

Agricultural REVIEW

Volume: 101 - No. 3

March 2026

Raleigh, N.C.

Chatham Co. Spring Ag Fest

Celebrating Chatham County's agriculture, forestry and natural resources, this free event is in its sixth year.

When: March 28, 10 a.m. to 3 p.m.
Where: Chatham County Agriculture & Conference Center,
What: Livestock arena events, 4-H kids zone, exhibitors and vendors, food trucks, cooking demonstrations.

Upcoming Ag Review ad deadlines

The following are deadlines to submit ads for the Agricultural Review newspaper.

April 1 for the May issue
May 1 for the June issue
June 1 for the July issue

Reminder: Advertisements for the Ag Review may now be submitted through an online portal.

Sellers and buyers can visit <https://apps.ncagr.gov/agreview/Pages/SubmitAnAd> and fill out the form with the details of the item they are selling or seeking.

Sellers: Please continue to be mindful of potential scams. Be wary of out-of-state buyers and checks.

Two companies named 2026 Exporters of the Year

Agriculture Commissioner Steve Troxler recognized Alliance One North America of Wilson and Universal Leaf North America of Nashville, NC as the 2026 Exporters of the Year at the annual Ag Development Forum in February. The forum is hosted by the N.C. Department of Agriculture and Consumer Services and is held in conjunction with the Southern Farm Show.

This award honors both companies for their achievements in international trade, market expansion and contributions to North Carolina's agricultural exports.

"This is the first time we have awarded two Exporters of the Year at the same time, but both companies' expertise in exporting North Carolina tobacco and helping make connections for our tobacco industry makes them well deserving of this honor," said Troxler. "As key players in the



From left, Universal Leaf North America President Clayton Frazier, Agriculture Commissioner Steve Troxler, and Alliance One North America Director of U.S. Procurement, Crop Science and Value Chain Matt Drake.

international tobacco arena, their insights, knowledge and contacts have been invaluable in helping us establish

and grow international marketing opportunities for N.C. grown and processed tobacco. These relationships

are crucial to our work."

Alliance One was formed in 2005 through a merger of DIMON Incorporated and Standard Commercial Corporation, who were both world leaders in tobacco processing with a combined 150-plus years of experience and expertise as a tobacco leaf supplier.

Alliance One is a trusted provider of responsibly sourced, independently verified, sustainable, and traceable products and ingredients. Alliance One, either directly or through its subsidiaries, contracts with around 300,000 tobacco growers across five continents, has operations in 20 countries, and sells into nearly 80 countries around the globe.

Matt Drake, director of U.S. Procurement, Crop Science and

(See Exporters, pg. 2)

Spotted lanternfly found in three more N.C. counties

The N.C. Department of Agriculture and Consumer Services has confirmed an established presence of the invasive spotted lanternfly (*Lycorma delicatula*) in Davidson, Rowan and Caswell counties, bringing the total number of counties where established populations of this destructive pest has been found in the state to seven.

Breeding populations have been found along Interstate 85 and I-285

corridors through Davidson County and as far south as Salisbury in Rowan County. It is likely these originated from populations established in Forsyth and Guilford counties. Separate infested areas were found in the Pelham area of Caswell County, which is connected by U.S. Highway 29 to infestations in Danville, Va. and Reidsville and Winston-Salem.

Survey and response efforts are

ongoing at the recently identified sites.

"NCDA&CS has ramped up surveillance statewide since this pest was first detected in Kernersville in 2022. That has led to additional findings of established populations in Caldwell and Rockingham counties in the spring of 2025, and now findings in Caswell, Davidson and Rowan counties," said Dr. Bill Foote, director of the NCDA&CS Plant Industry Division.

This pest has been rapidly spreading since it was first identified in Pennsylvania in 2014 and has now been found in all states that border North Carolina.

"Spotted lanternfly poses a serious threat to the state's wine and grape industries and can feed and cause damage to over 100 species of

(See Spotted lanternfly, pg. 2)

From the tractor



Commissioner Troxler

We have talked many times about the ongoing importance of biosecurity measures on farms, especially with the continuation of high pathogenic avian influenza outbreaks across the country and with cases in North Carolina.

But biosecurity is also important to our swine producers and other animal ag operators because we know animal diseases can accidentally be spread if a virus is picked up on shoes, clothing or equipment.

Porcine epidemic diarrhea is an example of a swine virus that is highly

by Agriculture Commissioner Steve Troxler

transmissible, but others include porcine reproductive and respiratory syndrome, and swine influenza.

We recently uploaded some biosecurity recommendations on the department's website for utility and service providers who may need to go on a farm with animal agriculture operations.

I would encourage poultry and swine operators to share this information with their utility and service providers to increase their awareness of special on-farm considerations to assist with the health of their livestock.

Recommendations for the utilities include:

- Contacting the farm or company ahead of time to verify the current status of a farm. If a farm is under quarantine, a utility visit may need to be postponed if possible.
- Follow the company or farm's biosecurity plan. Each animal production company will typically have a plan for anyone going on and off

the farm.

- Limit the servicing of infected or high-risk farms if possible. This could include estimated billing procedures that do not require an on-farm visit.
- Use disposable shoe covers while on commercial animal farms when possible.
- Wash your vehicle between farms.

These measures can help prevent the spread of animal diseases.

Animal agriculture accounts for about 74% of our state's farm cash receipts, so the health of these industries is important to our ag economy and our state's economy, too.

This information can be found on our NCDA&CS Veterinary Division website at ncagr.gov/divisions/veterinary/AvianInfluenza

From there, scroll down to the Biosecurity recommendations for utility and service companies link under Additional Resources.

Everyone needs to do their part to ensure strong biosecurity measures on farms to help protect our food supply.

Having conversations with your service providers can help them understand why taking these types of measures matter.

I want to remind folks about our upcoming Got to Be NC Festival May 15-17 at the State Fairgrounds in Raleigh. Go ahead and mark your calendars to make plans to attend.

The Got to Be NC Pavilion will showcase North Carolina food and beverage companies that are part of our Got to Be NC program. Visitors can sample and buy delicious N.C. products from over 75 vendors.

We have a daily tractor parade and a large display of antique farm equipment, agricultural exhibits, food, rides and games, so it's an event that is fun for the whole family.

Admission and parking is free with pay as you go for food, Pavilion entrance and carnival attractions.

I'd love to see you May 15-17 at the Got to Be NC Festival!

Agricultural Review

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Steve Troxler
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Crop This! An N.C. Ag Photo Contest

Do you want to have your photo featured in the Ag Review? We're starting a monthly photo contest to highlight agriculture across North Carolina. Through your images, we hope to tell the story of our state's diverse and rich agricultural roots.

Each month, we'll announce a theme focusing on a scene you might find on a working farm, agritourism destination or agribusiness venture. We challenge you to find or take a photo that fits the theme and submit it!

The winning photo of the month will be featured in an upcoming issue of the Ag Review and on our NCDA&CS social media channels. Each month's winner will also be considered for the 2026 Crop This! Photo of the Year. The Photo of the Year winning photographer will receive a prize pack of NCDA&CS and Got to Be NC goodies!

April theme: First Sprout of Spring - Baby Farm Animals

Deadline for submission: March 15
 Send your photos to us at ncdablog@gmail.com. Include your name, county and a brief description of your photo.

Original, amateur photography only. Open to North Carolina residents. By submitting a photo, you grant permission for the N.C. Department of Agriculture and Consumer Services to reproduce, publish and use your photo in department publications, online and on social media.

Looking ahead...
 May theme: Generations on the Farm, deadline April 15
 June theme: We all Scream for N.C. Ice Cream, deadline May 15
 July theme: Farmers Market Finds, deadline June 15



Spotted lanternfly (Continued from pg. 1)

plants including fruit trees, maples and other common plants. They lack effective natural enemies in the U.S. and populations of this pest grow quickly, often becoming a nuisance." Foote said.

These insects often hitchhike to new areas on vehicles and equipment stored outdoors and can be moved any time of year. The egg masses they lay in autumn survive harsh winters to hatch in early spring – sometimes in new locations if moved by an unsuspecting person.

"Spotted lanternflies like to feed high in the treetops, but they are not good at telling the difference between a truck tire and a tree trunk," said Amy Michael, entomological programs manager. "Taking a moment to check your person and vehicle for insects or egg masses and removing any you see goes a long way in preventing lanternflies from spreading. Squishing or scraping now can save you a lot of pest control later."

Surveys conducted by the Plant Industry Division are expected

to continue year-round in infested counties to determine if the pest is in additional locations. Treatments for spotted lanternflies are conducted by licensed NCDA&CS operators from April through October each year. Sites that have a high likelihood of spreading the pest to new areas, such as commercial properties and lots under development, are prioritized for treatment. Residents seeking management recommendations are encouraged to reach out to their county's Cooperative Extension Office at www.ces.ncsu.edu/local-county-center/.

"Early detection and rapid response are critical in the control of spotted lanternfly," Foote said. "Increased public awareness and reporting allowed NCDA&CS to find and respond to these new populations swiftly and efficiently in 2025."

If you see a suspect spotted lanternfly or spotted lanternfly egg mass in North Carolina, please submit a picture through the online reporting tool at www.ncagr.gov/SLF.

Exporters of the Year (Continued from pg. 1)

Value Chain, accepted the award on behalf of Scott Gupton, president of Alliance One North America.

