the Down to Earth message through social media, interviews with traditional media and features in partner publications through March 2023.

Spokespeople include Drew Wendland and Jane Russell, who spoke during the press conference. Wendland and Russell noted their different backgrounds but united approach to caring for the land.

"My two sons love the farm and the life it offers," said Wendland, a fifth-generation farmer whose family raises row crops, cattle and timber in Autaugaville in Autauga County. "My job is to make sure they have the same opportunity that I was given by my dad. Every day, I try to make decisions that steward our natural resources to leave the land better than I found it, just like my dad did for me, and his dad did for him, and his dad did for him.

"To me, that's what sustainability is all about. It's about sustaining businesses, sustaining livelihoods, sustaining families and making sure that anybody who wants to in the future has a better chance at it than we did."



Farm families such as the Wendlands care for Alabama's more than 40,500 farms covering 8.6 million acres.
Alabama is home to an additional 23 million acres of highly productive forestland, a figure Russell said ranks third in the contiguous U.S.

"Alabama forests are the jewel of nature, and the forestry business is so valuable in the state — we have 23.1 million acres of forestland, 16.3 billion live trees and 93.2% are privately owned," said Russell, a timberland owner and cattle farmer in Ada in south Montgomery County. "Thomas Jefferson once said 'Let the farmer forevermore be honored in his calling, for they who labor in the Earth are the chosen people of God.' It is a privilege to be a farmer."

Down to Earth co-chair Kayla Greer said her group's goal is to reach at least I million consumers with Down to Earth messages.

"At the end of the day, we want people to know sustainability isn't about the size of the farm or the commodity produced," said Greer, who serves as campaign co-chair along with Alabama Poultry and Egg's Caleb Hicks. "It's about using the land in smart ways and

protecting our natural resources so we can produce food, timber and fiber for people now and long into the future."

Hicks agreed.

"The campaign we've created serves the purpose of telling the public farmers' and forest landowners' stories," he said. "There's a great team of folks behind this project who are equipped with completing the goal of reaching I million consumers, and we hope we reach a whole lot more."

Following the field trip and press conference, hundreds of locals flocked to the Pike Road ARPAC. A bevy of booths educated the public about sustainability, farm life, Alabama forestland and efficient, high-tech farm practices.

Meanwhile, five teams of media personalities participated in a competition featuring common agricultural tasks. The contest included a rural relay, where participants roped a calf, donned a poultry biosecurity suit and measured feed; raking a fire break to slow a forest fire; and Rural Jeopardy! featuring questions about Down to Earth's Big 6 topics.

Down to Earth partners include the Alabama Agribusiness Council, Alabama Association of RC&D Councils, Alabama Cattlemen's Association, Alabama Cooperative Extension System, Alabama Department of Agriculture and Industries, Alabama Farmers Federation, Alabama Forestry Commission, Alabama Poultry and Egg Association and Sweet Grown Alabama.

Over the year, the Down to Earth message will be shared online at DownToEarthAL.com as well as through social media ads, events and bimonthly press releases. FFA groups, 4-H clubs and civic organizations will help share Down to Earth's sustainability message. Down to Earth was also Alabama Farm-City's 2021 theme.

Interact with @DowntoEarthAL on Facebook, Instagram and Twitter. ♥



Top Left: A media competition with teams of television personalities and farmers competed in various farming tasks. Bottom left: Alabama Gov. Kay Ivey, center, joined Down to Earth co-chairs Kayla Greer, left, and Caleb Hicks for the press conference proclaiming March 31 as Down to Earth Day.

POULTRY

farmers have reduced greenhouse gases by 36% since 1965.



ECONOMIC IMPACT OF A NEW BROILER HOUSE IN ALABAMA

The entry of a new 39,600-square-foot (66' × 600') broiler house in Alabama causes a measurable increase in economic activity within the state in terms of construction and ongoing annual operations. Consider the following economic activity created during construction and a broiler house's first year of operation.

34% | HINPUT

A broiler house in Alabama sources roughly 34% of all inputs locally. OUTPUT (SALES) MILLION

is supported each year from ongoing operations; \$798,918 during the construction phase.



JOB CREATION

jobs are supported each year from ongoing operations; 6 during the construction phase.



TAXES PAID

\$90 THOUSAND

is supported each year from ongoing operations; \$87,105 during the construction phase.

\$357

TATO WILLIAM

LABOR INCOME

THOUSAND

is supported each year from ongoing operations; \$290,848 during the construction phase.

