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An additional two billion people means we need more food, cleaner water, and a strong foundation for a sustainable future. That’s why our students, researchers, and specialists work every day to provide real life solutions that impact the health of humans, animals, and the environment. Whether it’s in Tennessee or around the world — we’re making a difference for a growing population.
16 Hub of Ag-Tivity

Agricenter International teems with recreation, education and, especially, research. The Agricenter in Memphis is the world’s largest urban farm and research test center and is a global hub for all things agriculture.

22 GIVING BACK

Farmers understand the importance of fresh food. In Tennessee, farmers, the agriculture industry and nonprofit programs work together to combat hunger.

46 A RECIPE FOR SUCCESS

Food entrepreneurs and startups are on the rise in Tennessee thanks to support from the state and the availability of community kitchens.
Over 500 million pigs are raised in China each year, and they’re demanding more and more of your U.S. soy. They, along with cows, poultry and fish, are your #1 customers, and they’re driving demand in countries, towns and villages all around the world.

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Pick Tennessee Products are highlighted at a Tennessee Table event in Ridgetop that connected area chefs and food producers.

Photo by Boyd Barker,
Tennessee Department of Agriculture

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Barbara Brooks talks horses, music and Tennessee wines
Agricenter International’s unique campus lies in the heart of Shelby County, TN on more than 1,000 acres. Our campus is comprised of a large active research and development farm and includes multiple expo centers, Farmer’s Market, RV park and business center for agriculture-based organizations.

- Event Venue
- Educational tours
- Farming trials
- Research & Development

Thank you to our local partners in support of pursuing the future of agriculture.
No matter where you are in Tennessee, you don’t have to go far to find forests and farmland. As we plan for the future, it is important that we honor our agricultural roots while advancing the economic growth and vitality of our rural communities. I’m proud to join with Commissioner Johnson, the Tennessee Department of Agriculture and Journal Communications to celebrate Tennessee’s innovative and entrepreneurial spirit.

Climb up into a modern-day tractor and it’s clear that farming is a different business than it was a generation ago. Technical skills and education are essential for the future growth of the industry, and in Tennessee we take that seriously. With our Drive to 55 to ensure that more Tennesseans earn a certificate or degree beyond high school and the Tennessee Promise, which gives high school graduates the opportunity to attend an in-state community college or technical school tuition free, we are planning for the future today. As governor, I am excited by the prospect of students that will put that education to use and contribute to the long-term success of our communities, farms, agribusinesses and in managing our state’s natural resources.

Tennessee needs to cultivate more entrepreneurs who are willing to take a chance and make a difference in communities across our state. I hope you enjoy this issue of Tennessee Ag Insider as we highlight some of the industry’s next great innovators.

Bill Haslam
Governor
Offering B.S. degrees, M.S. degrees, various certificates, a Professional Science Master’s (PSM) degree and an interdepartmental Ph.D. degree, the College of Agriculture, Human and Natural Sciences prepares students with hands-on, research-driven, programming in the following academic focus areas:

**Agricultural Sciences**
- Agribusiness
- Agribusiness Management and Analysis
- Agricultural and Extension Education
- Animal Science/Pre-Veterinary Medicine
- Applied Geospatial Information Systems (GIS)
- Biotechnology
- Food Technology
- Food Marketing and Supply Chain Management
- Plant and Soil Science

**Biological Sciences**
- Cellular and Molecular Biology
- General Biology (Pre-Medicine, Pre-Dentistry, etc.)
- Teacher Certification

**Chemistry**
- Biochemistry
- General Chemistry (Pre-Pharmacy, etc.)
- Professional Chemistry
- Teacher Certification

**Family and Consumer Sciences**
- Child Development and Family Relations
- Design
- Early Childhood Education
- Fashion Merchandising
- Family and Consumer Sciences Education
- Foods and Nutrition (Dietetics)
- Food Service Management
- Family Financial Planning Certification

From fuel to foods to families, the Tennessee State University College of Agriculture, Human and Natural Sciences is working to meet the needs of Tennesseans for a better tomorrow.
When you think of Tennessee’s countryside, you probably picture rolling farmland, lush forests, crops and cattle. While that would be accurate, as this issue of Tennessee Ag Insider proves, agriculture and forestry in this state are so much more.

Flip through the pages and you’ll see that technology is at the forefront with ongoing research to improve efforts to feed and support a growing global population. Science and animal husbandry are coming together to potentially impact human health for generations to come. Our farmers markets continue to grow as our neighbors seek locally sourced food for their tables, and farmers and foresters are doing their part to give back to those in need. These initiatives are indicative of the commitment of Tennesseans to improve the world in which we live.

The Tennessee Department of Agriculture is proud to be at the center of developing programs to support economic growth and entrepreneurial efforts. As commissioner, I enjoy traveling across Tennessee to meet with the citizens, farmers, foresters and business leaders who help to keep our rural economies strong. Thank you for joining us on this journey and for being part of our mission to serve this state by increasing the prosperity and well-being of our rural communities.

Julius Johnson
Commissioner
Tennessee Department of Agriculture
Beef, soybeans, corn. These top commodities are staples of Tennessee agriculture, supporting the state’s economy and providing thousands of jobs. While many consumers may be familiar with these basic aspects, Tennessee is much more than crops and livestock. The vast scope of the state’s agriculture industry, including its innovation and complexity, is extremely impressive.

From inventive and sustainable new businesses, including organic baby food and an entrepreneur making dye from a new crop, to figuring out constructive ways to fight hunger and provide fresh food, to a growing knowledge of agricultural technology and education, the Volunteer State’s industry encompasses a great deal.

Fueling this innovation is a top priority for the Tennessee Department of Agriculture (TDA). Through programs and organizations including Pick Tennessee Products, Agricenter International, NextFarm and a full-time staff position at TDA focusing on encouraging and supporting entrepreneurs, Tennessee agriculture has great potential for growth.

At Agricenter International in Memphis, a state-of-the-art greenhouse facility came online in late 2014 with brand new automation, allowing researchers to test more cotton traits and varieties, among other enhancements.

Pick Tennessee Products, a free service of the TDA with the mission to connect consumers to Tennessee products, has grown to include more than 2,200 participants. The program benefits young agricultural entrepreneurs by helping spread the word about their businesses.

NextFarm Agricultural Innovation Accelerator, based in northwest Tennessee, helps startup entrepreneurs focused on agricultural innovation. Experienced mentors coach entrepreneurs in areas of farming, commercialization of technologies, strategic planning and more.

Along with these valuable programs, Tennessee’s colleges and universities continue to expand young minds with impressive agricultural education programs. Degree programs are available across the state at schools including Tennessee Technological University, Tennessee State University, Middle Tennessee State University, Columbia State Community College and the University of Tennessee.

Just as crops and livestock need to be nurtured, these investments in the innovation of agriculture are equally vital to keep Tennessee’s industry thriving.

– Rachel Bertone
Bringing Tennessee's important industry to a national and global scale.

**Global Impact**

Tennessee farmers work tirelessly to grow food for consumers across the state and nation. But they don’t stop there. They’re feeding, clothing, sheltering and even fueling the world.

Annually, Tennessee exports more than $1.3 billion in agricultural products, and in 2012, the top five exports included soybeans, cotton, other products (such as grains, wine, beer, coffee and more), tobacco and chicken meat. Soybeans alone brought $357.6 million to the state’s economy.

Tennessee’s top export markets include Mexico, China and Turkey, among others. With the world population expected to increase substantially by 2050, more than just Tennessee consumers will be counting on the state’s industry.
### FROM TREE TO TIMBER

Learn how the logging process works, and turn to page 74 for more about Tennessee timber

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consult a Forester</td>
<td>The expertise of a professional forester is invaluable. State foresters are able to provide information regarding forest management, conservation and more. Consulting foresters serve as timber sales agent for landowners. They also ensure the timber harvest is completed according to contract and that landowner objectives are met following harvest.</td>
</tr>
<tr>
<td>2. Develop a Woodland Plan</td>
<td>Woodland plans outline goals for the land and the required steps to achieve them. These plans include stand descriptions, timetables for implementation of steps, and information regarding soil, water and wildlife management.</td>
</tr>
<tr>
<td>3. Determine Property Boundaries</td>
<td>Clear boundaries are important to avoid “timber trespass,” or accidentally or intentionally cutting trees that belong to someone else. Boundaries may already be clearly identified, or require a professional survey.</td>
</tr>
<tr>
<td>4. Identify, Measure and Mark Timber</td>
<td>Chest-high tree marking paint is used to identify to bidders and loggers which trees will be included in the sale. A lower mark on the remaining stump acts as a receipt once the logging process is complete, showing which trees were harvested.</td>
</tr>
<tr>
<td>5. Solicit Sealed Bids</td>
<td>Prospective bidders, such as loggers, timber buyers and brokers, and local sawmills, receive a sale prospectus including a volume summary sheet, terms of sale and maps of the property, to review and submit an offer. All bids are opened, and the contract is usually awarded to the highest bidder. In most cases, payment is rendered in full before the logging process begins, except for lower-value products, such as pulpwood.</td>
</tr>
<tr>
<td>6. Prepare Contract</td>
<td>A contract is designed to protect the landowner and winning bidder, and communicate the terms of the sale. Contracts can be provided by a consulting forester.</td>
</tr>
<tr>
<td>7. Begin Logging</td>
<td>Once the contract is settled, the logging process may begin. Many loggers have been trained in the Master Logger Program, and keep abreast of the latest techniques and Best Management Practices, which helps to keep Tennessee’s creeks and streams free of sediment.</td>
</tr>
<tr>
<td>8. Process Timber</td>
<td>Once harvested, the timber may be processed into paper, lumber, biopellets and more. After the timber is processed, the products may be marketed and sold to consumers.</td>
</tr>
<tr>
<td>9. Plan for the Future</td>
<td>To ensure the future production of their woodlands, a landowner must continue to update their woodland plan and conduct necessary maintenance work to ensure successful regeneration and growth of the next stand of timber. Repairing access roads, improving timber stands and planting more trees fall under this category.</td>
</tr>
</tbody>
</table>

### DRIVE TO 55

Set into action by Gov. Bill Haslam, Tennessee community leaders are taking the wheel for better education through the Drive to 55 Alliance.

The goal of Drive to 55 is to equip 55 percent of Tennesseans with a college degree or certificate by 2025. Not only does the initiative strive for higher education, but also to improve economic development, reduce unemployment and improve the quality of life in Tennessee.

The alliance is comprised of private sector partners, leaders and nonprofits working in support of the program. A main focus is to launch the Tennessee Promise scholarship, beginning with the class of 2015, which will provide two years of tuition-free community or technical college to high school graduates in the state.