Universal Leaf Tobacco North America also has deep roots in the tobacco industry. The global manufacturer who sources, processes and supplies tobacco worldwide, was founded in 1918 in Richmond, Va., and has its regional headquarters in Nashville, NC. Its modern, ISO-certified facility in Nash County is one of the largest and most technologically advanced tobacco processing sites in the world.

Universal Leaf has operations in over 30 countries and on five continents, which provides a worldwide network for tobacco. The company serves as a link between farmers and manufacturers, sourcing and processing leaf tobacco to the exact specifications of their customers. It supplies four major tobacco varieties that include flue-cured, burley, oriental and dark tobacco.

Clayton Frazier, president of Universal Leaf North America, accepted the award.

"Tobacco remains an important crop in North Carolina, with our state leading the country in tobacco production and tobacco being the top crop produced in the state," Troxler said. "We are fortunate to have offices for both of our honorees in North Carolina where I happen to believe the very best tobacco is grown."

Smith receives Excellence in Ag award

The Tobacco Farm Life Museum honored David Smith, Chief Deputy Commissioner of the N.C. Department of Agriculture and Consumer Services, with the Excellence in Agriculture Award at the 21st Annual Breakfast with the Commissioner held at the N.C. State Fairgrounds during the Southern Farm Show.

"Over the years I have had the honor of presenting this award to dozens of leaders and visionaries. Men and women that have been the backbone of our ag industry," said Agriculture Commissioner Steve Troxler. "This year I have the honor to present the award to an individual that is greatly deserving and also plays a critical role at the N.C. Department of Agriculture and Consumer Services."

As Chief Deputy Commissioner, Smith is responsible for the core business functions of the department which includes the N.C. State Fair, Agricultural Statistics, Budget and Finance, Property and Construction, Internal Audit, Farmland Preservation, Internet Technology, Human Resources, and Legislative Liaison.

Smith has worked for NCDA&CS for more than 53 years making him the official institutional memory of the Department. He remembers Hurricanes Fran and Floyd and other storms that have so greatly impacted the industry over the years. He's been through droughts, fires, floods. Smith has literally seen it all.

With the appropriation of funds to assist farmers following Hurricane Helene and other statewide crop disasters in 2024, Smith was tasked with leading the Department's disaster relief efforts. The relief program will be on going for many months because, in addition to the state funds, the USDA has awarded the Department a Block Grant to assist farmers in the Helene-damaged counties with payments not covered by traditional



David Smith, NCDA&CS Chief Deputy Commissioner, was honored in February.

USDA programs. Smith will also be heading up the effort to distribute federal funding.

"This relief program is the largest ever undertaken by the department, far surpassing Hurricane Florence is size and scope," said Troxler. "Farmers in all 100 counties have received payments from the \$448 million state disaster assistance fund."

Smith and the Ag Disaster Assistance team are still in the process of sending out state disbursements and expect to begin work shortly on the \$221 million block grant program.

He was raised on a tobacco farm near McGee's Crossroads in Johnston County. It was a typical tobacco farm for that time. Four primers, tractor drivers, handers and loopers. At the end of the day, the tobacco was hung in a barn for curing. The process was a week after week process until the crop was harvested and sold. The highlight of the process was going to the tobacco market for the traditional chant of the auctioneer. At least that was the highlight for any younger person, not immediately involved in the hard reality of the sale price offered by the buyers.

After graduating from N.C. State University in 1972 with a degree

in Biological and Agricultural Engineering, Smith began his career with the Department in August 1972 as a staff engineer in the Engineering Section of the Marketing Division. Now that section has transitioned to a whole separate Division—Property and Construction. In 1976, he was appointed to head the LP-Gas Inspection section in the Standards Division. In 1979, he was named the director of the Standards Division. In January 2001, he was appointed Assistant Commissioner of Agriculture and in 2004, he was appointed Chief Deputy Commissioner, his current position.

"David's work in Agriculture has made him an invaluable resource to the department, other state agencies, industry, academic leaders and farmers," said Troxler. "I know that over the years many of you have worked with him on projects and would agree that he is irreplaceable."

The breakfast also recognized Frank Scott of Scott Brothers Farm in Kenly with the Innovation Young Farmer of the Year award. Both awards are sponsored by Farm Credit Associations of North Carolina.

Diversifying specialty crop production through research

Specialty crops are a large part of our state's agriculture industry, contributing to the diversity that exists across the state. From the mountains to the coast, specialty crops are being researched and developed across our state's network of 18 research stations. In fact, Hunter Barrier, superintendent of the Horticultural Crops Research Station in Clinton and coordinator of the New & Emerging Crops Program, works with more than 30 different crops each year! In his role, Barrier has a front row seat to all the new and upcoming research across our state's number one industry.

Specialty crops are defined as high-value crops grown for specialized markets. According to the U.S. Department of Agriculture, this includes "fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)." Barrier would also like to add specialty grain crops to that definition. "While we typically think of specialty crops as horticultural crops, I like to expand the definition to include specialty grains," he said. "There are N.C. growers producing specialty grains such as heirloom rice, special rye varieties, barley for the malting industry, hemp grain and sesame." Specialty crops are used for food, medicinal purposes, or aesthetic purposes.

Many of the 18 research stations across the state are currently studying a variety of specialty crops, some overlapping and others specialized to certain areas of the state. "Our mission at the Research Stations is to provide a platform for university faculty, federal government, extension, regional agronomists, and private industry collaborators to conduct research that will make farming more efficient, profitable,

and sustainable," Barrier said. "From Christmas trees, apples, and ornamental crops in Western N.C., to small fruits and tomatoes in the Piedmont, and vegetable crops and muscadines on our coast, our stations are supporting many different specialty crops every day." So, what's currently being researched at the Horticultural Crops Research Station in Sampson County? We are so glad that you asked! For more than 50 years, the Horticultural Crops Research Station in Clinton has been a facility for agricultural research and innovation. Each year, approximately 30 different crops are grown at the station, with nearly 100 individual research trials being conducted with those crops. "Our research portfolio changes as the needs of the industry, the project leaders that we serve, and funding priorities change, but our focus areas are plant breeding, cultural management, weed science, the IR-4 Project, and new and emerging crops," Barrier said. Some examples of specialty crops currently being studied at the station include: sweet potatoes, cucumbers, melons, broccoli, tomatoes, carrots, redbud trees, bell peppers, sesame, fiber hemp and floral hemp. "Historically, the station has also worked with stevia, muscadines, blueberries, and at one time, Christmas trees," said Barrier. "There is a lot of neat research going on in Clinton. I invite people to stop by and check out all the research being conducted here."

In recent years, one specialty crop that quickly grabbed the public's attention is purple carrots. From then until now, the interest in purple carrots, and other crops with the same properties, has skyrocketed as producers and businesses alike look for ways to create natural food colorants. "Purple carrots contain a compound called anthocyanins, which are responsible for red, purple and blue colors that can



Above: Stevia research at the Horticultural Crops Research Station in Clinton. Right: Ornamental sweet potato breeding.

be extracted from the carrots and used to make natural food coloring," said Barrier. "The natural red coloring from a purple carrot can be used to make a natural red food colorant and replace synthetic, petroleum derived products, like Red 40." A hot topic in recent years across the culinary industry, Red 40 is a dye that has been determined to cause potential long-term health risks to those who ingest it. As many producers look for ways to remove the dye from their products, they are looking for natural ways to keep the bright coloring and eliminate risk to consumers. That's where specialty crops like purple carrots, beets and others come in. "There are many factors that can impact the quality of the colorant that is produced, which is what we are studying currently at the research station," Barrier said. "Things such as genetics, growing



environment, soil types, planting dates, management practices, and disease control." An exciting piece of news that Barrier shared is that a natural food colorant company has recently built a facility in our state! "I think this presents a lot of opportunities for our state's agriculture industry," he said. "It will be interesting to see where research and development take us in the months and years to come." The purple carrot research project, still being conducted today, was one of

the first projects funded through the New and Emerging Crops Program.

In 2018, the New and Emerging Crops Program was established at the NCDA&CS when legislative language allowed up to half of the funds appropriated for the Bioenergy Research Initiative to be invested in new and emerging crops research. It is a state-funded grant program whose mission is to identify potential

(See Research, pg. 4)

10 stores across North Carolina fined for price-scanning errors

The N.C. Department of Agriculture and Consumer Services' Standards Division fined 10 stores in nine counties for price scanning errors during the final quarter of 2025.

"We continued to see fewer price scanner errors in 2025, which is good news for shoppers," said Agriculture Commissioner Steve Troxler. "We continue to check prices in retail locations, which hopefully means fewer surprises at the register and more confidence that consumers are paying exactly what they expect. It's always a good idea to pay attention to the advertised prices."

The department conducts periodic, unannounced inspections of price-scanner systems in businesses to check for accuracy between the prices advertised and the prices that ring up at the register. If a store has more than a 2% error rate on overcharges, inspectors discuss the findings with the store manager and conduct a more intensive follow-up inspection later. Undercharges are also reported, but do not count against a store. Consumers who would like to file a complaint about scanner errors they encounter can call the Standards Division at 984-236-4750.

Penalties are assessed if a store fails a follow-up inspection. In addition to the penalties paid, the store will be subject to reinspection every 60 days from the last inspection until it meets the 2%-or-less error rate. Additional penalties may be assessed if a store fails reinspection.