VALUE ADDED

\$504

is supported each year from ongoing operations; \$395,594 during the construction phase.



Picnics and potlucks and weddings. Oh my!

May and June are exciting months where families and friends get together and get outside to enjoy the warm but not-so-humid-yet Alabama weather.

Parmesan Artichoke Chicken Salad is a perfect choice for all three of these early summer events. The shortcut for this recipe is to start with flavorful rotisserie chicken or leftover chicken from a Sunday dinner. Canned artichokes and fresh Parmesan cheese add a flavor to this creamy chicken salad that will remind you of an artichoke spinach dip. Whether you spread it on a croissant for a sandwich, dip it with a cracker at a party or serve it alongside fruit salad for a brunch, it will be one you make again and again this summer.

May is National Egg Month, so treat Mom this Mother's Day to this Shortcut Ham and Broccoli Quiche made with six proteinpacked eggs. It's so easy, even the kids can help. Eggs are truly the star of any quiche, because when paired with half and half, they create a silky smooth, savory custard that "yokes" the other ingredients together. (See what I did there?) And feel free to swap what you have on hand and what's in season for the ham and broccoli — bacon, chopped chicken or ground turkey, for example, and asparagus, spinach or kale.

Yellow squash is plentiful in gardens and farmers markets about now. My One-Bowl Lemon Blueberry Yellow Squash Muffins are moist and tender because of the shredded squash. The yellow squash in the muffins practically disappears when it bakes, resulting in a delicious, streusel-topped muffin. Everyone thinks any shred of yellow is lemon zest. I got the idea for this recipe while making my Pineapple Zucchini Bread. (Find that recipe at GritsandGouda.com.)

Enjoy these early summer months with good food, family and friends.



Kathleen Phillips is a Southern shortcut recipe developer and cookbook author who uses her talents to make life easier in the kitchen. Find more of her recipes at GritsandGouda.com.

PARMESAN ARTICHOKE CHICKEN SALAD

Prep Time: 12 minutes Yield: 5 cups

- · 1 cup mayonnaise
- · 2/3 cup shredded or grated fresh Parmesan cheese
- · 3 tablespoons finely chopped green onions
- 1/4 teaspoon salt
- · 1/8 teaspoon ground black pepper
- · 4 cups shredded cooked chicken*
- 1 (14-ounce) can quartered artichokes, drained and chopped Combine mayonnaise, Parmesan cheese, salt and pepper in a large bowl. Add the shredded chicken and chopped artichokes, stirring until everything is well combined. Cover and refrigerate until ready to serve. The flavors will meld best after at least one hour. Store any leftovers up to four days in the refrigerator.

*Easily shred cooked chicken with two forks or with a stand mixer on medium-low speed.

EASY HAM AND BROCCOLI **OUICHE**

Prep Time: 15 minutes Cook Time: 35 minutes Yield: 6 to 8 servings

- · 1 refrigerated pie crust dough from a 15-ounce package*
- · 6 large eggs
- 3/4 cup half and half or whole
- 1/2 teaspoon salt
- 1/4 teaspoon ground black pepper
- · 1 cup frozen broccoli florets or steamed fresh broccoli
- · 3/4 cup chopped ham, drained
- 1 1/2 cups shredded Colby Jack or cheddar cheese, divided

Preheat oven to 375 degrees.

Let pie crust dough sit at room temperature, unrolled, for 15 minutes, according to package directions. Meanwhile, prepare the filling.

Whisk eggs together in a medium bowl. Gradually stir in half and half. Add salt and pepper; set aside.

Drain broccoli and gently press between paper towels to remove any excess water. (This will help the quiche stay creamy and not watery.) Chop broccoli into about 1/2-inch pieces.

Pat the ham dry between paper towels.

Gently unroll pie crust and smooth out curled edges with a rolling pin or smooth glass. Fit in a 9-inch pie plate, folding edges slightly under. To crimp, push

the folded edges of dough with your index finger on one hand into your two pincer fingers on the other hand all the way around the top of the pie crust.

Layer broccoli, ham and 1 cup of the cheese into the bottom of the pie crust.

Whisk together the egg mixture again and pour over the layered ingredients. Sprinkle with remaining 1/2 cup cheese.

Bake, uncovered, 35 minutes, or until the center is just set when the quiche is slightly jiggled. To prevent the crust from overbrowning, place a piece of aluminum foil over the quiche for the last 10 minutes of baking. Remove from oven andlet cool 10 minutes before serving.

* A frozen pie crust, thawed, can also be used.