Learn more about the Drive to 55 initiative at driveto55.org.
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~John Deere

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LET'S Grow TOGETHER
The Volunteer State’s leading ag commodities, based on cash receipts

1 / OIL CROPS
Oil crops, such as cottonseed and especially soybeans are extremely valuable to Tennessee’s economy. This commodity earned $815.82 million in cash receipts in 2013.

2 / CATTLE AND CALVES
Approximately 1.8 million head of cattle and calves are raised on Tennessee farms. Generating $690.78 million in cash receipts in 2013, cattle and calves are among the state’s most lucrative livestock commodities.

3 / CORN
Field corn raked in $583.2 million in cash receipts in 2013. This vital crop is grown to feed livestock throughout the state and nation.

4 / BROILERS
An impressive 172.8 million broilers, or chickens grown for meat, are raised annually in the state of Tennessee. Broilers brought in $544.55 million in cash receipts in 2013.

5 / COTTON
Tennessee farmers produced 430,000 bales of cotton, or enough to make 50.52 million pairs of jeans. This natural fiber earned $301.8 million in 2013.

6 / WHEAT
Tennessee’s most important food grain generated $259.5 million in cash receipts in 2013. Wheat is also the primary food grain in the U.S., grown in 42 states.

7 / MILK
Tennessee is home to numerous dairies producing 15.98 pounds of milk daily per head, for a total of 767 million pounds of milk in 2013. Milk brought in $163.83 million in cash receipts.

8 / TOBACCO
Tennessee tobacco farmers produced 44.57 million pounds of tobacco in 2013. The average price of $2.37 per pound contributed a grand total of $105.38 million to the state’s economy.

9 / VEGETABLES AND MELONS
Grown in greenhouses, gardens and fields, Tennessee vegetables and melons earned $90.98 million in 2013. This produce is sold at farmers markets and retailers or sold for processing.

10 / HOGS
Hogs brought home the bacon, $60.32 million in cash receipts, to be precise. As of December 2013, the state of Tennessee was home to a total of 180,000 hogs.

TENNESSEE HARVESTED 235,000 ACRES OF COTTON IN 2013.

10.9M acres of Tennessee are dedicated to agricultural operations.

GIBSON COUNTY PLANTED THE MOST ACRES OF WHEAT, 44,000.

59.4% increase in cash receipts for cattle and calves since 2010.
HUB of AG-TIVITY

Agricenter International teems with recreation, education and, especially, research

Staff Photos by Brian McCord
Agricenter International in Memphis is a hub for agricultural research. Its campus includes greenhouses for studying crops.
Agricenter International has come a long way since it first went into operation in Memphis some 30 years ago.

Now the world’s largest urban farm and research test center, the facility is a veritable global hub for all things agriculture. The self-sustaining, nonprofit organization focuses on research, educational programs, environmental conservation, natural area preservation and recreational opportunities.

With a 120,000-square-foot Expo Center at its core, Agricenter International is a go-to place in the realm of agriculture.

“This facility was created to have the latest and greatest of agriculture, from research to all the new technology that’s out there,” says John Charles Wilson, president of Agricenter, which opened in 1985.

“When we first started, this building (now the Expo Center) was set up with static displays, and all the major agriculture companies were involved in it. Like the computer industry, everything was changing so fast that by the time they got a display set up it was outdated. So we evolved over a period of time, and this building became the Expo Center, where we have everything from major agricultural equipment launches to companies coming in and doing training. It’s quite a unique facility.

“It’s kind of like the original idea of a one-stop shop.”

**EDUCATION FOR ALL AGES**

In addition to the Expo Center, Agricenter International is complete with its Show Place Arena, a farmers market with an assortment of vendors, a fishing lake appropriately named Catch ‘em Lake and an RV park with complete hookups.

It’s an ideal spot for ag education, whether it’s youngsters learning the basics of farming or college students seeking avenues toward a career.

“We have everything from preschool children coming in for our farmers market to learn about plants all the way up to adult education,” Wilson says. “We work closely with 4-H and FFA, and have field days that feature all kinds of different agricultural companies. There are a lot of great opportunities
Le LEADER IN RESEARCH
Where Agricenter International particularly shines, however, is in research. The facility works with agribusinesses, university systems such as University of Tennessee Agricultural Extension Service, and other government and non-government agencies. Several of the world’s leading agricultural companies are tenants at Agricenter.

“In a lot of the trials we do, we’re collecting data to help these companies commercialize their product,” says Bruce Kirksey, Agricenter International’s director of research.

“I think the most important thing is we’re helping these companies in their decision-making process on whether or not a product or new variety needs to go forward. The data we collect here helps them possibly make a lot of money or prevents them from losing a lot of money.”

Among the high-profile companies conducting research at Agricenter is Bayer CropScience, which has had an association with the facility since 1999. Bayer, which has been doing cotton trait introgression activities in a nearly 17,000-square-foot greenhouse on the Memphis site for several years, opened a 40,000-square-foot, state-of-the-art greenhouse facility in September 2014 that will enhance its research on cotton traits and varieties. The new automated greenhouse allows Bayer to significantly increase the number of seedlings grown per square foot of greenhouse space.

“Bayer is committed to expand in the area of seeds and traits,” says Al Balducchi, the company’s global cotton traits introgression manager and Memphis site leader. “Our work now and in the future is to deliver greater opportunities in traits and improved product performance through the transfer of these traits using conventional breeding techniques supported by molecular genetics, and to generate materials that are ultimately developed for key markets.”

– John McBryde
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FARMING DOMINATES TENNESSEE’S LANDSCAPE WITH 76,000 FARMS.

TENNESSEE RANKS 5TH BOTH IN HAY AND SNAP BEAN PRODUCTION

TOP COUNTIES THAT GROW SOYBEANS

1. Dyer  4. Lake  7. Robertson
2. Obion  5. Shelby  8. Haywood
10. Franklin
11. Weakley
12. Tipton
13. Fayette
14. Henry
15. Crockett

NUMBER OF TENNESSEE FARMS IN ECONOMIC SALES CLASS $500,000 AND OVER

USDA, National Agricultural Statistics Service, February 2013

COMMODITY PRODUCTION IN TENNESSEE

TENNESSEE RANKS 2ND IN BURLEY AND DARK TOBACCO PRODUCTION.

Source: USDA, NASS

NUMBER OF TENNESSEE FARMS IN ECONOMIC SALES CLASS $500,000 AND OVER

USDA, National Agricultural Statistics Service, February 2013
It’s a call to action. According to the latest Map the Meal Gap study, released annually by Feeding America, 17.1 percent of Tennesseans are food insecure. This means that at times, they are unable to access enough food to keep them healthy.

Eating three wholesome meals a day is something many of us take for granted. But as the providers of food, farmers understand just how precious this basic need is and many are answering the call to help. That’s why they’re working with organizations across the state to fight food insecurity, including Second Harvest Food Bank of Middle Tennessee, Harvested Here in Chattanooga, the Tennessee Department of Agriculture (TDA) and the U.S. Department of Agriculture (USDA).

SECOND HARVEST

“We’re connecting small farmers with the food assistance programs in their county to provide a quality resource to the community,” says David Cloniger, food resource manager at Second Harvest. “Some farmers are growing crops especially for the food bank, and we’re covering their costs. Others are utilizing our volunteers to help them glean their fields. Some are donating when they can, and others accept a nominal payment from us for their seconds.”

Founded in 1978, Second Harvest is a nonprofit organization whose mission is to feed hungry people and solve hunger issues throughout Middle and West Tennessee, serving 46 counties. Cloniger says that working with farmers helps local food sources thrive and grow to become accessible to those who need them. He adds that TDA has always been extremely supportive, offering time, money and advice to aid in Second Harvest’s mission.

While Second Harvest has more victories than challenges, one issue that both farmers and organizations face in gathering food for distribution is spoilage. The world produces enough food to feed 9 billion people per day, so figuring out how to stop wasting half of it is key.

Second Harvest rescues perishable food from 198 grocery
stores throughout the service area each week. This is food that would normally be thrown away, but is still edible and perfect for distribution. They also gather more than 7 million pounds of fresh produce each year from farmers and manufacturers. Cloniger says most of this produce has cosmetic defects, but is just as fresh as what ends up in grocery stores. They compost any produce that might spoil before they have a chance to deliver it.

**NATIONAL FOCUS**

While Second Harvest counts on local partnerships with food pantries, soup kitchens and more to help them carry out their mission, the TDA is working on a larger scale with the USDA to administer federal nutrition and hunger programs, including School Food Distribution and the Food Assistance Program (referred to as TEFAP).

“The food distributed in the TEFAP program is 100 percent American grown,” says Terry Minton, commodities administrator at TDA. “Last year, the TEFAP program received close to 17 million pounds of food from farms across the U.S.”

The food program is administered by TDA through partnerships with community action programs and Second Harvest’s network of food banks. Minton says the population in Tennessee is around 6.5 million, and about 17 percent lives in poverty. People with incomes below 150 percent of the federal poverty level can qualify for the TEFAP program.

She says in working with people in need and organizations that help them, she’s developed a strong sense of connection.

“Any person, regardless of their job, can help those who are less fortunate,” Minton says. “Farmers have a great advantage because their job is growing food for people.”

David Cloniger, food resource manager for the Second Harvest Food Bank, works with local farmers who support efforts to fight hunger.

Volunteers work in the warehouse at Second Harvest Food Bank in Nashville.
HARVESTED HERE

Founded in 2014, the Harvested Here Food Hub in Chattanooga’s mission is to strengthen and secure the future of a healthy regional food supply by giving local farmers a means to connect with the community.

Harvested Here represents more than 20 farmers interested in entering the local grocery market. Locally sourced food means products available to consumers are available at their healthiest state. The food hub can help farmers solve issues ranging from cold storage to transportation.

The food hub will provide low-cost services to farmers by marketing, selling and distributing the farmer’s production. Harvested Here also plans to partner with local food banks, including the Chattanooga Area Food Bank, (CAFB) to increase access to fresh food for those in need. CAFB provides 12.7 million pounds of food annually to 160,000 clients in the region who live below the poverty line.

Ultimately, Harvested Here aims to increase access of local food while building a stronger local food economy, providing a win-win in the fight for hunger and agricultural awareness.

– Rachel Bertone

1 in 6 Americans are affected by hunger.

IN 2014 IN MIDDLE TENNESSEE:

57% had to choose between food and mortgage.

80% had to choose between food and medical care.

26% had to choose between food and education.