Following are civil penalties recorded in the fourth quarter of 2025:

(Brunswick County) Dollar General at 1745 Southport Supply in Bolivia paid three fines totaling \$9,300 after failing three inspections in the second half of 2025. A July inspection found an error rate of 7.67% for 23 overcharges on a 300-item lot. The store was fined \$2,600 following that inspection, which it paid in December. A follow-up inspection in September found an error rate of 10% for 30 overcharges on a 300-item lot. The store was fined \$3,175 following that inspection, which it paid in November. A follow-up inspection in November found an error rate of 8% for 24 overcharges on a 300-item lot. The store was fined \$3,525 following that inspection. The store will be reinspected.

(Catawba) Rural King at 508 10th St. NW in Conover paid a \$5,000

fine following two failed inspections. An initial inspection in September found eight overcharges on a 50-item lot – an error rate of 16%. A follow-up inspection in October found an error rate of 6.33% for 19 overcharges on a 300-item lot. The store passed inspection in December.

(Gates) Family Dollar at 1001 U.S. Highway 158 East in Sunbury paid a \$4,500 fine after failing two inspections. An initial inspection of the store in September found seven overcharges on a 50-item lot – an error rate of 14%. The store was reinspected in October and found to have an error rate of 11% for 33 overcharges on a 300-item lot. The store passed inspection in December.

(Hertford) Family Dollar at 1216 East Memorial Drive in Ahsokie paid \$8,525 following three failed inspections in 2025. An initial inspection of the store in September found seven overcharges on a 50-item lot – an error rate of 14%. A follow-up inspection in October found an error rate of 8.67% for 26 overcharges on a 300-item lot. The store was fined \$4,170 following that inspection, which it paid in November. A follow-up inspection in December found an error rate of 8.67% for 26

overcharges on a 300-item lot. The store was fined \$4,355 following that inspection, which it paid in December. The store will be reinspected.

(Lincoln) Circle K at 1627 East Main St. in Lincolnton paid a \$1,025 fine in November following a failed October inspection. The inspection found a 5% error rate for five overcharges on a 100-item lot. The store passed inspection in December.

(Mecklenburg) Circle K at 4923 South Tryon St. in Charlotte paid \$1,975 in October after failing a September inspection. The inspection found a 7% error rate for seven overcharges on a 100-item lot. The store passed inspection in December.

(Mecklenburg) Family Dollar at 4500 North Tryon St. in Charlotte was fined \$1,860 following two failed inspections. An initial inspection in September found six overcharges on a 100-item lot. A follow-up inspection in October found an error rate of 4.67% for 14 overcharges on a 300-item lot. The store will be reinspected.

(Richmond) Dollar General at 3654 North U.S. 220 in Norman paid \$885 after failing an inspection in November. An initial inspection of the store in July found an error rate of 10% for

5 overcharges on a 50-item lot. A follow-up inspection in November found an error rate of 3.67% for 11 overcharges on a 300-item lot. The store passed inspection in January.

(Transylvania) Dollar General at 6751 Greenville Highway in Brevard paid a \$3,715 fine after a failed inspection in June found 28 overcharges on a 300-item lot – an 9.33% error rate. The store was reinspected in October and found to have an error rate of 9% for 27 overcharges on a 300-item lot. The store paid a \$4,055 fine following that inspection. The store passed inspection in January.

(Watauga) Staples at 1275 Blowing Rock Road in Boone paid \$4,670 in fines following three failed inspections. The store failed an initial inspection in June, and a July reinspection found an error rate of 19.33% for 58 overcharges on a 300-item lot. The store was fined \$3,645 following that inspection. A September reinspection found 11 overcharges on a 300-item lot – an error rate of 3.67%. The store was fined \$1,025 following that inspection. The store passed inspection in November.

Horse Events

Southeastern Ag Center, Lumberton 910-618-5699

March 2.....Horse and Tack Auction. Contact Brad Stephen, 828-390-0878.
 March 6-8.....Carolina Ranch Horse. Contact Holly Ball, 252-361-1305.
 March 13-15..JR Rodeo. Contact JR, 828-713-3006.
 March 20-22..United Horsemen of the Carolinas. Contact Nancy Barbee, 919-619-1786.
 April 6.....Horse and Tack Auction. Contact Brad Stephens, 828-390-0878.
 April 10&11..Four Beats for Pleasure. Contact Roey Mobley, 910-540-8785.

Sen. Bob Martin Agricultural Center, Williamston, 252-792-5111

March 6-8.....Hoppin' into Spring. Contact Travis Alford, 252-450-5438, or Richard Isley, 336-908-3302.
 March 13&14 NC Barrel Bonanza. Contact Fred Smith, 252-450-9752 or 252-883-1641.
 March 19-22..SERHA Slide into Spring. Contact Heather Maxwell, info@serha.org.
 April 2-5Martinganza Quarter Horse Show & Futurity. Contact Susan Daniels, 919-894-0600.
 April 11&12..NCHJA "C" Horse Show. Contact Emily Bates, 252-378-4474.
 April 25&26..April's Just Horsin' Round Open Show. Contact Beth Tew, btew@nc.rr.com.

Gov. James B. Hunt Jr. Horse Complex, State Fairgrounds, Raleigh, 919-821-7400

March 6-8.....Triangle Farms Indoors I "C". Contact Joan Petty, 919-556-7321.
 March 12-15..Raleigh Indoors Spring Classic "A". Contact Joan Petty, 919-556-7321.
 March 18-21..Raleigh Spring Premier. Contact Liz Holmes, 919-672-3741.
 March 22.....Triangle Polo Club Charity Event. Contact Ashley Boswell, 704-806-5515.
 March 27-29..Triangle Farms Spring Outdoors I "C". Contact Joan Petty, 919-556-7321.

***Show dates are subject to change. Call ahead to confirm.**

Research

(Continued from pg. 3)

new crops and value-added products. "The New and Emerging Crops program provides the agricultural research, market support, and grower education needed to make these crops economically viable," Barrier said. "Since its inception, the program has invested in over 50 projects researching a wide range of crops, including carrots, seedless muscadines, goumi berries, sesame, and medicinal herbs." In 2024, the scope of the program evolved again to include ag-related technologies. The program is currently in the process of adapting its brand and expanding its scope to account for the change.

"The program recently rebranded to NCAIR, which stands for North Carolina Agriculture Innovation and Research Program," said Barrier. "As such, it will invest in a wide range of agricultural research, with new and emerging crops still serving as an important component."

Local farmers can get involved with both the New and Emerging Crops program as well as crop research in general in a variety of ways. First, Barrier suggests attending as many field days throughout the year as you can.

"North Carolina State University and N.C. A&T State University in collaboration with our Research Stations offer many field days each year," he said.

"These field days are excellent opportunities to learn about new crop production and/or see new technologies in the field." Another way farmers can get involved is to get to know their local Extension agent, crop Extension specialist, and NCDA&CS Regional Agronomist. "We are all here to serve the agriculture industry, so we need to get to know our farmers," Barrier said. "Those partnerships present opportunities for on farm research collaboration, research grants and more."

Specialty crops across our state offer many opportunities to farmers, like profitability and the ability to spread risk, as well as bolster our state's number one industry through diversification.

"Part of what makes our agriculture industry so strong is diversification, which is exactly why these specialty crops are so important," said Barrier. "In fact, specialty crop production coupled with traditional row crops, tobacco, livestock and forestry make North Carolina the third most agriculturally diverse state in the U.S." We are so thankful for all our research stations that continue to study these crops.

In fact, if you find yourself near a research station, you should stop by and talk to the staff members, like Barrier, who are more than willing to help you learn more about our state's agriculture industry.

Bucolic Briefs

The Equestrian Exchange Tack Consignment Spring Sale is scheduled for March 26-29 at the new Randolph County Agricultural Center at 1880 U.S. Hwy 64 East in Asheboro. Same sale as previously held at the N.C. State Fairgrounds in Raleigh relocated due to ongoing construction.

The event offers a space to buy and consign equestrian-related items: saddles, tack, driving equipment, show clothing, barn supplies, carts, horse trailers and more.

Consignors may drop off priced, tagged items March 24 from 1 to 8 p.m., or March 25 from 10 a.m. to 4 p.m. Special premier shopping night March 26, 4 to 9:30 p.m. - \$10 admission, 12 and under free. Shopping March 27 & 28, free admission, 10 a.m. to 8 p.m. Free admission March 29, 11 a.m. to 9 p.m. with many items discounted on the final day.

Payments accepted: cash, NC checks with two forms of identification approved, credit cards with 3% fee per card transaction. Consignors earn 70%. Consignors pick up unsold items March 31 from 1:30 to 8:30 p.m. Volunteers needed, all ages, March 23 through April 2. Volunteers shop before consignors, consignors shop before public. Visit www.EquestrianExchange.com.

Consignors pick up unsold items March 31, 1:30 to 8:30 p.m. Security enforced on site. Only service dogs allowed. Free parking. Contact Lynn Beeson at 336-362-6248 or Tanya Wright at 540-977-1950 for more information.