YELLOW SOUASH MUFFINS

Prep Time: 10 minutes Cook Time: 22 minutes Yield: 1 dozen

- · 2 large eggs
- 1/2 cup vegetable oil or melted butter
- 1 cup shredded yellow squash
- 1 cup sugar, plus 2 tablespoons for topping
- 1 lemon
- 2 cups all-purpose flour
- 1 1/2 teaspoons baking powder
- 1/2 teaspoon salt
- 1 cup fresh blueberries or 1 cup frozen blueberries, unthawed

Preheat oven to 350 degrees. Line muffin pans with cupcake liners, or coat the pans with cooking spray.

Whisk eggs in a large bowl. Stir in vegetable oil.

Pat the shredded squash dry with paper towels or squeeze out any liquid with your hands over the sink. Add squash to the bowl and stir.

Add 1 cup sugar. Using a zester or microplane hand grater, remove about 1 tablespoon zest from the lemon (yellow part of the rind only) and add to bowl. Add 1 tablespoon freshly squeezed lemon juice and stir well.

Add flour on top of the egg mixture. DO NOT STIR. Sprinkle baking powder and salt evenly over flour. Gently stir the baking powder and salt into the flour only to distribute them well, then stir dry ingredients on top into egg mixture on bottom. Do not overmix.

Spoon 1/2 cup batter into each paper liner. Sprinkle 2 remaining tablespoons sugar evenly over muffins. Bake for 22 minutes, or until a toothpick inserted in center comes out clean.

NOTE: This is not your typical quick bread method, but it saves time by using only one bowl.

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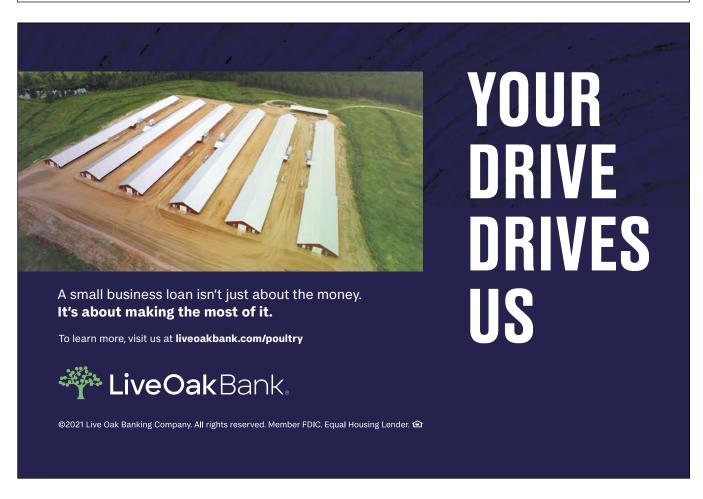




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PRACTICAL APPLICATIONS



VARIABLE SPEED EXHAUST FANS FOR POULTRY: PROS AND CONS

Jess Campbell, Jeremiah Davis, Jody Purswell, John Linhoss, Kelly Griggs and Cody Smith National Poultry Technology Center (Auburn University and USDA-ARS) - May/June 2022

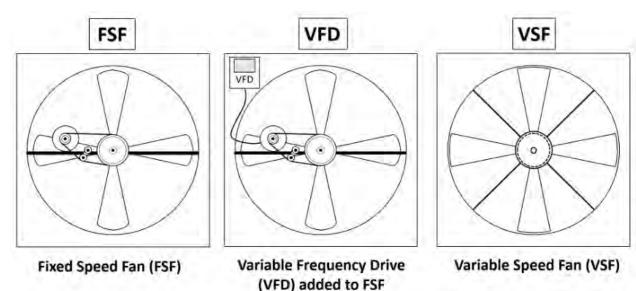
We get a lot of questions these days about modern technologies and if they should be implemented. One technology that is gaining popularity is the use of variable-speed exhaust fans. As with any new technology, it takes some time for the industry to decide if it "works for poultry." Yes, a select number of companies and producers are successfully using this technology today, but success has not been consistent.

Before we start, we need to get a good understanding of the fan options available today. For the purposes of this article, we are categorizing ventilation fans into three categories. Definitions and illustrations are as follows.

FSF - Fixed speed fans are the most commonly used fans today and are ON/OFF. For example, a 54" fan running at 100% is rated at 25,000 cubic feet per minute (cfm) for a 0.10" static pressure. The fan cfms and cfm/watt are reduced as static pressure increases.