Source: http://secondharvestmidtn.org
THE HALLMARK PROGRAM FOR EXPERIENTIAL EDUCATION IN AGRICULTURE IS AT TENNESSEE TECH UNIVERSITY

OUR STUDENTS
Our students are actively involved with hands-on agriculture, whether it is at one of our five on-site agriculture facilities or networking with industry leaders. Our students are members of 13 agriculture clubs and organizations, developing leadership and interpersonal skills.

OUR FACULTY
Our faculty teach small classes both inside and outside the classroom. They are genuinely interested in your future and will help you achieve your academic and career goals.

OUR UNIVERSITY
Our university has been named by Newsweek as one of the most affordable universities in the country. Its graduates have the highest mid-career median salary potential of any public university graduates in the state, according to Payscale.com.

OUR PROGRAMS OF STUDY
Our programs encompass industry leading trends including agritourism and pastured poultry production, ensuring that students gain valuable hands-on experience in numerous aspects of the profession.

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- Agribusiness Management
- Agricultural Communications
- Agricultural Education
- Agricultural Engineering Technology
- Agronomy and Soils
- Animal Science
- Pre-Veterinary Science
- Environmental Agriscience
- Horticulture
- Nursery and Landscape Management
- Turfgrass Management

www.tntech.edu/agriculture

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Across the country and here at home in Tennessee, forestry professionals are raising funds to improve children’s health through treatment, education and research.

Each year, Tennessee loggers and wood-supplying businesses join their professional colleagues across the United States in setting aside the value of at least one load of logs to give to Children’s Miracle Network hospitals across the state. In addition, over the past 26 years of the program, Log A Load for Kids has held many successful events in Tennessee and nationwide, demonstrating the caring and creativity of the state’s logging and forestry communities. Past events have included golf tournaments, bass fishing tournaments and clay shoots.

Nationally, these events raise more than $2 million each year. In Tennessee, the program annually donates at least $45,000 to various Children’s Miracle Network hospitals. To date, LeBonheur Children’s Hospital in Memphis has received almost $300,000 from the Log A Load for Kids program.

“It’s an incredible program,” says Candace Dinwiddie, executive director of the Tennessee Forestry Association, which sponsors the program. “Forestry professionals have been coming together for almost three decades to give children access to state-of-the-art care and research, and help with preventative education for these children.”

Helping to battle every disease and injury, 100 percent of the donations to the Log A Load for Kids program in the state goes directly to a Tennessee hospital. Donations are accepted via credit card or check by filling out a donation form available on the Tennessee Forestry Association website or by calling 615-883-3832.

With three golf tournaments already planned for 2015 and the possibility of other events, the program intends to raise around $50,000 this year.

– Blair Thomas
Feeding 9 billion people by 2050 – undoubtedly one of the most daunting challenges facing the world today. But in Tennessee, the mindset is optimistic with a plan to turn these challenges into opportunities. By focusing on the intersection of food, health and prosperity, and encouraging more partnerships and collaboration with the private sector, the state is a leader in fighting global hunger and preparing for the demands of a growing population.

**IDENTIFYING SOLUTIONS**

“There is one group that says you have to increase yields and grow more; the other group says we grow enough now, we just have to stop wasting 40 percent of it,” says Louis Buck, international and market development specialist at the Tennessee Department of Agriculture (TDA).

Buck says the challenges touch on both viewpoints. Global food accessibility can be limited by factors including political upheaval, conflict, lack of roads and infrastructure, natural disasters, and poverty. In addition, he says, “People need better nutrition, which comes from more effective agriculture and food production, and both of those things make healthy people and a more prosperous rural economy.”

Global Action Platform (GAP) in Nashville is on a mission to create abundant, nutritious food for the world and is engaging the private sector to achieve more sustainable and scalable solutions. Business investment is needed to further accelerate the application of new innovations in the marketplace and can also help build the capacity to get the food to the places it’s needed most.

“The venture capital sector is starting to look very seriously at the food and ag sector as a major new opportunity,” says Dr. Scott Massey, who leads the business-university alliance called the Cumberland...
Tennessee’s farmers are always careful with fire.

Help Prevent Wildfires. Report woods arson and suspicious activity.

Tennessee Arson Hotline:
1-800-762-3017
Center and is also chairman and CEO of GAP. The Center serves as the think tank for oneCITY, a state-of-the-art 19-acre innovation hub located in Nashville dedicated to advancing health care, life sciences and technology industries.

With these dynamic resources at hand and a trending increase in companies pursuing social solutions and shared-value opportunities, Tennessee has some exciting prospects for agricultural innovation and technology on the horizon. “Global Action Platform is delighted to be in Tennessee,” Massey says. “We hope to be a good partner helping the state agricultural sector continue to grow and benefit from global markets and global research.”

FUNDING INNOVATION
In partnership with GAP, Memphis Bioworks Foundation and others, Tennessee’s Department of Agriculture has developed a strategic initiative to further nurture agricultural innovation and entrepreneurial development, as well as increase farm profitability by finding more venture capital for ag startups in Tennessee. Aligning with the Governor’s Rural Challenge, the initiative will look more to the private sector to explore the challenges in production and technology related to global hunger.

Although this new initiative is still in planning stages, it has already received positive feedback from leaders within the ag community.

Tennessee has all the resources in place to make this new initiative a great success, according to Ed Harlan, TDA assistant commissioner for Market Development.

“We have a lot of small to mid-sized farmers, so we have diversity in our production agriculture both in terms of natural resources and people,” Harlan says. “We are world-class in logistics and distribution, and have a global reputation in health care.” This comprehensive toolbox has founded a growing confidence that the state will have no trouble attracting private investment capital both nationally and from abroad.

— Keri Ann Beazell
Judging from a recent report by the U.S. Department of Agriculture, it appears Tennesseans have a taste for freshness.

To be precise, residents of the Volunteer State are hungry for more fresh produce, especially the kind that can be found at farmers markets. According to the report released by the USDA in 2014, Tennessee is the nation’s fastest-growing state when it comes to the number of farmers markets.

The reason for the growth is simple, says Amy Tavalin, farmers markets marketing specialist for the Market Development Division of the Tennessee Department of Agriculture (TDA).

“People want to know exactly how their food is grown and where it’s coming from,” Tavalin says. “The local movement is getting big. It’s really becoming a hip thing to eat locally.”

The increase in farmers markets across the state means more people have access to the fresh fruits and vegetables that are grown by Tennessee producers. And from the small sites with just a few vendors to the large malls, farmers markets play a key role in Gov. Bill Haslam’s Foundation for Health and Wellness initiative.

“The governor really wanted Tennesseans to be healthier,”
“I think there’s a certain amount of trust and pride in knowing that my food’s coming from a farmer who’s a neighbor, a fellow Tennessean.”

RICK JOHNSON
CEO, Governor’s Foundation for Health and Wellness

Tavalin says. “And since farmers markets have grown so much here, that’s just one avenue in making healthier Tennesseans.”

COOKING INSTRUCTIONS

With farmers markets opening in more places across the state, access to fresh produce is certainly becoming more bountiful. But the markets need to also be a place where consumers can learn how to prepare that bunch of kale or bushel of beans they just bought, according to Rick Johnson of the Governor’s Foundation for Health and Wellness.

“I think there’s a certain amount of trust and pride in knowing that my food’s coming from a farmer who’s a neighbor, a fellow Tennessean,” says Johnson, CEO of the nonprofit that works to enable and encourage Tennesseans to lead healthier lives. “I think that does matter to a lot of people.

“But we also can’t take for granted that even when a market is there and the food is available, that people know about it or how to prepare some of it. We need to have farmers markets and have food available to people who need access to it, but we also need to let those places serve as a means to give people some help on how to cook what’s available there.”

To that end, the Market Development Division of TDA has been working with the Governor’s Foundation and local health departments in counties across the state to teach consumers how to prepare the fresh foods bought at farmers markets. In addition, University of Tennessee Extension agents are setting up at farmers markets to teach about canning and freezing foods.

HELP FOR LOW-INCOME CONSUMERS

The TDA also worked with the Department of Human Services in an effort to give low-income consumers who use EBT cards through the Supplemental Nutrition Assistance Program (SNAP) better access to farmers markets.

“We hosted a one-day event where farmers and market managers could get on-site approval from Food and Nutrition Services and begin using a SNAP/EBT machine at their farmers markets,” Tavalin says. “They received six months free of fees and a free EBT machine.”

In addition, the Market Development Division has assisted with a grant proposal for a “double bucks” program that allows SNAP participants to double the value of an EBT card at farmers markets.

To help make farmers markets in Tennessee even more viable, the state and the Tennessee Association of Farmers Markets (TAFM) are working on a plan for farmers markets certifications.

“We want to teach people how to manage farmers markets and have a place to go to learn about farmers markets, and now we’ve taken it to the next level with certified farmers markets,” says Steve Guttery, TAFM president.

– John McBryde

PICK TENNESSEE PRODUCTS FARMERS MARKET SHOPPING TIPS

• Always look for the Pick Tennessee Products logo!
• Buy sweet corn early in the morning.
• Store tomatoes with the stem end up, as it grows on the vine.
• Go green at the farmers market; bring your own shopping bags.
• Your nose knows the best cantaloupe.
• Winter squash varieties keep well if stored in a cool, dry place.
• Always purchase produce that looks as fresh as possible.
• Want to make apple butter? Then purchase a variety of different apples.
Champions of Cotton

Dr. Kater Hake
Vice President of Agricultural & Environmental Research
Cotton Incorporated

You can tell a great deal about a company by the caliber of professionals who choose to work there. Cotton Incorporated maintains a team of dedicated experts who work hard every day to increase the demand for and profitability of your cotton. These Champions of Cotton are the common thread that continues to strengthen the fiber of our industry.
Discerning consumers seek a shopping experience as nourishing for the soul as the food is for their bodies. Wandering stall to stall, taking in the sights and smells of a farmers market helps the public feel more connected to their food and its producers.

Jon and Pat Kelley grew up with agriculture in their blood. Reared in a farming family, the two brothers struck out on their own and founded Kelley’s Berry Farm. Specializing in blueberries, strawberries, blackberries and peaches, the Kelleys peddle their wares at their on-farm retail stand and farmers markets throughout the state.

Jon Kelley’s stance on freshness is simple. “You pick what you need, and then you sell it later that day,” Kelley says. “The fresher, the better.”

The Kelles plan their weekly farmers market visits based on geographical location and popularity of the market. Jon will drive up to 50 miles for a farmers market, but he uses his time wisely. “In the summer, we try to go to two to three markets with bigger turnouts, or it’s not worth standing out there,” Kelley says. “The more customers, the merrier.”