Hand Clutch Tractor Association of Moore County to hold Antique Tractor Show June 19 & 20 at the Carthage Fairgrounds. Antique tractors, lawnmowers, antique cars and trucks. Bring your antique. Pedal pull for all ages. Under 12, free admission. \$5 admission, 12 and older. Food vendors on site. Contact Misty Atkinson, 910-340-5455, or Jamie McKenzie, 910-528-2293.

The 2026 N.C. Mountain State Fair is accepting applications for food and commercial vendors, heritage crafters, wholesale vendor suppliers and Got to Be NC members for the annual fair which runs Sept. 11-20 in Fletcher.

The deadlines to submit applications range from April 28 for outside food vendors to July 24 for outside and inside vendor spaces, outside and inside Got to Be NC food vendors, inside Got to Be NC non-food vendors and wholesale vendor suppliers. The deadline to apply to be an inside food vendor or a heritage crafter is June 26.

Applications can be found at www.eventeny.com/events/north-carolina-mountain-state-fair-2026-22260/.

Donate your farm and/or farm equipment to The Veteran's Farm of NC, to use in teaching veterans how to farm. All donations are tax deductible. Contact Robin Tutor at 919-721-2039 or robin@vfnc.org.

12 research projects receive funding

Twelve agricultural research projects based in North Carolina are benefiting from \$1 million in grants from the N.C. Department of Agriculture and Consumer Service. The projects, awarded through the department's Project Management section, aim to boost new crop production or involve innovative research to advance the agricultural economy in the state.

Since 2013, the General Assembly has allocated funding for an agricultural research grant program, beginning with a focus on bioenergy to combat drastically rising prices of conventional fuels. The scope expanded to include new crops and agricultural innovations.

The grants help researchers identify potential new crops, value-added products and agricultural innovations. That funding for agricultural research also supports marketing and education necessary to make the new crops or products commercially viable and profitable for North Carolina's growers and agribusinesses.

"Investing in ag research is money well spent," said Agriculture Commissioner Steve Troxler. "Every dollar invested returns around \$20, which is significant. I'm also proud that our research stations collaborate with these researchers to provide a platform for most if not all of these projects."

Following is a list of grant recipients, along with the title and focus of each project awarded through the 2025-2026 funding cycle.

- Dr. Lina Quesada, NC State University, "AI Fungicide Screening for Rapid Response" to develop an AI-powered imaging platform to rapidly screen fungicides against emerging plant pathogens, dramatically shortening response time during disease outbreaks affecting North Carolina crops.
- Dr. Andrew Weaver, NC State University. "Antibodies and Efficiency: The future sheep" to create new genetic selection metrics for immune fitness and feed efficiency to improve the profitability and sustainability of sheep production in North Carolina.
- Dr. Inga Meadows, NC State University, "Genome-edited peppers to resist Phytophthora" to use a novel virus-based CRISPR delivery system to develop pepper varieties with durable resistance to Phytophthora root rot, a major threat to North Carolina pepper production.
- Dr. David Suchoff, NC State University, "Hemp grain and seed production 2025-2026" to refine grain hemp production practices and develop locally adapted fiber hemp seed systems to reduce costs and increase profitability for North Carolina hemp growers.
- Dr. Justin Whitehill, NC State University, "Micro-grafted disease resistant Fraser fir" to develop commercial-scale production of disease-resistant micro-grafted Fraser fir to protect North Carolina's Christmas tree industry from Phytophthora root rot.
- Dr. Michael Bradshaw, NC State University, "Novel Antibiotics for North Carolina Agriculture" to discover and characterize new fungal-derived antibiotics to combat antimicrobial resistance and improve livestock health across North Carolina agriculture.
- Dr. Lok Pokhrel, East Carolina University "Novel Methods for Improving Honeybee Health" to evaluate a new targeted miticide delivery system combined with nutritional supplementation to improve honeybee health, survival and overwintering success in North Carolina.
- Dr. Luke Gatiboni, NC State University, "Optimizing Fertilizer Recommendations for Economic Return" to use long-term soil fertility data and machine learning to develop fertilizer recommendations that maximize farmer return on investment rather than yield alone.
- Dr. Thomas Ranney, NC State University, "Pawpaw Innovations for Expanded Commercial Markets" to develop improved pawpaw varieties and production practices to overcome current limitations and expand commercial and specialty markets in North Carolina.
- Dr. Jeanine Davis, NC State University, "Protecting the NC Hops Breeding Germplasm" to safeguard newly developed North Carolina-adapted hop varieties through micropropagation to ensure long-term preservation and clean plant availability for growers.
- Dr. Chenhan Xu, NC State University. "Multi-spectral Imaging for Data-driven Apple Production" to create an AI-enabled multi-spectral imaging system to reduce labor and improve decision-making for pruning and fruit thinning in North Carolina apple orchards.
- Dr. William Sagues, NC State University, "Securing Domestic Battery Materials from Biomass" to produce battery-grade graphite from North Carolina biomass, strengthening domestic supply chains and positioning the state as a leader in renewable battery materials.

High elevation, impact: Inside the Upper Mountain Research Station

Perched more than 3,200 feet above sea level in Ashe County, the Upper Mountain Research Station occupies a place unlike any other in North Carolina's statewide research network. As the highest-elevation station operated by the N.C. Department of Agriculture and Consumer Services, Upper Mountain provides a climate, growing conditions, and research environment that simply cannot be replicated elsewhere in the state.

Established in 1944, the 454-acre station plays a critical role in advancing agricultural research in the mountains while also generating insights that benefit farmers across North Carolina. From Christmas trees and livestock to pumpkins, turfgrass and even aquatic weed research, the work happening at the Upper Mountain Research Station reflects both the diversity and the purpose of the state's research station system.

A Superintendent Shaped by the Station

John Council stepped into the role of superintendent at Upper Mountain in early 2025, but his connection to the station runs much deeper. Before taking the helm, Council spent 13 years on-site as the crops unit manager, building firsthand experience with the station's research programs, land base and community relationships.

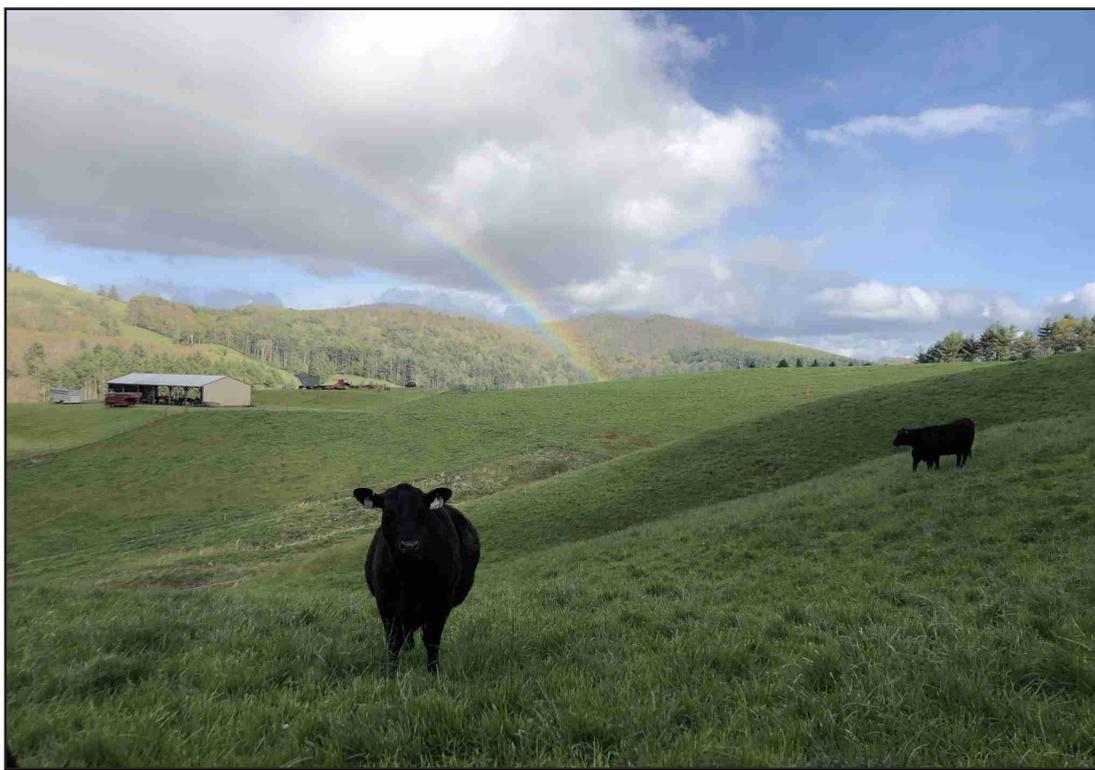
Originally from southeastern Virginia, Council came to Upper Mountain after working in private-sector forestry research. That background, combined with more than a decade at the station, gives him a practical perspective on the station's role.

"One of the main benefits of what we do as research stations is that we get to do the things farmers really couldn't afford to do without the risk of making a mistake and losing a crop," Council said.

That philosophy — testing ideas so producers don't have to absorb the risk — underpins much of the work at Upper Mountain.

A Trademark in the Mountains: Christmas Trees

If Upper Mountain has a signature, it is Christmas tree research. Located in the heart of the nation's leading Christmas tree-producing county,



The Upper Mountain Research Station is located in Ashe County.

the station has become one of the most important centers for Fraser fir research in the United States.