VFD - Variable-frequency drives, not a new technology. A VFD can be installed on FSF to reduce the speed of the fan to fine tune ventilation rates, to potentially save money on electricity and to provide a cost-effective method to convert current FSF on the farm to variable-speed capabilities compared to installing a manufacturer-designed turnkey variable-speed system. Most FSFs are not designed to be used with VFDs. Fans designed to be used with VFD have three-phase inverter duty type motors. Taking the same 54" fan with previously stated performance outputs as an example, the addition of the VFD to this fan would allow the fan speed to be reduced to lower the total cfm and increase the cfm/watt efficiency. Several manufacturers have a BESS-Lab test for a few fans fitted with a VFD. To use the stated values for cfm and cfm/watt, you must install the exact VFD with the exact fan. If you install a random VFD with a random fan, you will not be able to dial in your target cfms with confirmed numbers.

VSF - Variable-speed fans are designed by the manufacturer specifically to be used as true variable-speed fans for ventilation purposes. They typically are not belt driven and are designed to be used with new or existing controllers to vary the speed of the fan prop. A 54" variable-speed fan with a cfm range of 10,000-25,000, a speed range of 50% -100% and pressure range of 0.04-0.20" static pressure or more and improved cfm/watt data to go with it is an example.



Variable-Speed Technology Pros and Cons:

- Energy Savings: Are variable-speed fans more energy efficient than the typical FSF commonly used today? Pro: There are multiple brands of VSF on the market today, and each yields a different energy efficiency at different speeds and pressures. Con: The problem is that many of these fan technologies show attractive energy efficiencies (as much as 50% electrical savings) at slow speeds (below 50%) and low pressures (below 0.10"). To capture significant electrical energy savings, many fans simply cannot keep the fan shutters open at the fans' most efficient target speed, and this results in insufficient air exchange rates.
- Less Maintenance: Is there a maintenance benefit for converting to VSF from FSF? Pro: For many VSF technologies, the fans will have no belts or tensioners involved. They will require cleaning, fine tuning and maintenance with respect to the control systems. Con: If the system is a VFD added to FSF, there will be additional maintenance due to the VFD. If you are not comfortable troubleshooting and working with VFD or new VSF controller technology, then external maintenance (paid) of the equipment would need to be taken into consideration. Fan screens and shutters (butterfly dampers or equivalent) still require maintenance and cleaning.
- Constant Ventilation: Is a constant level of ventilation with VSF better for poultry than ON/OFF ventilation during minimum ventilation? Pro: Yes, there are improvements that can be captured when everything is working properly and the house can be operated in a constant mode. Constant mode with adequate air flow is showing better air quality, better moisture removal and better bird activity in the field. There may be environmental benefits like being able to "dial in" a ventilation rate that is between the traditional levels of staging fans ON/OFF. This sounds great, but no formal research has documented the actual benefits of constant over traditional ventilation ventilation methods in modern poultry houses. Con: In many cases, a producer must be on the farm to make the decision and to be able to capture that benefit, as the window of opportunity

may not be all day. We have witnessed growers using VSF when the birds were too small, the in-house temperatures were too low and the house was locked in VSF just to save electricity. In this situation, neither the birds nor the farmer benefited from variable speed,. It would have been better to be in FSF minimum ventilation mode and running a traditional ON/OFF cycle.

Field Experiences:

- 4. Visit #I: A VSF system was installed on a broiler farm, and the producer could not decide which lower level of variable-speed ventilation was best for his newly placed flock. The producer was having trouble balancing fan speed with the vent openings and pressure during minimum ventilation. The lowest level of VSF was too much air exchange for young birds in cold weather, and the producer had trouble maintaining adequate target temperature.
- 5. Visit #2: A VFD system was installed on a pullet house, and the producer was finding it difficult to keep the fan working properly. The local equipment installer could not repair or troubleshoot the problem. The grower complained that the VFD was too expensive to replace, and he could not justify the cost of maintaining the VFD system. This producer lost the use of one tunnel fan in each house as a result of the failed variable-speed application.
- Visit #3: Another VFD system was installed on a new pullet farm. When the minimum ventilation fan was called to come on, the shutters did not open while the fan was running. Sometimes the shutters did open but then quickly shut back once the fan dialed down to the lower speed. A VSF should not be installed on pullet houses because of the additional pressure strain on the fans from the varied air flow restriction caused by light traps. The VSF speed was too low at 60% and should only have been allowed to run at 80% or 100% to correct the problem. Unfortunately, no one knew how to make the adjustment to correct this problem.
- Visit #4: A new VSF was installed on new broiler farm, and this system was saving the producer money on electricity. The producer