At farmers markets such as the Franklin Farmers Market, the Saturday Farmers Market and the Hip Donelson Community Farmers Market, the Kelleys sell their produce to eager new customers and familiar faces. “We have a lot of regulars who appreciate our quality and freshness,” Kelley says. “You want to leave your customers saying, ‘Man, that’s some good stuff.’”

The juicy gems of Kelley’s Berry Farm have a rapidly growing fan base, even garnering the coveted “Best Tasting Strawberry” award from the Franklin Farmers Market in 2014.

But the offerings of Tennessee farmers markets are not limited to berries and other fruits. Vegetables, flowers, cheeses, soaps, honey, candles and other regionally produced items are scooped up by delighted shoppers.

Many of the vendors at these farmers markets are members of the Pick Tennessee Products program, which promotes locally produced food, plants and agritourism. The Kelley family is proud to be a part of a program that supports farmers, artisans and processors.

For more information about Tennessee farmers markets, visit picktnproducts.org.

– Hannah Patterson
MADE from Scratch
Mother and son, Veronica and Jordan, share an entrepreneurial spirit and a love for baking. The duo is behind the Nashville-based SoberDough, which was founded in 2013 and creates artisan brew bread mixes – dry bread mixes that only require beer to bake.

“I’ve been baking for many years. My mom taught me when I was young,” says Veronica Hawbaker, president of SoberDough. “We don’t want to be just another food product, that’s why we handcraft each of our bread mixes in small batches with all natural ingredients, lots of care and a huge dose of fun. It’s fun to share the ability to make brag-worthy bread with others whether they can or can’t bake.”

But starting a company from scratch isn’t easy, and connecting with consumers can prove to be a challenge without the right resources and connections.

HELPING LOCAL PRODUCERS

Pick Tennessee Products has helped consumers identify locally grown, processed and crafted products since 1986, and currently utilizes its website, mobile app and social media including Facebook, Pinterest and Twitter to reach a wide audience. Last year, there were more than 315,000 visits to the program’s website. “The demand is growing all the time,” says Cynthia Kent, creative resources coordinator for the Tennessee Department of Agriculture. “The Pick Tennessee Products campaign connects Tennesseans who farm, grow and make food all across the state – farmers, artisans, processors and manufacturers – to Tennessee consumers looking for farms, farm products and foods produced locally. Access to fresh and local products allows consumers

Top Left: Jemina “Jem” Boyd started Chubby Bunny Foods, a baby food company using fresh ingredients. Top Right: Veronica Hawbaker and her son, Jordan, founded artisan bread mix company, SoberDough. Both are members of the Pick Tennessee Products program.
Top: B’s Cheesecakes are created by Jim and Bonita Lacey. Bottom: The first-ever Tennessee Table event brought together some of the state’s finest chefs and Pick Tennessee farm-direct food producers to encourage more chefs to create dishes that feature and promote Tennessee products.
A WIDE VARIETY OF PRODUCTS

The Pick Tennessee Products program lists about 2,200 participating farms, processors, and other agriculture and farm businesses featuring more than 10,000 products. Listings on picktnproducts.org range from the beer bread mother-son team (soberdough.com) to Christmas tree farms to fresh meats, local dairies, farmers markets, wineries and artisan chocolates. This diverse list also includes a Nashville-based organic baby food producer.

Jemina Boyd founded Chubby Bunny in 2012 after many of her friends had children and wanted to feed fresh, healthy foods to their babies. Because making baby food can be time consuming, Jem wanted to help out young families. Growing up in a family of six where her mother made baby food, Jem was used to experimenting with new fruit and vegetable combinations. Today, her product is taste-tested by young, picky eaters, and she sells at local farmers markets. Learn more at chubbybunnyfoods.com.

Jim and Bonita Lacey are the duo behind B’s Cheesecakes just outside of Clarksville, which started after years of the couple getting constant requests from co-workers, family and friends for their delicious homemade cheesecakes. Proudly displaying the Pick Tennessee Products logo, their wide variety of gourmet cheesecakes are sold locally and featured in local restaurants.

“We’re a work in progress,” Bonita Lacey says. “We’re new to the program, but we’re so proud to display that logo. We’re hoping it helps us market our cheesecakes, reach more consumers and helps us break into the grocery store market. We are so excited about where this business can take us in the future.”

She and her husband currently bake about 30 flavors – including blackberry and maple candied bacon cheesecakes – using local products like fruits and honey, and a variety of wines from a local Clarksville winery, Beachaven Winery.

Kent says this program will remain an essential tool for the state in the future. “Ultimately, Pick Tennessee is important for consumers because of its continuing contributions to building healthier rural economies and healthier Tennesseans.”

– Blair Thomas
The agriculture industry has a new and growing vocabulary these days. Terms such as aquaponics and hydroponics are helping define the future of the industry, and Tennessee’s innovative producers are leading the charge. In addition, Tennessee companies are seizing opportunities to reach national and global markets with innovative products.

In Greenback, Jeff and Trish Dean have learned to commercialize what for many years had only been an in-home hobby. Their company, Eco-Rich Farms, uses aquaponics to produce and sell lettuce and herbs. Their 11,000-square-foot greenhouse houses both plants and 800-gallon tanks filled with tilapia.

“The fish waste provides a food source for the plants, and the plants provide a natural filter for the water the fish live in,” Jeff Dean says of this symbiotic relationship. “When people walk into the greenhouse, they’re fascinated to see how it works. There are no chemicals. You just set it up and let the bacteria do its work, and you get this beautiful, leafy vegetable.”

Aquaponics is a close cousin of hydroponics, a method of growing plants in water without soil. GrowAgra in Buchanan uses hydroponic grow chambers to produce wheat that is processed into organic wheatgrass juice, which the company’s president, Jim Scarbrough, says is popular because of its rich nutritional content.

“We have several products we can grow, but we’re only growing wheat now because we’ve discovered wheat has more vitamins and minerals than just about anything else on the market,” Scarbrough says. “The chlorophylls and enzymes are all there.”

GrowAgra’s grow chambers average 10 feet wide, 10 feet tall and 48 feet long. The chambers have six levels of plants growing in them, and each of the levels has its own water.
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source. The plants are fertilized with saltwater because Scarbrough says, “The ocean has all the nutrients our plants need, and it makes our plants very happy.”

Before starting GrowAgra, Scarbrough worked as an industrial machinist. He used that experience to build the first grow chamber, which is designed to be mobile.

“You can pull them up to a site and plug them in like a camper, add water and you’ve got a farm. No dirt or tractors are needed,” he says.

GROWING THE TENNESSEE BRAND

Scarbrough says the Tennessee Department of Agriculture’s Tennessee Agricultural Enhancement Program enabled the company to purchase equipment and helped GrowAgra get its products into Whole Foods Market.

“We are now ready to produce about 200 to 400 cases a week of product. That may not sound like much, but that is a big, big number,” he says.

Eco-Rich Farms sells to Butler & Bailey Market in Knoxville as well as to four of the Food City grocery stores in East Tennessee. Dean says the company also supplies several restaurants and will soon begin supplying an assisted living facility. The company grows between 1,500 and 2,000 plants per week at full production, and Dean hopes to double that number in the near future, as well as add sorghum, alfalfa and barley to the mix.

SPICING IT UP

In Middle Tennessee, the Franklin-based Doug Jeffords Company, (DJC) is adding a little spice to agriculture production by creating customized spice blends for some of Nashville’s most popular restaurants, including Puckett’s Grocery and Restaurant, Whiskey Kitchen and Red Pony.

“We’re kind of a little-known secret unless you are a chef and in the food industry,” says J. McKinley Thomason, president of the Doug Jeffords Company.

Founded in 1961, the company was first known for its sausage seasonings. McKinley’s father, John Mack Thomason, worked for the company and ultimately purchased it in the mid-1980s. He expanded the client base by working with chefs and restaurants to create custom spice blends.

When John Mack passed in 2005, McKinley led DJC to develop a retail line as an ode to him. The high-quality J.M. Thomason line includes Chili Lime, Hot Chicken and Porterhouse Steak blends.

The latest success is the signing of an agreement to create custom spice blends in partnership with Duck Commander Family Foods. Doug Jeffords’ newly released collection includes Willie’s Bayou Blackening, Uncle Si’s Cajun Gun Powder and Kay’s Lemon Pepper.

– Teree Caruthers
A Recipe for SUCCESS

Food entrepreneurs and startups are on the rise in Tennessee

Staff Photo by Brian McCord
Original, tasty and made in Tennessee – food businesses have found a niche for their products at local farmers markets and other outlets throughout the state. Whether pursuing a family recipe or following a food trend, the state offers resources for food startups taking their product or service to market.

FROM CONCEPT TO BUSINESS

The Tennessee Department of Agriculture (TDA) presently receives more than 100 inquiries each month from entrepreneurs interested in turning their food idea into a business. Answering questions ranging from food safety procedures to permits, there is never a dull moment for Mike Brown, outreach coordinator for the Consumer and Industry Services Division at TDA.

“Most of the people trying to get into the food business want to start selling at local farmers markets,” says Brown, noting this outlet provides a great pilot audience for testing ideas before marketing on a larger scale. According to the USDA statistical service, in 2013, Tennessee had the highest percentage growth of any state for farmers markets, which has resulted in increased opportunities for startups to gain recognition.

At the same time, there is no shortage of innovative ideas being proposed to TDA like making beer out of rainwater, syrup from the shagbark hickory tree or a twist on the sun-dried tomato process. Lately, Brown has noticed a trend for anything raw or probiotic, such as probiotic-rich beverages like kombucha and kvass.

Producing foods like jellies and jams require only a domestic kitchen permit. However, a commercial kitchen space is required to produce foods with meat, eggs, milk or other ingredients that pose health risks if not properly handled and stored.

“The setting of food manufacturing is trending strongly toward commercial kitchen spaces,” says Brown, noting that the University of Tennessee has one, and they’re popping up across the state. An advantage of community kitchens, he says, is that they put people into business without having to buy a building or equipment. Instead, they can rent it.

Another advantage is that the commercial kitchens are inspected and meet food safety requirements, thus saving the business from that expense and challenge while also protecting the health of the consumer.

INSIDE A COMMUNITY KITCHEN

Housed at Casa Azafrán Community Center in Nashville, Mesa Komal opened its kitchen doors in April 2013 as a program of the nonprofit organization Conexión Américas. Working closely with TDA, Mesa Komal helps food entrepreneurs start their business by providing a cooking space and supplies at an affordable hourly or monthly rate.

“Mesa Komal is seen as a community kitchen, so all the chefs and business owners who rent the kitchen share the space,” says Martha Silva, economic integration director, Conexión Américas. “The kitchen can have five businesses running at the same time, so they have to openly communicate with each other.” In working together, everyone at the kitchen benefits from the sharing of knowledge and best practices.