The station hosts the highest concentration of Fraser fir research in the country, including seedling and transplant trials, post-harvest quality studies and long-term genetic improvement efforts. A Fraser fir seed orchard, established using advanced genetics from the N.C. State University Christmas Tree Breeding Program, represents decades of work coming to fruition.

In 2025, the station recorded its most significant cone harvest since the orchard was established — the first year with a truly meaningful volume of seed. Once fully operational, the Tobacco Trust Fund Christmas Tree Seed Center located at Upper Mountain will become the only source of "certified" Fraser fir seed in the United States, with commercial availability expected later this decade.

The station also supports work on alternative species, including Virginia pine, which is especially important for growers in parts of the state where Fraser fir cannot thrive.

Expanding Crops and Livestock Research

While Christmas trees may be

the most visible program, Upper Mountain's research portfolio extends well beyond evergreen needles.

Pumpkin research has emerged as a growing focus, with more than six acres of trials conducted in recent years. These studies examine variety performance, fertility, spacing and disease management, often in coordination with trials conducted at lower-elevation stations. The side-by-side comparisons help researchers evaluate how varieties respond to dramatically different climates.

Warm-season turfgrass research is another area that may be a surprise. Grasses typically associated with warmer regions, such as St. Augustine, zoysia, and centipede, are grown at Upper Mountain.

"We can do cold tolerance trials here that are very beneficial, especially with the turf grass research. That's mainly what they're looking at, and not because they want to grow those grasses here, but because, if they will survive the cold here, then they shouldn't have a problem anywhere else in the state," Council said.

Livestock research also plays a central role. The station maintains a beef cattle herd year-round, with summer numbers exceeding 200

head. Researchers conduct grazing and forage management studies designed to improve animal health and efficiency in pasture-based systems. Recent additions include Katahdin hair sheep, which are being used in feed conversion efficiency studies that measure how effectively animals convert feed into body weight.

The station's cool climate also supports high-quality forage production, making it an ideal location for summer livestock research.

Research Beyond the Field

Some of Upper Mountain's work reaches beyond traditional crop and livestock studies. In partnership with N.C. State University, the station hosts aquatic weed research aimed at understanding and controlling invasive plants that threaten reservoirs and water supplies. Using tanks and simulated stream systems, scientists study plant biology and management strategies that protect clean water — a public benefit that extends well beyond agriculture.

The station is also the only location in the United States with a planted, range-wide seed source of Carolina hemlock, preserving genetic material critical to long-term forest health research.

Why Elevation Matters

Upper Mountain's elevation is not just a statistic. but it is the foundation of its research value. The colder climate allows scientists to conduct cold-tolerance trials that cannot be replicated elsewhere in the state. In many cases, results generated at the station inform recommendations statewide.

"We can do work here that no other research station can," Council said.

That geographic diversity is exactly why the Research Stations Division operates facilities across the state, from the mountains to the coast, ensuring that research reflects North Carolina's full range of growing conditions.

A Community Partner

Beyond research, Upper Mountain plays an active role in the Ashe County community. The station hosts field days, workshops and training events, including Farm Safety Day for local high school students. Staff regularly provide tours for producers, students and community groups.

Each year, the station serves as a hub for the Trees for Troops program, where donated Christmas trees are collected and shipped to military bases nationwide. The station also supports food assistance efforts and has played key roles in disaster response during floods and droughts.

Part of a Statewide Mission

Upper Mountain Research Station is one of 18 facilities operated by NCDA&CS to support agricultural research statewide. Together, these stations serve as platforms for innovation — helping make farming more efficient, productive and profitable while maintaining a sound environment and delivering safe, affordable products to consumers.

At Upper Mountain, that mission is carried out at high elevation, where cold winters, steep terrain and unique conditions generate insights that resonate far beyond the mountains.

In the end, the work being done on the station reflects the core purpose of North Carolina's research station system: testing tomorrow's solutions today, so farmers across the state can move forward with confidence.

Midway Events Center at N.C. State Fairgrounds takes shape



The new Midway Events Center at the N.C. State Fairgrounds in Raleigh is taking shape! This two-story food hall and events center is located in the heart of the fairgrounds and will house eight permanent food stalls and four fair vendor stalls. The center will also provide ample indoor and outdoor seating options.

Construction is ongoing and expected to be completed ahead of the 2026 N.C. State Fair, which runs Oct. 15-25.

Fee increases announced

As of March 2, the N.C. Department of Agriculture and Consumer Services Agronomic Services Lab has raised some of its testing fees, with most increases ranging from \$3 to \$5 depending on test.

Soil testing remains free for North Carolina residents outside the peak season which runs late November or early December through March. In the fall of 2026, the peak-season rate will increase from \$4 to \$5 per sample. The new fee schedule can be found at www.ncagr.gov/agronomic-services-nc-grower-fee-schedule/open.

The fee increases are intended to support program operations and enable the lab to fund a receipt-supported position in the nematode section, said Dr. David Hardy, director of the Agronomic Services Division. The new rates mark the first increases of some lab service fees in 20 years.

"The increased fees will be invested back into the lab operations, upgrading older equipment with newer technology that will be able to more efficiently provide analytics and testing data. The end goal is to increase efficiency to better assist growers and landowners who use these services," said Agriculture Commissioner Steve Troxler. "In addition to those investments, the fees are expected to help cover some of the rising costs of laboratory supplies and chemicals."

The fee increases were approved by the Board of Agriculture following a 30-day public notice period ending in September and finalized by the Rules Review Commission on Jan. 29.

North Carolina growers and citizens rely heavily on NCDA&CS Agronomic Services, which provides soil testing, nematode assay, and analysis of plant, waste, solutions and greenhouse soil or other growing media. Commercial growers and the agricultural community also depend on the expertise of the division's 12 regional agronomists statewide.

Last year, the Agronomic Services labs analyzed 338,708 samples and issued 47,400 client reports, with science-based and environmentally conscious recommendations.

\$7.6 million in grants awarded to Hurricane Helene-impacted counties

Agriculture Commissioner Steve Troxler recently announced \$7.6 million in grants focused on atmospheric controls for agricultural products to benefit farmers and growers in counties affected by Hurricane Helene.

The purpose of the N.C. Agriculture Manufacturing and Processing Initiative (NCAMPI) is to fund and promote the establishment of value-added agricultural manufacturing and food processing facilities in North Carolina.

Ten projects totaling \$7.6 million in grants were approved. Six of those projects are related to apple production and account for \$6.7 million of the grant total. Four additional projects focused on pharmaceutical-grade botanicals, Christmas tree production improvements and post-harvest and cooling capacity.

"This grant will help modernize local processing facilities, strengthen supply chains and improve opportunities for our farmers," said Agriculture Commissioner Steve Troxler. "This initiative is all about keeping value-added agriculture right here in North Carolina. By expanding manufacturing and food processing capacity, we are helping our farmers and local communities who are still recovering from the devastating impacts of Hurricane Helene."

NCDA&CS administers the program with funding provided by the N.C. General Assembly.

Following are the January 2026 grant recipients and projects in alphabetical order:

- Apple Ridge Farms, Henderson County: upgrades to a packing line and added cooling capacity
- Apple Wedge Packers & Cider, Henderson County: four atmospheric coolers
- Blue Ridge Pure, Henderson County: expansion of cold storage and processing space for cider
- Encompass Farm, Rutherford County: post-harvest space and cooling capacity
- Flat Rock Cider Company, Henderson County: atmospheric cooler
- Flavor 1st Growers & Packers, Henderson County: cooler-related expenses
- Flavor Full Farms, Henderson County: three controlled-atmosphere rooms
- Foster USA, Forsyth County: cooler expansion and scrubber facilities
- Smokey Hollar Tree Farm, Alleghany County: germination and cold storage facility
- WH Farms, Forsyth County: extraction equipment

For the latest information on NCAMPI, go to www.ncagr.gov/divisions/marketing/ncampi.

Classified Advertising

General rules for advertising in the Ag Review

- Advertising is a free service to North Carolina residents only. A North Carolina address and phone number are required for submitting ads.
- The editor or advertising manager reserves the right to accept or reject any ad and to edit ads to meet requirements or space limitations.
- Priority will be given to ads that are strictly related to agriculture.
- Advertisements are limited to 30 words or less. This includes first & last name of advertiser (NOT farm name), complete address and phone number w/area code.
- Ads will be published in one issue only. Ads that are to be repeated must be submitted for each issue.
- Only two ads per family per issue will be accepted. Family refers to all individual sharing the same residence, mailing address or home telephone number. These ads must be under separate classifications.
- All "For Sale" and "For Rent" ads must have a price or price range. Stud service must also include a fee.
- The ad deadline is the first working day of the month prior to publication at noon.



Bees, Supplies & Services For Sale

NOTICE

N.C. law requires a permit to sell honey bees in the state. A permit is not required for: The sale of less than 10 bee hives in a calendar year, a one-time going-out-of-business sale of less than 50 hives, or the renting of bees for pollination purposes or their movement to gather honey.

Contact Don Hopkins, state apiarist, NCDA&CS, 1060 Mail Service Center, Raleigh, NC 27699-1001 for information.

Balfour 18-frame honey extractor, industrial motor, used 3 seasons, stainless steel w/legs, \$900. Rick Williams, Wilmington 910-231-1755.