- was sold on the idea that a low level of VSF ventilation was best for day-old chicks compared to ON/OFF cycles of traditional minimum ventilation, but the chicks inside this VSF house were huddled and obviously not comfortable. The producer was not comfortable adjusting the VSF controller to make the necessary adjustments. The adjacent house was using FSF in minimum ventilation and cycling ON/OFF in the traditional manner. The birds were comfortable and spread evenly throughout the house. Sometimes the lowest level of VSF will be too much air exchange for chicks, especially during cold weather.
- Visit #5: A new broiler farm had VSF installed for minimum and transitional ventilation only. The producer and company had studied VSF technology and were comfortable troubleshooting, adjusting settings working on the equipment. This producer only grows chickens for a living, so he is on the farm to make the necessary adjustments throughout the day and understands the limitation of the equipment. He explained to us how and when the system works and when it does not work and how he makes the necessary adjustments to correct the problems. The producer and company are both happy with the VSF system. The producer manages it for optimum bird performance first and electrical savings second. There are locations, companies and growers that can make it work successfully.

Areas for Improvement:

Negative Pressure: Pressure, fan speed and vent opening must work in unison to achieve bird comfort. VSF can work, but the vent doors must be coordinated to provide good in-house air flow. This can be difficult to achieve and keep coordinated. Low pressure (0.04" static pressure) and minimum ventilation does not work well because the air will typically land on the feed and water lines, chilling the birds. Most VSF fan manufacturers recommend operating VSF around 60% minimum and higher. This keeps fan shutters open and allows the fan to operate under at least a 0.10" static pressure or more (0.15" in wider houses) for proper air flow in minimum and transitional ventilation. Given that most

- houses use 0.10" as a minimum pressure and go up from there, if the manufacturer does not recommend using its variable-speed fan over a 0.10" static pressure, it should not be used.
- 10. Electrical Efficiency vs. Air Exchange: Maximum electrical efficiency is harvested at the fan's lowest levels of fan speed for many manufacturers. Low speed also means low air flow, low pressure and a low rate of air exchange. If this is what the house needs for environmental control, that's great. However, we never want to promote electrical efficiency using VSF when it will not provide the flock with the correct amount of air exchange. Too little or too much airflow is not satisfactory. We do not need to get into a situation where we are in a conflict of interest between doing what is right for the birds and saving money on electricity. The two must work together. Again, air flow and pressure for the optimum bird environment comes first, electrical savings second.
- II. Maintenance of VSF: When VFDs and other controls fail or are damaged, it often requires replacements that range in the \$300-\$600 range. Some systems require routine VSF calibration to ensure that the fans are dialed in, and the grower is getting the calculated CFMs through the house at each setting, percentage and stage. The addition of a VFD to an FSF increases the importance of belt maintenance and further complicates figuring fan output of each fan due to belt wear.
- 12. Coordinating VSF with FSF: There is often a steep learning curve required to make VSF and FSF work together. For example, if a VSF fan is running at 50% capacity and a FSF is programmed to come ON, the additional pressure may close the shutters of the VSF. This takes routine monitoring and adjustments to make sure it does not happen. Most VSF manufacturers have recommendations on how to stage fans, and this must be carefully studied and used in the field as a guide.
- 13. Using VSF With Existing Controllers: VSF controls can be added to existing farms and used with some existing controllers, but it might not work on all of them. Do not purchase a VSF system without consulting your fan manufacturer, company representative and controller manufacturer to

make sure the system will work successfully. These systems must be engineered to work together, and this take dedication, communication and troubleshooting involving the controller company, fan manufacturer, producer and company representative.

VSF can be adopted by producers and companies successfully. Those that succeed understand the pros and cons of the technology, how it works, how it can (and cannot) be used and how to adjust it and also know this technology's limitations and have good company technical support. Fan companies are spending time and money on newer VSF technology and fans that will be more efficient, more durable and easier to adapt in the future.

<u>Bottom Line:</u> At this point, VSF technology is still in the initial stages with respect to implementation and adoption for the masses into the integrated poultry industry of today in most broiler and hen houses. We are not recommending installing any type of variable-speed technology on pullet houses due to the varying restriction that light traps place on the fans. There may very well be a place for this technology in the future, but it is simply not for everyone at this point. We must not let electrical savings alone take priority over static pressure settings, adequate air exchange, moisture removal, bird comfort and other environmental control parameters.

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