The kitchen’s business connections are another asset.
I will know my weeds. When they grow. When they pollinate. And I will stop them before they go to seed.
I will take action in the field and do whatever it takes to give my crops the upper hand against weeds.
I will take action with careful herbicide management and use multiple herbicide sites of action, because every action counts.
I will take action because it’s my bottom line. It’s not about this year or the next. It’s about the long term.
I will take action. This time. For all time.

Now is the time to take action against herbicide-resistant weeds. Visit www.TakeActionOnWeeds.com to learn how you can prevent herbicide-resistant weeds from spreading.
Recently, Belcourt Theatre in Nashville has started selling food products like empanadas, hummus and tamales from Mesa Komal’s entrepreneurs. In 2015, the kitchen plans to further these partnerships.

Additionally, Mesa Komal is launching a new culinary training course in Spanish starting March 2015, where students learn how to manage a catering business. “The purpose is to train or motivate food business owners to start their own business or learn better practices and skills,” Silva says.

Several homegrown brands have already found a home here including Hummus Chick, Chai Wallah Tea Company, Chubby Bunny Baby Food and SoberDough, and there is still room for new entrepreneurs, particularly small-scale manufacturers and caterers.

“We are always looking for new entrepreneurs to enroll, so if anyone wants to take a tour, even if it’s only an idea of a business, it’s fine,” Silva says. The kitchen doors are always open.

– Keri Ann Beazell

WHAT DOES MESA KOMAL PROVIDE?

- Two commercial ranges (each with four burners, one griddle and two ovens)
- Two convection ovens
- One deep fryer
- One charbroiler grill
- One 30-quart commercial mixer
- One 6-quart stand mixer
- One proofing box/warming box
- One ice maker
- Reach-in coolers and freezers
- Storage units with metro shelving
- Five stainless steel prep tables
- Large prep sink and three-compartment dish sink
- Commercial dishwasher
- Pots, pans, bowls and more

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From Pasture to PLATE

Tennessee entrepreneurs blend tradition and innovation to market beef to new customers
When aspiring chefs and caterers Chris Carter and James Peisker struggled to find a steady supply of locally produced, organic meats for their events, they decided to solve the problem by opening Porter Road Butcher (PRB) – a brick-and-mortar, traditional butcher shop in an up-and-coming neighborhood on Nashville’s east side.

**WORKING WITH FARMERS**

“You drive around Middle Tennessee, and all you see is farmland with livestock. It was strange to us that we’d have to go to Whole Foods to buy previously frozen meat from farms on the other side of the country,” says Chris Carter, co-owner of Porter Road Butcher. “That didn’t make a lot of sense, so we started going to the local farmers market to source our foods, but we had to be so far ahead [of catering events] that if someone calls last minute and says they’ve added on three people to the event, we’d have to go to Kroger to get steaks for the other three people.”

“And we thought to ourselves, we can’t be the only ones running into this problem,” Peisker adds, “so we set out to find a way to solve the problem that was plaguing us, as well as our fellow culinarians, and that led us here. There was no way for small farmers to get their products to consumers in downtown Nashville without there being a giant hassle for everybody involved. So what we tried to do is make a convenient way for local farmers to make a living, and for us to supply our friends and neighbors with a high-quality product.”

Carter says the farmers from whom they were sourcing took a little more convincing.

“They had been promised so many things, and they work so hard. It was really hard for them to accept these two 20-something kids coming in and telling them we’d buy up their whole cattle, and they wouldn’t have to come to the farmers market anymore. They can just work on the farm and spend time with their families,” he says of the farms with which PRB works, including KLD Farms in Ashland.
City and Tennessee Grass Fed Farm in Clarksville.

THE GRASS IS GREENER

Kathy Gunn, owner of Gourmet Pasture Beef in Robertson County, is also an example of the farmer Carter talks about. Her husband, Josh, is a seventh-generation farmer. Together, they raise between 800 and 1,500 cattle on 850 acres. Gourmet Pasture specializes in grass fed beef, which means the cow spends its entire life grazing in the fields.

Gourmet Pasture Beef supplies beef to a number of Nashville restaurants, including Gabby’s Burgers and Fries, Pub 5, and 12 South Taproom & Grill, as well as Vanderbilt University. Since the company started in 2007, the Gunns have doubled their business each year, and Gunn attributes that success to a number of factors.

“I think there are a significant number of people out there who are looking for 100 percent grass fed, hormone-free beef. But a bigger part of our customer base just wants to buy local – they want to know where their food comes from,” she says.

The desire to buy and eat local is also a factor that has influenced the success of Porter Road Butcher, which recently opened a second location in Nashville. The shop’s high level of customer service has also played an important role.

“Part of our success comes from people wanting to know where their food comes from – people being smarter about what they’re eating,” Carter says. “We have new people walking in the door every day. We introduce ourselves to people and work hand in hand with them. Our repeat customers are extremely important to us. We know their names, their kids’ names, what they had for dinner, what they like to eat. We’ve helped them create menus for their anniversaries, for milestone birthdays, for every holiday. We really become a part of our customers’ lives.”

He’s quick to add, “We also love those first-time customers who wander in and say, ‘I have no idea what I want to do for dinner.’”

– Teree Caruthers

TENNESSEE BEEF BY THE NUMBERS

Beef cattle ranking in Tennessee farm cash receipts

#2

Tennessee’s national ranking for cattle and calves sales

TENNESSEE HAS 43,000 BEEF CATTLE FARMS.

864,000

Number of beef cows as of 2014

Source: USDA National Agricultural Statistics Service
FROM THE FIELD

to your fork.

Meet the farmers who grow your food and get the answers to your food questions at FindOurCommonGround.com

Conversations About Farming and Food

Brought to you by America’s soybean and corn farmers and their checkoffs.
TENNESSEE RANK IN U.S. PRODUCTION OF AGRICULTURAL PRODUCTS

MEAT GOATS #2
EQUINE #6
BEEF COWS #9
BROILERS #14
CATTLE & CALVES #15
MILK GOATS #15
HOGS #25
MILK COWS #29
MILK #31
SHEEP & LAMBS #31
HONEY #33
CHICKENS #34

VALUE OF CASH RECEIPTS (x $1000)

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$630 million
Amount generated by cattle and calves sales

TENNESSEE TOP COUNTIES FOR BEEF COWS

1. Greene
2. Lincoln
3. Giles
4. Bedford
5. Lawrence
6. Maury
7. Wilson
8. Sumner
9. White
10. Hawkins
11. Washington
12. Warren
13. Jefferson
14. Robertson
15. Williamson
Staff Photos by Brian McCord
Innovation will help agriculture feed, clothe and fuel a growing global population. The NextFarm™ Agricultural Innovation Accelerator helps entrepreneurs deliver innovations that will thrive in the marketplace and grow Tennessee’s economy.

SMARTER WATER
Brett Norman and Clayton Plymill co-founded AgSmarts in 2013 to bring industrial building automation technology to agricultural irrigation. Norman, who grew up on a tobacco and vegetable farm in Sumner County, credits NextFarm with jumpstarting AgSmarts. “We had a great idea, but we had no idea how to take it to market,” he says. NextFarm is an intensive, 90-day weekend program helping entrepreneurs turn agriculture-related business ideas into fundable businesses. “NextFarm allowed us to understand how to be attractive to investors, how to refine our story to attract the startup funding we needed,” Norman says.

Investors crave proof that a market exists; NextFarm prods companies to enter into actual conversations with future customers. “If there is not an existing or easily established market for the idea or product, then the venture is not likely to succeed,” says Carol Reed, executive director of Northwest Tennessee Entrepreneur Center (NTEC) in Martin.

AgSmarts has raised nearly $1 million from investors who see potential profits in managing irrigation systems. In 2015, the Memphis-based firm will continue field testing and start distributing its field node sensor through partnerships with regional precision ag equipment vendors.

Stony Creek Colors offers natural colorants that are a cleaner and safer replacement for synthetic dyes.
Sarah Bellos, president of Stony Creek Colors, says NextFarm helped grow her business.

“A lot of the variable rate irrigation technology today is very complicated to use, making it amazingly underutilized by producers,” Norman says. The technology can also help farmers manage nonirrigated fields, he says.

Another key for NextFarm: linking beginning entrepreneurs with mentors who have “been there and done that.”

“For startup entrepreneurs, there’s no boss to turn to for advice or direction,” Reed says. “Mentors provide a good, reliable sounding board, a second, seasoned opinion.”

NextFarm started in 2013, and NTEC contracted with Memphis Bioworks Foundation to provide services for the initial 2014 class. Memphis Bioworks, created in 2001 to foster economic growth in Memphis, focused on entrepreneurship in the medical, agricultural and logistics fields.

“Without question, the services we received from Memphis Bioworks helped us progress exponentially toward our goal of establishing our entrepreneur center as a world-class, regional, agriculture-focused innovation accelerator,” Reed says.

The connection to Memphis Bioworks – and the timing – was perfect for entrepreneur Sarah Bellos.

“I connected with Memphis BioWorks through USDA Rural Development,” says Bellos, president of Stony Creek Colors in Goodlettsville. The company, which has been awarded both a USDA business development and an SBIR research grant, was accepted into the 2014 NextFarm class. “It was a good time for us to think about our all-around business,” she says.

Stony Creek Colors contracts with farms to grow a strain of indigo suited for Tennessee’s...
climate. The company then processes the plants into indigo dye for use by commercial denim manufacturers. Bellos says NextFarm helped her focus beyond the farm-level challenges of growing a new crop. “Our focus is still on making sure our products create a new, niche market for southeastern U.S. farms,” she says. “But NextFarm helped us validate the market for our products and ensure our business was designed to grow to the necessary scale.”

In 2015, Stony Creek Colors will work with a major denim manufacturer to develop an all-American denim jean using U.S. cotton and U.S.-grown colorants. Barrin setbacks, Bellos projects the company will need indigo from 1,000 acres by 2017, with growth potential to 15,000 acres.

“That’s a small amount of land when compared with commodity farm crops,” she says. “But indigo is a good fit for growers willing to produce an alternative crop with strong consumer interest.”

**A BROAD FARM SPECTRUM**

Through NextFarm, agricultural startups like AgSmarts and Stony Creek Colors refine their ideas and verify their products can perform in the marketplace. That helps meet global agricultural challenges – and grows Tennessee’s economy.

“Agriculture is a vital part of Tennessee’s economy, and by providing entrepreneurial expertise, we’re helping the industry grow and innovate while helping local entrepreneurs scale their businesses right here in Tennessee,” says Steve Bares, president and executive director of Memphis Bioworks Foundation.