5-frame nucs & splits, avail. 3/15, \$150 ea. Tim Holt, Siloam 336-710-4904.

Beehives w/treatment-free bees, no treatments in 7 yrs., \$350; 5-frame nucs, \$185. Tony Parker, Bolton 910-386-7725.

BEEES

5-frame nucs in waxed cardboard nuc box, avail. early/mid-April, \$200. Sam Bolick, Concord 704-900-4580.

5-frame nucs, \$200; 3# pkgs, \$145; queens, \$40. Dick Lipard, Statesville 704-682-4018.

3# pkg. Italian bees/w queen, \$130; Italian queens, \$35. Garry Whitley, Albemarle 704-982-0698.



Equipment For Sale

Cult parts, \$150; several cult points, \$200. N. Lee, Advance 336-998-8922, nights.

Metal dump utility box, 4x4x2, 3pt, custom made, EC, \$150. Jack Matthews, Charlotte 704-846-1903.

Land plane, EC, \$1,000. Tony Thomas, Randleman 336-267-5534.

AC tractors B, C, CA, WC; (2) unstyled WC; WD, U, UC, I-600; gas & diesel, whole or parts, all need work, \$300-\$2,000. Tim Mabe, Troy 910-572-3539.

(2) Firestone rear tractor tires, 16.9-30, 15 in. rims, good tread, \$400. Terry Auman, Seagrove 336-873-7574.

FARM EQUIPMENT

2022 skid steer, \$59,000; 6 ft. finish mower, \$1,000; 5 ft. bush hog, \$600; 3pt quick hitch, \$100; box blade, \$300; dirt scoop pan, \$200; other. John Johnson, Lincolnton 704-284-3601.

JD 120 mower, needs work, \$350; 6 ft. scrape blade, \$425; manual head gate, \$125; Purina lick tank, \$325; cattle gates, various lengths, \$600. Doug Stancil, Greensboro 336-402-8161.

Intl grain drill, GC, may need tires, not hyd, pickup only, \$200-\$500. Hal Lawrence, New Hill 919-819-6555.

Ford 201 disc harrow, \$500; King spike tooth harrow, 3pt, \$500; Da Ros 2-basket hay tedder, 3pt, \$500; NH 472 haybine, \$800; hay wagons, \$1,000-\$1,400. David Elliott, Kernersville 336-448-8644.

Roanoke auto tobacco harvester for parts, \$2,000; (2) Green-Wheeler racking tables, \$200 ea. David Pace, Archer Lodge 919-553-7593 or 971-1494.

JD 318, p.s., hydro. trans, \$2,500. Kent Davis, Clemmons 336-766-7607.

FARM EQUIPMENT

Fella disc mower; Gehl tedder, 2-basket/pull-behind; JD side delivery rake; NH 648 auto-tie baler, 5/4; all sheltered, will not separate, \$12,500/all. Loyd Cox, Asheboro 336-879-5182.

IH 45 twine hay baler, 2-cyl. Wisconsin motor, \$1,000; Oliver 13-disc grain drill, w/seed & fert. boxes, \$1,000; JD 9500 combine, w/915 header, field ready, \$25,000. Samuel Crowder, Lattimore 704-692-2240.

Johnson pull-type sprayer, 500 gal. capacity, ground driven pump, shed kept, \$2,500. Kevin Carland, Mills River 828-691-6397.

1952 Cub tractor, factory hyd, cults, 5 ft. mowing deck, \$2,500 obo; 14.9x28 tire, \$150 obo. Pete Haliburton, Cleveland 704-213-4537.

Intl silage wagon, on JD running gear, PTO, rear chain unload works well, front unload needs belt, \$1,900. Dalton Suits, Bennett 336-963-4576.

Intl grain drill, GC, may need tires, not hyd, pickup only, \$200-\$500. Hal Lawrence, New Hill 919-819-6555.

Hay ring, GC; new feed trough, GC, \$350/both. Wayne Dickerson, Ruffin 336-552-6284.

FARM EQUIPMENT

New Kuhn GMD240 disc cutter, used less than 10 hrs., hd, w/extra set of blades, \$10,500. Terry Toomes, Randleman 336-944-7344.

2pt turning plow, \$200; 48" row cult; \$200; 8' drag harrow, 7' cult, \$200; 5' Woods finish mower, \$1,000; 5' carry-all, \$100. Ken Conrad, Davidson 704-236-7020.

County Line 5 ft. box blade, LN, used once, Cat 1 quick hitch bushings incld, \$949. Jason Bostian, Claremont 828-244-6723.

Prefert cattle system, headgate, squeeze & palpation chute, alleyway & 180-degree sweep, 15 extra galvanized panels, all GC, \$6,000-\$6,500. Barry Knight, Reidsville 336-382-0303.

NH 258 hay rake w/dolly wheel hitch, GC, \$4,000; NH 163 hay tedder, 4-basket manual fold, GC, \$4,000. Jeff Braun, Oakboro 704-984-3726.

JD 14' seed drill, GC, double disc opener, \$1,500. Randy Hall, Elizabeth City 252-330-2294.

FARM EQUIPMENT

2017 mechanical transplanter, 2-row, fert. app., used 3 yrs., \$6,900; W&A 4-row bedder, \$700; W&A 2-row bedder, \$450. Will McCalum, Rowland 910-740-3267.

1976 Intl 140, key start, cults fert. attach. 1pt, new front tires orig. paint, \$5,500. Marvin Hill, Lexington 336-764-2244.

Farmall 140, cults, fert. attach. 1pt, new front tires, \$3,200. Toby Hill, Lexington 336-225-6335.

3-row bottom plow, GC, \$500; Cole 12MX multi-flex planter/fert., 1-row, EC, \$1,150. George Clark, Belhaven 252-717-8586.

1947 Gibson tractor, \$1,000; IH flywheel gas eng, 1 1/2 hp, \$700. Bobby Harkey, Albemarle 704-982-2494.

Frontier spreader, 3pt, \$1,850; Woods scrape blade, 7 ft., \$1,400. Randy Davis, Elon 336-263-8163.

(3) auto head gates for cattle, \$250; 10 cast iron tubs for feed or water, \$40 ea.; 3pt, 4-wheel hay rake, \$300; other equip. Cecil Whitehead, Margarettsville 252-589-2061.

Bush Hog BH216 cutter, 6 ft., slip clutch, 65hp gear box, \$2,200. Harold Wright, Shelby 864-838-4763.

Ford 4500 loader, pto, 3pt, w/non-running 4500 loader parts tractor, other equip., \$7,000; Ford 515 loader, pto, 3pt, bucket/forks, needs work, w/4400 parts tractor, \$6,000. Mark Hodge, Forest City 828-429-2766.

 **Equipment Wanted**

Eng for Wisconsin AEH, 1 cyl., need parts for whole eng, reasonable price. Frank McKeithan, Bolivia 910-622-0928.

JD 215 forage wagon for salvage use. Norris McConnell, Mt. Ulla 704-431-9321, before 7 p.m.

Belt driven tobacco stick saw. Randy Hall, Elizabeth City 252-330-2294.

Gleaner F3 or F2 combine, 4-or 6-row corn planter no-till, combine tire, 23.1x26. Jefferson Smith, Asheboro 336-736-4205.

 **Farmland For Sale**

Land for sale must consist of at least 3 acres and be used for agricultural purposes. Advertisers must indicate use of land.

5+ ac Surry co, creek, spring, some timber, \$60,000. Verler Smith, Kannapolis 704-939-6528.

 **Farm Labor For Sale**

Energizer repair, ssc, parmak, \$20. Bobby Nichols, N. Wilkesboro 336-927-2850.

FARM LABOR

Red Brand fencing & privacy wood fencing, \$12. Benjamin Glasscoe, Thomasville 336-666-5397.

 **Farmland Wanted**

Deer hunting land, 50-100 ac, around Randolph or Montgomery co; looking to spend \$1,200-\$1,500. Benjamin Glasscoe, Thomasville 336-666-5397.

Deer hunting land for 2026 season & beyond, willing to pay cash. Mike Marchant, Eastover 910-824-0058.

Pastureland to rent for cattle in Chatham co. Shawn Petty, Siler City 919-542-8360.

 **Horses & Supplies For Sale**

PLEASE NOTE: All equine 6 mos. or older must have a current negative Coggins test. Advertisers must supply the accession number of test, the name of lab doing the test, the date of test and results for each equine advertised. The following advertisers have provided proof of a negative Coggins test.

Tucker-Cheyenne western trail saddle, breast collar, EC, #031577018M, \$1,450. Perry Arant, Monroe 704-290-8758.

 **Hay & Grain For Sale**

2025 mixed hay, no rain, min. purchase 25 bales, \$5/sq bale. Vernon Hill, Mt. Pleasant 980-621-5091.

Hay, fert. & limed, barn stored on pallets, \$30/rl or 10 rls for \$27 ea., cash only. Kent Lambeth, Winston Salem 336-209-8962.

Orchard grass/fescue, \$50/rnd bale; \$7/sq bale; cow hay, \$35/rnd bale; lrg qty. discount. Johnny Sowers, Lexington 336-239-3020.

O/T mix, horse & cattle, sq & rnd bales, pick up or deliv., \$75-\$125/bale. Jason Davis, Mills River 828-890-5316.

Horse quality fescue/orchard grass mix, \$5/sq bale. James Graham, Yadkinville 336-466-2345, do not text.