– Matthew D. Ernst
As each new generation becomes further removed from the family farm, agriculture education plays a vital role in bridging that knowledge gap and securing the industry’s future in Tennessee.

BRIDGING THE KNOWLEDGE GAP
“A recent USDA study showed that we’re only graduating from universities 50 percent of the need to supply the workforce for the ag industry,” says Julius Johnson, commissioner, Tennessee Department of Agriculture. “The remaining jobs that are out there that typically require degrees and backgrounds in agriculture are going to graduates with degrees in biology and other sciences. So we need more agriculture graduates to fill those jobs in the ag industry.”

Fortunately for Tennessee students, Gov. Bill Haslam’s Tennessee Promise – a program that guarantees paid tuition for any student attending a state community or technical college – will enable more high school graduates to pursue careers in agriculture.

“The Tennessee Promise is a major game changer as far as assisting agriculture families or anyone wanting to go into the agriculture industry to get the education they need,” Johnson says. “The new high-tech world requires new skills for farm workers. Our tractors are equipped with computer technologies and joysticks, keyboards and other high-tech devices.”

CULTIVATING TALENT
Mike Krause, executive director of Drive to 55/Tennessee Promise, says the state’s colleges and universities are especially equipped to train students for current jobs as well as the jobs of the future. Tennessee boasts six colleges and universities with agriculture programs, and the Tennessee Promise pathways program offers direct transfer options from community college to a four-year university in three agriculture-related subject areas – ag business, animal science, and plant and soil science.

“Agriculture is not what it once was. There are so many instances where we need people who are both technologically savvy and agriculturally savvy,” Krause says. “The problem is that in agriculture, like so many other fields, we just don’t have enough kids going to college. Right now, out of a graduating class of high school students, only 57 percent go to college. I’ve heard specifically from industry leaders about the need for students who know how to fix things, but you don’t get that with a high school diploma anymore. They have to have some post-secondary training.”

Johnson agrees, but adds that the common misconception that a career in agriculture means life on a farm keeps some students from pursuing agriculture in college and beyond.

“There are fewer farmers today, but the ag industry is massive and about much more than the production on the farm. There are jobs that service and support the industry, such as sales and marketing of agriculture products or research into better practices for agriculture products,” Johnson says.

REAPING THE REWARDS OF AG EDUCATION
Johnson says there are emerging sub-industries, such as food safety and agriculture technology, that will play an important role in the future of agriculture.

“We need to make sure that we
Agriculture is Tennessee’s top industry. The Tennessee FFA Foundation, Inc. believes that preparing a generation of informed consumers to advocate for smart agricultural production will pave the way for a better Tennessee. More than 33,000 high school students are enrolled in agricultural education. Learn how FFA is making a difference in your community by visiting your local chapter.

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are producing our products in a very safe way. Food safety careers, such as being able to identify problems in agriculture and recommend best practices for dealing with those issues, are hugely important,” he says.

“Precision agriculture using computer technology is another area we need to focus on. Using these smart technologies, we can develop more efficient ways of producing the food and fiber we need. It’s also important we understand the science and chemistry involved in the various technologies that will become available.”

Heather Hill, precision ag coordinator for H&R Agri-Power, a farm equipment dealership, says hiring employees with a strong agriculture background is critical to the success of her company and others like it. Because of that, H&R Agri-Power regularly hires high school and college interns, sponsors a technician education program, and offers tuition reimbursement to qualifying students attending certain accredited diesel technology programs such as Lincoln College of Technology (formerly Nashville Auto Diesel College).

“My department had a summer intern who was learning the ropes of precision agriculture this year,” Hill says. “I, myself, interned for New Holland USA. That experience was priceless. It’s experience you really can’t learn in the classroom. It’s hands-on knowledge – learning about how the business is run and what it takes to get that machinery in the hands of your customer.”

– Teree Caruthers
Thanks to modern technology, farmers don’t need a drill to strike oil in their own fields. Crops such as canola, sunflowers and soybeans can be processed into biofuels and used to power tractors and combines, or generate electricity for the farm.

Dr. Jason de Koff with Tennessee State University College of Agriculture, Human and Natural Sciences, received a grant in 2012 to build the Mobile Biodiesel Education Demonstration (MBED) trailer, a mobile education station, which contains the equipment necessary to convert oilseed into fuel. The grant also included collaboration from other staff and faculty at TSU including Chris Robbins, Dr. Prabodh Illukpitiya, Dr. John Ricketts and Alvin Wade.

The MBED demonstrates the process and value of producing biofuel, de Koff says. “We also take it around to local schools to demonstrate some of the unique career opportunities agriculture has to offer.”

Biofuel technology has a tremendous economic impact locally and nationally.

Relying more heavily on biofuels creates a new form of revenue for the farmers, as well as helping the U.S. depend less on foreign oil.

“Approximately 80 percent of the energy consumption in the U.S. comes from fossil fuels,” de Koff says. “We need to diversify our energy sources in case one becomes unavailable or the price is too high.”

The presence of biofuel refineries in rural areas where the raw materials are grown will greatly benefit the local economy. Refineries mean job opportunities for the community, and revenue for the farmers producing the crops.

Biofuel is also a preferable source of energy because it is a renewable resource, as the crops can be grown year after year. They are also safer and better for the environment.

“Biofuels typically produce lower greenhouse gases. A biofuel like biodiesel is also nontoxic and less flammable,” de Koff says. “This lowers the risk involved with handling or transportation of the fuel.”

The MBED made its way around the state teaching farmers which Tennessee crops work best for producing biofuel and how to get the most energy per acre.

“Biofuel production is energy efficient,” de Koff says. “It produces more energy than what is required to make the fuel in the first place.”

The experts at TSU recommend Tennessee farmers grow canola and sunflowers because they produce the highest level of oil within the seed. The more oil they can extract, the more biodiesel they can make on a per-acre basis.

– Hannah Patterson
Going to college looks different for every student. Some choose a four-year university, and others prefer a community college near their hometown. There are advantages to both options and the decision can be difficult.

But students who pursue a bachelor’s degree in a variety of agriculture programs from Middle Tennessee State University or The University of Tennessee at Martin get the best of both worlds – the convenience and smallness of a community college and the upper-level courses from a four-year university.

The universities’ agriculture departments are exploring 2+2 programs, which create partnerships between universities and community colleges to provide students with more options to earn a bachelor’s degree.

Currently, students can earn a bachelor’s degree in agribusiness from MTSU without leaving Columbia State Community College’s Lewisburg campus, and more community college partnerships are in the works.

Kara Youngblood, who coordinates MTSU’s 2+2 program and travels to Columbia State’s Lewisburg campus to teach MTSU agribusiness classes, says the program allows the university to reach a wider range of students by offering satellite classes at the community college as well as online courses.

“There are only so many people who can travel to a university and give up four years of their life for education,” Youngblood says. “We’re able to pull in those people who need to remain close to home. Our goal is for them to only have to travel to Murfreesboro to walk across the graduation stage.”

THE UNIVERSITY OF TENNESSEE AT MARTIN

UT-Martin has approached 2+2 differently. Students earn an associate degree in agriculture at Jackson State Community College or Dyersburg State Community College, and then transfer to UT-Martin to finish their upper-level agriculture classes in agribusiness, farm and ranch management, or animal science.

Agriculture, Geosciences and Natural Resources Department Chair Joey Mehlhorn says for the past seven years, 10 to 15 students per year have transferred to UT-Martin after earning an associate degree in agriculture. Many of these students would not have been able to enter UT-Martin as freshmen.

“Because some students aren’t great at standardized testing, they’re not going to be able to go directly to a four-year institution,” Mehlhorn says. “Many students see this program as a great first step – they can begin college without having to pack up and move away immediately.”

Agriculture students who transfer to UT-Martin as part of the 2+2 program are more likely to graduate, Mehlhorn says.

“But their probability of being successful here after finishing an associate degree goes up a great deal,” he says. “It’s that getting acclimated to school thing. Once they get through those first two years, they typically don’t have problems.”

– Jill Clair Gentry

Students benefit from 2+2 programs.
Emily Smith, a masters candidate in horse science, walks a mule named Oscar for exercise at The Horse Science Center at MTSU in Murfreesboro.
Scientists at MTSU, Vanderbilt work together to advance stem cell technology.
Researchers at Middle Tennessee State University (MTSU) and Vanderbilt University are working together on a project that could have groundbreaking applications in the livestock industry as well as human medicine.

After working together on research of mineral deficiencies in cattle, Warren Gill, director of MTSU’s School of Agribusiness and Agriscience, and James West, associate professor of medicine at Vanderbilt University Medical Center, realized they could combine their expertise and resources to perform important stem cell research.

“The MTSU Ag School does not currently have the level of genomic research that Vanderbilt can do, but Vanderbilt doesn’t have cattle,” Gill says. “When we come together, good things happen.”

Currently, Gill, West and MTSU associate professor John Haffner are working to see if it’s possible for mules, which are sterile, to reproduce through stem cell technology. The goal is to insert spermatozoa-producing stem cells from a donor horse into a male mule’s reproductive organs to allow breeding to take place when it would have otherwise been impossible.

The research has been done in other animals – rats, mice, hamsters, pigs, dogs, cattle and goats – but mules are different because they cannot reproduce on their own. If the research works, the scientists will know the donor’s stem cells have attached and grown, proving the viability of the method.

**LIVESTOCK APPLICATIONS**

“The end goal right now is to see if it can be done,” Haffner says. “The application for this technology in livestock would be to preserve the genetics of a valuable stallion or bull who had to be castrated, or for possible genetic manipulation.”

Gill says the idea of targeting specific problem genes, replacing them with good genes and using those stem cells to produce higher-quality animals would be extremely valuable in the livestock industry.

“Sometimes these animals are superior animals with one little defect,” Gill says. “If we could remove or block those bad genes, perhaps we could improve the lives of animals and also make them more productive. We might be able to do things like make a pig genetically resistant to some common viruses they suffer from.”

**HUMAN APPLICATIONS**

Being able to use stem cells to produce genetically superior spermatozoa in animals is just the beginning of this research,
West says.
“In human medicine, we’ve gotten really good at curing childhood cancer, but almost all of the boys become sterile from the treatment,” West says. “So the issue of learning how to transfer these stem cells correctly is important in preserving fertility in boys who are cancer survivors. Managing to make this work in mules will be important to human medicine.”

If the method can be proven to work in mules, West hopes small-scale clinical trials could begin in young boys receiving cancer treatment in about five years.

“Basically, we hope to be able to take stem cells from a boy before he receives treatment, multiply them and keep them alive in a lab,” Gill says. “And then when he’s an adult, he can get his stem cells back, so he can have children.”

– Jill Clair Gentry

**TOP 5 EQUINE BREEDS IN TENNESSEE**

1. Tennessee Walking Horse
2. Quarter Horse
3. Donkey
4. Mule
5. Spotted Saddle Horse

**3.2 MILLION**

of Tennessee’s 10 MILLION farm acres are used for equine.

**MAURY COUNTY IS CONSIDERED THE “MULE CAPITAL OF THE WORLD.”**

**TENNESSEE RANKS**

6TH

IN THE NATION FOR HORES AND PONIES ON FARMS AND

2ND

FOR MULES, BURROS AND DONKEYS ON FARMS.

**TENNESSEE EQUINE TRAIL GUIDE**

The Tennessee Department of Agriculture’s 50-page Tennessee equine trail guide allows the savvy equine enthusiast to locate private trails, private stables, overnight stabling, city parks, state parks, national parks and forests, state forests, bed-and-breakfasts with stabling, cabins, primitive camping, camping with electrical hookups, restroom and shower facilities, and even wagon trails. Locations are organized by region and indicated by user-friendly symbols.

These free guides are available by request at picktnproducts.org. Click on Equine Resources to be directed to an online request form, and the guide will be sent by mail.

You can also find the listings on the Pick Tennessee Products website and mobile app.

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HARVESTING History

The Tennessee Agricultural Museum

Staff Photos by Brian McCord
With today’s fast-paced world of smartphones and social media, it’s hard to imagine a life without the convenience of instant results. But not long ago, Tennesseans were laying the foundation of the state’s agriculture industry from the ground up, sewing their own clothes, growing their own food and building shelter.

Several museums across the state are bringing that history to the forefront, teaching consumers about the beginnings of Tennessee agriculture and why it’s important to remember the past.

**TENNESSEE AG MUSEUM**

The Tennessee Agricultural Museum in Nashville teaches visitors about all aspects of agricultural history through engaging exhibits, events, nature trails, gardens and more. Located on the grounds of the Ellington Agricultural Center and managed by the Tennessee Department of Agriculture, the museum opened in 1979 and features everything from a one-room schoolhouse to farm equipment from the early 1800s. The museum welcomed two
new staff members last year, museum director Gregory Phillipy and educational curator Elaura Highfield.

Tirri Parker, curator at the museum, says they saw approximately 22,280 visitors in 2014. “Visitors enjoy about 3,000 19th- and early 20th-century artifacts, including special exhibits on dairy, blacksmith, textiles and more,” she says. She adds the early beaver hat from Tennessee’s first hattery, a John Deere grain binder, the 1915 rural route mail buggy used until the 1940s, the large barn floor loom and a hand-turned cotton gin, among other sights, are not to be missed.

The museum hosts a number of annual educational events, such as Summer Saturdays, held each Saturday in July for families, and the Music & Molasses Festival, held on the third weekend of October. Parker says these events and the museum help to bridge the knowledge gap between today’s youth, which is two generations removed from the farm, and the older generations.

“When visitors don’t realize you can’t milk a bull or that tomatoes begin as green and ripen to red, there’s a lot of work to do!”

WEST TENNESSEE AG MUSEUM

Delle Rhue Burgess, a member of the museum staff at the West Tennessee Ag Museum in Milan, agrees. “I often ask young people if they feel prepared to provide for their families if they needed to,” she says. “Could they put food on the table and clothes on their backs? Most younger people don’t know how to survive like that.”

The West Tennessee Ag Museum opened in 1987 on the grounds of the University of Tennessee Research and Education Center, and Burgess has been there for 13 years. She says they try to teach and explain as much about agriculture as possible because agriculture is an extremely important part of everyday life.

“We’re here and available,” she says. “People just have to come visit.”

Admission to the West Tennessee Ag Museum is free, and guests will find a number of educational and fun exhibits. Burgess says the most popular varies from group to group. “We deal with all ages from 4-year-olds to people who won’t tell you their age,” she says. “The younger kids really like our diorama display depicting settlers
coming to the new land. When you’re 2 feet tall, it’s a huge, awesome scene.”

Teenage boys go crazy over the 1951 Chevy pick-up truck, and both teen and adult women love the domestic arts setting, which features spinning, weaving, sewing and more.

All in all, the more than 16,000-square-foot museum features more than 2,600 implements on display. “There’s a little something for everyone,” Burgess says.

**DISCOVERY PARK OF AMERICA**

There’s even more to see in Union City at Discovery Park of America. The new museum opened in 2014 and features more than 70,000 square feet of fascinating exhibits focusing on nature, science, technology, history and art.

Among those exhibits, the settlement, the barn and Mill Ridge give visitors a glimpse at agriculture’s past. The bright red barn sits outside the main building, concluding the grounds tour, and apart from the Discovery Center itself, is the most visible building from the highway.

The barn features antique tractors and other machinery, depicting the history of farm machinery after the horse.

“We have about 25 antique tractors that have all been restored. They all work,” says Jim Rippy, CEO of Discovery Park.

The barn also houses antique combines, steam tractors and more. As visitors make their way to the settlement and Mill Ridge, they can experience life in the early 1800s, including dogtrot log cabin homes, a blacksmith’s shop, an authentic gristmill, and a historic seed house.

Rippy says though West Tennessee is a largely agricultural area, many people still don’t know about agriculture. They want to tell the history of farming.

As for the future, Discovery Park has big plans in regard to agriculture.

“We’ve planted a half-acre of grapes and hope to show how the fruit is grown, plus supply them to a winery in a few years,” Rippy says. He adds that they’re also in the development stages of a modern farming exhibit.

“Genetics and DNA are very important in today’s farming,” he says. “We teach a lot of history, which is important, but we want to show the future as well.”

– Rachel Bertone
Tennessee is the No. 2 hardwood producer in the nation
Many Tennesseans don’t realize it, but Tennessee is an international leader in the hardwood industry, ranking second in the nation (behind Pennsylvania) for hardwood and lumber production. That means a plethora of hardwood products, from flooring to furniture, are manufactured in the Volunteer State, often from Tennessee timber.

“Tennessee is largely a hardwood state with a lot of oak, hickory, maple, ash and tulip poplar. A smaller percentage is softwood, which is used more for construction and paper making,” says Tim Phelps, information forester for the Tennessee Department of Agriculture’s Division of Forestry.

There are 14 million acres of forestland in Tennessee, with forests covering 52 percent of the state.

“Hardwood lumber produced in Tennessee is exported to markets all over the world; its popularity is derived from its color, grain and quality,” Phelps says. “More and more foreign buyers want to purchase wood from sustainable sources, so they can continue to depend on us for it. The Tennessee Wood Products marketing campaign aims to promote Tennessee’s tremendous wood-using industry that utilizes this sustainable resource, creates jobs and provides an array of products we use on a daily basis.”

Wood manufacturing is a huge industry in Tennessee and there are two types of manufacturers. Primary manufacturers are those who make lumber from the logs, cut them into boards, and sell them to secondary manufacturers, who make them into flooring, chairs, molding and other wood products.

Lumber is measured and sold by the board-foot. The National Hardwood Lumber Association in Memphis standardizes the grades for hardwood lumber buyers and sellers worldwide. The NHLA also offers a 14-week training program for people interested in learning the trade of inspecting lumber.

THOMPSON APPALACHIAN HARDWOODS

“Tennessee is a significant state for the hardwood industry, both for the quantity and quality of hardwood lumber produced here,” says Nordeck Thompson, who owns Thompson Appalachian Hardwoods in Huntland with his wife, Mary Claire. The couple bought an old sawmill and started the company in 1993, and today they have 95 employees, including four of their six children. The company buys timber from landowners, loggers and timber brokers, and then manufactures it into lumber that is shipped all over the world. About 40 percent is sold in the U.S., and 60 percent is exported overseas.

“The wood we manufacture is primarily used in the visual components of a building, such as hardwood flooring, molding, trim, cabinets and furniture,” Thompson says. “Tennessee timber is known for its quality, color and texture.”

Thompson grew up in the hardwood industry – his dad started a lumber company in Georgia in 1956. Thompson’s children are the third generation in the trade.

“The best quality of the hardwood industry is the people,”
For more than 20 years, Thompson Appalachian Hardwoods has manufactured and exported the highest-quality Appalachian hardwood lumber and logs. With control of raw material from the forest, Thompson Appalachian Hardwoods guarantees a consistent, high-quality product from start to finish.

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says daughter Claire Getty, who serves as executive director of the company. “From our skilled employees who manufacture high-quality lumber to the landowners who grow premium forestlands, no matter the size, each person in the process makes the industry rewarding.”

**MIDDLE TENNESSEE LUMBER**

Jesse Joyce, vice president of Middle Tennessee Lumber in Burns, is also committed to the landowners, loggers, customers and employees. That’s how it is in lumber business, says Joyce, who owns the company with his father. “It’s hard work, commitment to quality and to people,” he says.

A diversified company, Middle Tennessee Lumber is best known for its unfinished flooring, including a specialty grade rustic product that shows the natural characteristics of the wood. “It all begins with good quality timber,” Joyce says. “We harvest Tennessee timber and then kiln dry those domestic species including oak, hickory, hard maple, walnut and ash. We’re in a really good area for hardwood growth and quality. Each board we produce has its own unique characteristics and shows off the natural beauty of the Tennessee trees.

The company does a lot of business in Tennessee selling its products to contractors, but it also has customers across the nation and the globe.

Since 2010, Middle Tennessee Lumber has doubled in size and grown from 61 employees to 115. In that same time period, sales have grown from $19 million to $42 million.

“We have great people here,” Joyce says. “It’s really amazing to see how hard they all work. You can see that hard work in every piece of wood.”

– Jessica Mozo
TENNESSEE FORESTRY ASSOCIATION

TFA is proud that our Forest Industry and Landowners contribute to a total industrial output in Tennessee of $21 Billion representing 101,891 jobs. Our members grow twice as many trees as are harvested, as well as provide clean water, habitat for abundant wildlife and breathtaking scenic vistas across our state.

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5 LOCATIONS IN TENNESSEE TO SERVE YOU!

More than half of Tennessee is covered in forest, and the forest industry brings in more than $21 billion to the state and provides more than 100,000 jobs.

And because of the Tennessee Department of Agriculture (TDA) Division of Forestry’s Tree Improvement Program and its research partners, the University of Tennessee and North Carolina State University, these numbers will continue to rise as new seedlings become more genetically superior.