Good hay, 4x5 rnd, barn stored, \$30/bale; \$27 for 10 or more. Roger Tuttle, Monroe 704-753-3333.

Coastal bermuda hay, 4x4 & 4x5 rnd, horse quality, stored under shelter, \$45 & \$50/bale. Dan Lancaster, Pikeville 919-222-6853.

Horse quality hay, in barn, deliv avail., \$45/rl. H. Davis, Elon 336-260-7606.

Horse quality fescue, spring 2025 cutting, \$5/bale. John Button, Madison 336-418-0057.

Horse quality mixed grass hay, standard sq bales, no deliv., \$8 cash only. Ardie Peters, Vale 828-290-4560, call/text.

HAY & GRAIN

Fescue hay, horse quality, 2025 spring cutting, can deliv., \$8.25/bale. Allen Moore, Summerfield 336-706-1157.

Rye straw, \$5.25/bale. Martin Moss, Concord 704-783-8366.

Fescue mix, 4x5 rnd, mesh wrap, no rain, sheltered, stored on pallets, \$45/bale. Richard Ingram, Greensboro 336-420-9253.

 **Livestock For Sale**

Comm. & reg Blk Angus bulls, 14-16 m/o, bred for calving ease, BSE tested, \$4,000-\$4,500. Aaron Rumley, Burlington 336-675-1712.

2025 reg SG calves, purebred, from Grandson of King Ranch 651/18 Chosen One; C3 Chosen One "Chas;" young bulls, \$1,500/up; heifers, \$2,000/up. Charles O'Bryant III, Reidsville 336-908-0276.

SimAngus herd bulls, blk & polled, bred for calving ease, muscle, growth & disposition, \$3,500-\$4,500. William Pyle, Franklinton 919-215-5677.

(2) Boar cross billies, \$150-\$200. Michael Hoover, Mocksville 336-403-0367, call/text after 6 p.m.

St. Croix ewes, reg, \$450 ea.; St. Croix rams, \$350 ea. Valerie Cockerham, Yadkinville 336-416-2240.

Fainting buck, dob 8/25, healthy, very tame, tricolor, \$100. Dodd Linker, Clemmons 336-712-2484.

Fainting goats, \$150 & up. Joan Culberson, Snow Camp 919-259-6139.

Savanna/Kiko buck, dob 3/24, quality & proven bloodline, great foundation buck for breeding, \$300. David Ward, Burlington 336-266-1457.

MGR fainting kids, \$600-\$750. Text Amy Hall, Sanford 919-946-9942, or fotwfarm@gmail.com.

Reg Blk Angus bulls, calving ease plus growth, Sitz Essential & Yon County Road, dams by Growth Fund & 6I6, \$4,000-\$4,500. Wayne Wilson, Kannapolis 980-521-6707.

 **Poultry & Supplies For Sale**

Peacock chicks, avail. mid-May, \$30 ea. Richard Simmons, Tabor City 910-640-7114.

California, Silver California, bluescales, Gambel's, 8 varieties of bobwhites; partridge, Philby, chukar, Hungarians, \$6 & up. Jimmy Furr, Stanfield 704-351-5654.

Pancake brooders, GC, \$100. Ted Barbee, Davidson 704-425-4902.

Bald head rollers, 7 m/o, Smith & Pensom bloodline, will ship, \$30/pr. Allen Durden, Rockingham 910-993-0296.

POULTRY

Bantam Buff Cochin hens, proven setters, good mothers, \$20 ea. John Thornburg, Raleigh 336-302-3838.

Flight cond. bobwhite quail, at farm, \$6 ea. cash. George Parker, Lumberton 910-374-8176, 8 a.m.-8 p.m.

Emus, some hatched 2/26, no shipping, regulars, \$250; blondes, \$350. Robert Belton, McLeansville 336-402-0501, chris@carolinacookie.com.

Ayam Cemani, Ameraucana, Marans & Lavender Orpingtons chicks, straight run, \$5-\$10; hatching eggs avail. Michael Prince, Zebulon 252-813-4726.

 **Seeds & Plants For Sale**

PLEASE NOTE: Individuals or business selling seed in North Carolina are required to obtain a Seed License (Retail or Wholesale). For more information contact NCDA&CS Plant Industry Division at 800-206-9333 or 919-707-3739.

Rabbiteye blueberry plants, 2 y/o, healthy, Tifblue, Premier, Climax, Powderblue, & Brightwell, \$12 ea. or \$10 ea. for 10 or more. Michael Roberson, Trinity 336-862-3488.

Potted muscadine & scuppernong plants, healthy, 5-6 ft., planting & fert. instr. incld., \$25. Bob Whitaker, Mocksville 336-469-4822, do not text.

Sunflower seeds, huge 12-14 lb. flower, 15-18 in. diameter, SASE & \$5 cash for 50 seeds. N. Smoot, 6227 Welborn Rd, Trinity, NC 27370, 336-338-8726.

Cockscomb seeds, huge blossom head, rich crimson color, sturdy 18" stalk, about 250 seeds, SASE + \$5 cash. Barry Cox, 6225 Welborn Rd, Trinity, NC 27370, 336-434-4662.

 **Seeds & Plants Wanted**

Miniature white Gherkin cucumber seed. Daniel Hatcher, Elon 336-214-3833.

 **Supplies For Sale**

5V galvanized roof panels, around 400 pieces, 8 & 10 ft. panels, \$1.50/ft. or \$3,500/all. Russ Hanes, Glendale Springs 828-406-6365.

Firewood, 14 ft. load, no deliv., \$350; fuel tanks, 150 & 250 gal., \$200 ea. N. Lee, Advance 336-998-8922, nights.

Red Jacket well pump motor & foot valve, 3/4hp, GC, \$200. Timothy Mabe, Troy 910-572-3539.

Myers shallow well pump, 1hp, regulator, EC, \$175; old cast iron wash pot, 20 gal., \$125. Jack Matthews, Charlotte 704-846-1903.

Tobacco trays, 588 cell, \$1 ea. Sonny Howard, Selma 919-524-5669.

SUPPLIES

Lincoln 225S welder, \$150. Gene Clemmons, Clayton 919-553-7905.

3 rls barb wire, 12.5, 4pt, \$80 ea.; 1 rl Redband fence wire, 47 in., \$110; 2 rls high tensile wire, 4,000 ft., \$90. Cecil Whitehead, Margarettsville 252-589-2061.

Cat generator, 2 y/o, elect. start, 110 & 220, 7,500kw, \$700 firm. Rom Harper, Pink Hill 252-520-3119.

3-panel cement fence, +/- 200 ft., \$3/ft. Tommy Sink, Lexington 336-250-4234.

 **Supplies Wanted**

8' treated fence posts, 6-7' metal T posts, & 10-12' gates to enclose a large pasture. Sharon Kapeluk, Chapel Hill 984-261-6886.

Old steel traps, long spring or jump type, prefer Blake & Lamb, Newhouse, Triumph, etc. Text/call Daniel Carawan, Edenton 252-945-6493.

 **Trucks & Trailers For Sale**

Stock trailer, 6x10, metal sides, wood floor, 205/75 D15 tires, rear slide gate, title, \$1,000. Jimmy Sasser, Burlington 336-516-5142.

1961 Willy's pickup, \$18,500. Russ Hanes, Glendale Springs 828-406-6365.

2025 Calico stock trailer, 16 ft., bumper pull, \$8,950. YD Saul, Elon 336-213-6292.

1999 F-350 Ford dually, 6-spd, extended cab, spray in bed liner, 5th wheel ball, low mi, \$12,000. Mike Davis, Elkin 336-366-9291.

2007 Chevrolet Silverado 1500, GC, \$5,000 obo. Tony Thomas, Randleman 336-267-5534.

Stock trailer, 7x15, all steel, 2 axles, cut gate, \$1,200. Sonny Howard, Selma 919-524-5669.

1989 Ford F-150, 4wd, towing pkg, 160,000 mi, \$4,200. Wayne Dickerson, Ruffin 336-552-6284.

Small trailers, \$200 ea. David Pace, Archer Lodge 919-553-7593 or 971-1494.

Livestock trailer, 11 x 6, doub axle, good tires, canvas top, sliding back gates, sheltered, \$2,000. Allen West, Autryville 910-990-0497.

Calico stock trailer, gooseneck, 16 ft., \$8,750; 20 ft. equip trailer, \$3,250. H. Davis, Elon 336-260-7606.

1995 Featherlite alum. trailer, 3-horse, lrg dressing room, bath, heat/ac, generator, bed, EC, \$16,500. Perry Arant, Monroe 704-290-8758.

Miller 20-ton tilt top trailer, lights & air brakes, \$8,500. Tommy Sink, Lexington 336-250-4234.

Discovering N.C. Agriculture: Expanding hops research in N.C.

Over the last decade, hops have been a buzzword across the agriculture industry as farmers and research stations alike seek to grow them domestically. Historically, hops have been grown in the northern parts of our country, including Washington and Oregon. As the “drink local” movement began to spread across our state, however, North Carolina farmers began to look for ways to produce local hops. In 2009, Jeanine Davis, associate professor and extension specialist in horticultural science at N.C. State University, started the Hops Project to explore the possibility of hops as a specialty crop for farmers, researchers and local businesses.

Davis has spent her entire career, 38 years to be exact, working for N.C. State University as both an associate professor and extension specialist. Unlike most university employees, Davis is not stationed in Raleigh, but at the Mountain Horticultural Crops Research and Extension Center in Mills River. “After graduating with my PhD from Washington State University, I began my job at N.C. State University at the research station,” she said. “I was hired to do commercial vegetables, ginseng research, and (soon after) commercial herbs. Today, I continue to work within those areas, but specialty crop research has become the focus of my work.” In addition to hops, she is currently working with medicinal herbs (like ramps and ginseng), agroforestry (aka forest farming), truffles and organic veggies (like tomatoes).

In 2009, Davis started to get questions from farmers across the state surrounding hops and the local beer/mead industry. “The ‘Drink Local’ movement was huge at that time, which really got farmers thinking of ways that breweries could create a completely local beer,” she said. “I did all my graduate work in Washington State where they produce hops, so I was familiar with the process of growing and harvesting them. Here in North Carolina, as I became interested in hops, two other researchers on campus were awarded a grant from the Golden Leaf Foundation to conduct a hops variety trial in Raleigh. They invited me to join them and conduct the same trial in Mills River. The original trial location in Mills River, including the posts and wiring system, is still standing today! As the variety trials progressed, a research specialist on Davis’ team began to look at hops from another angle. “Dr. Luping Qu, a plant breeder, came to me one day asking to breed some of the hops at the station to create a domestic variety that would grow well in our state,” Davis said. “I told him that if we could find a grant program to help fund the breeding project, he could do it. Not only were we awarded one grant, but two from the NCDA&CS – which is where our hop breeding project began!”

Hops are grown by purchasing plants that are then transplanted

outside. “Hops are an incredibly expensive crop to produce, as well as labor intensive,” Davis said. “The crop requires a lot of specialized equipment, like harvesters and dryers (Oasts), as well as a trellis composed of 20-foot posts set across the field and wire support systems for the hops to grow on.” When it comes to planting, hops are flexible and can be planted either during the fall or during the spring. Here in North Carolina, plants emerge in very early spring and are ready for harvest in July and August. In the interim, Davis and her team (along with some volunteer farmers/home growers) will prune the plants and manage diseases to ensure proper growth and high-quality buds. “In our state, the biggest disease we battle with hops is downy mildew, although we are starting to see more powdery mildew as well,” Davis said. “Pruning to improve air flow to the hop plants, good nutrition management and specific fungicides are used to prevent downy mildew.” Once the growing process is complete, Davis and her team harvest the hops, mostly by hand. “We do have a small harvester, but most of our harvesting is done by researchers and interested volunteers,” she said. In fact, last year, their entire hops crop was worked by volunteers. “They were amazing,” Davis said. “Large hop producers, specifically in other states, have giant machines that will cut the hop bines from the top wires, gather the plants together and put them on a truck. At the station, however, we have dedicated volunteers and researchers that make harvest possible each year.” In a commercial hop yard, once harvested, the hops are taken to the dryer (aka the Hop Oast) and usually ground into pellets for brewers, meaderies, and other interested customers.

North Carolina hop farmers found that commercially available hop varieties produced very low yields in North Carolina. The yields were often a fifth of what producers in the Pacific Northwest got. The reason is that hops flower in response to daylength and our daylength here in the south is much shorter than where those varieties were bred in the north. “Luping Qu bred 10 new lines of hop varieties that grow well in the Southeast and produce a high-quality yield,” Davis said. “In fact, these new lines have the potential to produce almost as much as large hop producers in the northern states.” For many years, Sierra Nevada partnered with the Mountain Horticultural Crops and Extension Center to test their hops. “They would brew with our hops and serve the finished product to customers at the brewery to get their honest feedback and opinions,” Davis said. “Their trials really helped us during the breeding process to be sure that new varieties we bred not only performed well in the field but were good for brewing too.” In addition to breweries, hops are used by companies that



Jeanine Davis' research team is based in Mills River.

produce nighttime teas, chefs who enjoy cooking with and using bitters, floral companies for use in bridal bouquets and wedding arrangements, and herb companies for medicinal purposes.

Today, the Hops Breeding Project is winding down with the 10 lines of hop varieties produced by Luping Qu, who retired at the end of last year. “We are currently in the process of releasing two of the lines as public varieties and looking for nurseries interested in obtaining a license to grow one of both of these varieties. These new varieties are appropriate for commercial hop farmers and homebrewers growing hops in their home garden,” Davis said. “We are also working with the university Micropropagation Unit to safely store and propagate these lines for future use.” Anyone interested in obtaining a license to grow these new varieties can contact Jeanine Davis at Jeanine_Davis@ncsu.edu.

“I think it will take a very specific type of person to grow hops commercially in North Carolina because they take a large investment and are both challenging and risky,” she said. “However, once these new high-yielding varieties are commercially available, for those who can afford it and want to grow something new and unusual, these hop varieties are the perfect place to start.” We look forward to seeing hops research continue through N.C. State University, research stations, and farms across our state. As a new and upcoming specialty crop, hops are part of the collective effort to revitalize and innovate our state’s No. 1 industry!

'Patience and faith' are crucial for growing truffles in N.C.

Truffles are a unique and diverse specialty crop in our state that have been researched on farms over the past few years. We aren't talking about sweet chocolate treats. These truffles are grown on the roots of trees and resemble mushrooms. Father and son duo Brian and Davis Upchurch have been producing truffle trees and truffles for over 10 years at their farm in Fletcher and continue to learn something new every day!

In 2015, Brian and Davis Upchurch established Carolina Truffières by planting their first orchard. Throughout his childhood, Davis travelled with his father to many countries overseas, including Japan, Europe and Asia, to learn about truffle production and harvest. “Truffles are a part of their culture overseas, especially in Europe, and have been for a very long time,” Davis said. “Not only do they have a plethora of knowledge on how to produce them on a commercial scale, but also how to use them in the kitchen.” After gleaning from the knowledge of several truffle growers across the world, Davis and Brian started their own truffle operation with nearly 100 acres of orchard. Today, Carolina Truffières is the largest truffle orchard in North

America growing 12 varieties of truffles throughout the year.

According to Davis, truffles are an underground fruiting body of mushroom that develop on the exterior of tree roots. “Imagine an above-ground mushroom growing in the wild,” he said. “Now, flip it inward, wrap a protective shell around it, and place it in the ground on or near the roots of a growing tree, and that's how a truffle is grown.” All varieties of truffles colonize on the exterior of tree roots, including oaks, hazels, hornbeam and pines. Except for hornbeam, these are the primary trees grown in the orchard at Carolina Truffières.

Much like mushrooms, there are a variety of truffles that grow natively in the wild across our state. In addition to these four native varieties, Carolina Truffières produces eight overseas varieties from seed. “We cultivate a lot of European truffles at our orchard because they grow so well in North Carolina's soil and climate,” Davis said. “For example, one of our overseas varieties grows really well on the loblolly pine, a native tree to our state. It's incredible how these species adapt to our area!”

All varieties start with seed or cuttings that Brian and Davis purchase or produce in-house from partnering universities, both domestic and



Mila, a Lagotto Romagnolo, smells and harvests truffles on the farm.

international. “We inoculate those roots with the truffle variety we are working to produce and sit them in the greenhouse for one year. Throughout that year the trees are checked on and cared for until they are ready to be transferred outside,” Davis said. Once the initial year has passed, the trees are planted in the orchard and could have anywhere from a three to eight year waiting period before truffles are ready for harvest. “It takes a lot of patience and faith to grow truffles because of how long they take to grow and how much they cost to produce,” Davis said. “Although they can be labor intensive, truffles are a very

diverse and beneficial crop for our state's agriculture industry.”

Typically, the orchard is checked each year by Brian and his team to see which trees are ready for harvest. What do they look for initially? A circle around the base of the tree containing no weeds or grass. “Another cool thing about truffles is that they take care of the tree by getting rid of anything competing for root spaces and nutrition, like weeds,” Davis said. “Typically, the trees that are producing happy, healthy truffles will have a circle or oval around them that varies in width from 3 feet to 6 feet in diameter and almost looks burned.” One of the most important members of the Carolina Truffières team is Mila, the truffle dog! Mila is a Lagotto Romagnolo, which is a breed out of Europe that instinctively smells and helps harvest truffles. Any species of dog can be

trained to smell and hunt truffles, but the Lagotto Romagnolo breed has this in their nature. Each year, Mila walks the orchard with Brian and Davis to determine which truffles are ready for harvest. How does she know? She can smell them! “When Mila sniffs out the truffles on a tree, she will dig a little and then stop to let us know where to harvest,” Davis said. “We typically carve a circle around where she scratches and then pop out that whole pod of soil. This process allows us to carefully extract the truffles without damaging any of the exterior.” All truffle harvesting is done by hand, making it a very slow and labor-intensive process for Brian and Davis.

Most truffles harvested at Carolina Truffières are sold to chefs across the state. Although it depends on the species, most truffles have a one-to-two-week shelf life from the time of harvest.

“As I said before, we have only begun to scratch the surface of what this crop can do for farmers, chefs and consumers across the state and the world,” Davis said. “Who knows where we will be five or 10 years from now, but I look forward to seeing the opportunities for this crop expand across the North Carolina agriculture scene.”