“Our Tree Improvement Program provides landowners with seedlings that grow fast and compete vigorously with other trees,” says Jere Jeter, state forester and assistant commissioner for the TDA Division of Forestry. “This helps ensure their regenerating forests grow healthy and continue to provide a great wealth of benefits not only to the landowner, but to all Tennesseans.”

The Tree Improvement Program works only with trees that naturally grow in or near Tennessee. Through a process of breeding and selection of the best-performing parent trees, the program develops seedlings that meet the needs of landowners, whether it’s trees that grow faster, bigger or more disease resistant.

Much of the progress made in tree improvement has been in pine trees, which are generally planted for fiber and timber production. Landowners who plant Division of Forestry pine seedlings have experienced a 50 percent gain in productivity compared to seedlings available 30 years ago, and the tree improvement program is expected to continue achieving a 1 to 2 percent annual gain in pine volume for at least the next decade.

“People tell us the seedlings have exceeded their expectations for how fast they will grow,” says nursery manager John Conn. “We can see the difference in growth even in the nursery bed.”

In addition to helping landowners maximize profitability of their forestland, the Tree Improvement Program works to improve hardwood seedlings, which are often planted to provide environmental benefits like wildlife habitat and erosion control along riverbeds.

“A healthy growing plantation of any species improves water quality, wildlife habitat and air quality,” says Russ Cox, forestry program specialist in tree improvement.

Jeter says healthy trees are a win-win for everyone, whether they own forested land or simply breathe in Tennessee air.

“Healthy trees and forests benefit all Tennesseans by providing wood products, recreation, wildlife habitat, and clean air and water,” Jeter says. “Forests managed on a sustainable basis utilizing superior genetics provide a better quality of life for everyone.”

– Jill Clair Gentry
STUDENT-PRODUCED PRODUCE

High school students help bring fresh, nutritious foods to Jackson-Madison County cafeterias
Jackson’s Liberty Magnet School earned the Governor’s Environmental Stewardship Award for its Farm to Tray program.
STUDENTS HELP GROW LETTUCE, TOMATOES AND CUCUMBERS, BOTH DURING CLASSES AND OUTSIDE OF SCHOOL HOURS.
Students at Jackson’s Liberty Technology Magnet High School are seeing first hand how agriculture can positively impact local schools – and an entire community. Through the school’s Farm to Tray program, students grow fresh produce for Liberty Tech and seven additional school cafeterias in the Jackson-Madison County School System (JMCSS).

“Our students enjoy being able to eat what they produce,” says Teresa Crouse, Liberty Tech agriculture teacher and FFA advisor.

HEALTHY MEALS, HEALTHY STUDENTS

Established in 2009 as a partnership between the Liberty Agriculture Program and the JMCSS School Nutrition Department, the Farm to Tray program “was started to prepare students for food production in a changing world,” Crouse says. Students help grow lettuce, tomatoes and cucumbers, both during classes and outside of school hours. The fresh produce is served at Liberty Tech and sold to the JMCSS School Nutrition Department, which distributes the foods to school cafeterias within the district. The produce is also delivered to the Taste of Liberty, a cafe managed by the Liberty Tech Culinary Arts Department.

“Students participate in planting the seeds, analyzing the vegetables as they grow under specific conditions, and are heavily involved in harvesting, packaging, serving, marketing and conducting nutrition education,” Crouse says.

The latest production numbers totaled 4,782 heads of Rex Bibb lettuce, 843 pounds of European cucumber and 935 pounds of tomatoes. These vegetables were produced in Liberty Tech’s three greenhouses, each of which comprise nearly 3,000 square feet. However, the school will soon have the ability to produce even more fresh produce, thanks to donations from Delta Faucet.

GROWTH ON THE HORIZON

After committing $5,000 to help Liberty Tech build a new greenhouse, Delta Faucet – a Partner in Education with the school – donated 4.4 acres of land to the Liberty Agriculture Program in 2014, and a four-phase plan is in the works. Named Liberty Acres by Liberty Tech students and located across the street from the school, the property’s first phase is expected to yield its first crops of broccoli, cauliflower, cabbage and lettuce in the spring of 2015. In addition to planting the crops, students also surveyed the land in phase one and determined the best location for six raised bed gardens.

Phase two involves building high-tunnel greenhouses, a shed to store supplies and compost, and permanent outdoor signs. During phase three, an irrigation system designed to use collected rainwater will be added to the property, as well as a tilapia farm. Phase four’s development will include the construction of a solar farm that will provide electricity for outdoor LED lights, security cameras and power tools.

“It [Liberty Acres] furthers Delta Faucet’s mission as a community leader, and the organic growing methods used on the land further the company’s green initiatives,” Crouse says.

Additional crops planned include tomatoes, beans, corn, squash and cucumbers, and all of the produce will be organic. Due to the expansion, Liberty Tech expects to eventually supply all 28 JMCSS cafeterias with fresh produce.

AWARD-WINNING INNOVATION

The Farm to Tray program is receiving attention across the state and country for its innovative practices and continued success. In 2012, the school district won the State of Tennessee Overall Award for Excellence in an Education Program, and in 2013, the program won the USDA’s Best Practice Award. In 2014, the program was awarded a Tennessee Governor’s Environmental Stewardship Award.

In addition, school leaders from across the nation visit Liberty Tech annually, demonstrating the program’s role as a model for agricultural education in the U.S. “These programs [Farm to Tray and Liberty Acres] represent the very best in that they support a unique, community-based partnership linking real-world business with student learning,” says June Murry, Liberty Tech principal.

– Jessica Walker Boehm

LIBERTY TECH’S LATEST PRODUCTION NUMBERS

4,782 HEADS OF LETTUCE
843 POUNDS OF CUCUMBER
935 POUNDS OF TOMATOES
When Barbara Brooks first met her husband, country superstar Kix Brooks of Brooks & Dunn, in Maine in 1979, she couldn’t have predicted the wild ride her life was about to become.

“I’m from Boston, but I moved to Maine after college and had a fabric store there. Kix was there, having left his native Louisiana to help his sister and brother-in-law at their fledgling ad agency,” Barbara recalls. Kix left Maine the following year to pursue his musical career, but their relationship survived the separation, and she followed him to Nashville a year later. They married in 1981, and Kix settled into life as a working songwriter and singer. Kix spent a decade as a songwriter before rising to stardom in the early 1990s as half of the duo Brooks & Dunn with No. 1 hits like “Brand New Man” and “Boot Scootin’ Boogie.”

Meanwhile, Barbara was at home raising the couple’s two children, Molly (now 28) and Eric (26), and pursuing her own interest – horses. “I’ve been horse crazy since birth, but my parents never had the money to support that,” she says. “Kix gave me my first horse, a Paint mare named Angel, for my 40th birthday.”

REALIZING AN EQUINE DREAM

That was 1994, and before long, the couple was searching for a second horse for Kix so they could ride together.

“There was a big sale in Oklahoma, and Kix sent me to look for another Paint mare with the idea that we would breed them both and make some babies,” Barbara says. “I took a girls’ trip to Oklahoma on the tour bus and had a ball. And that’s when I saw a cutting horse work for the first time.”

Her excitement about that cutting horse turned their second Paint mare into a Quarter Horse gelding, and Barbara’s passion for the sport of cutting began. Soon after, they hired their longtime horse trainer, Brad Mitchell.

Within a few years, Barbara began breeding Quarter Horses at the couple’s 550-acre Painted Springs Farm in Williamson County. When the horses are 2 years old, they start training for cutting, an equine sport in which a horse and rider select a single cow from a herd, gently guide it away from the herd, and with fast starts, stops and turns, prevent it from escaping back to the herd. In competition, cutting is a test of intelligence, training, breeding and skill, and the horse and rider have to work together as a team.

“Historically, cutting comes out of a rancher’s need to separate one cow from a herd in order to wean it, vaccinate it or whatever they need to do,” Barbara explains. “It goes back to a cowboy going into a herd to get a single calf out, and keeping it separated from the herd until it could be roped by another cowboy.”

Over the years, it’s been stylized and made into a competition with rules and plusses and minuses given for how well the task is accomplished.

“The speed and agility of the horse as it reacts to the cow’s moves make it like the best carnival ride you’ve ever been on,” Barbara says. “It’s totally addicting. Once you’ve been on a cutting horse, you’re going to want to do it again.”

Barbara competes in cutting horse competitions and has won more than $300,000 in her career. From 2001 until 2010, Barbara and

Barbara Brooks is an award winner in cutting horse competitions and a leader in the sport.
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“Shows with a charitable component always meant more to me, because there was a true connection to the community.”

BARBARA BROOKS
Past president of the National Cutting Horse Association

Kix hosted an annual cutting horse competition in Franklin called the Music City Futurity, which brought competitors and their horses from all over the United States and Canada. In its 10-year run, the Music City Futurity raised $1.5 million for Vanderbilt Children’s Hospital and the Ronald McDonald House.

“Shows with a charitable component always meant more to me, because there was a true connection to the community,” Barbara says.

In June 2013, Barbara became president of the National Cutting Horse Association, which puts on three shows in Texas each year, as well as one in Jackson, Miss. and another in the Western U.S. She served until June 2014.

ON KIX’S MUSIC

Speaking of music, being married to a celebrity has had its rewards, as well as challenges.

“Thankfully, Kix has always been focused on our kids and family,” Barbara says. “But when he was touring really heavily in the ‘90s, it was hard. Our kids were little and I quit my job to be home. Kix and Ronnie [Dunn] were on a bus and didn’t get to come home often.”

Though Barbara never had any musical ambitions herself, she always had faith in Kix’s talent.

“It was always fun for me to introduce him to my friends and see them get excited when he played a few songs,” she laughs. “He’s always been an entertainer. He can grab hold of an audience, whether it’s three people or 30,000.”

Barbara has always enjoyed going on the road with Kix, and during the summers when the kids were young, she and the kids went along as much as they could.

“It was always fun being on the road. The kids loved it because they were never more than 45 feet from us, and I loved it because, other than them, I had no responsibilities,” she says, smiling. “There was no laundry, no dishes to wash and all the meals were catered.”

Despite being in the spotlight, the couple have managed to stay married – and in love – for 33 years. For their 25th anniversary, Kix gave Barbara a mare from Colorado.

“It was really special,” she remembers. “I immediately fell in love with her.”

ARRINGTON VINEYARDS

Agritourism is another interest of the Brookses. They own Arrington Vineyards in Middle Tennessee with winemaker Kip Summers and entrepreneur John Russell. The winery opened in 2007 and quickly gained a loyal following. Making the winery a destination for Nashvillians and tourists alike was Kix’s brainchild.

“The winery is fun, but I know as much about wine making as Kix knows about horse-breeding,” she jokes. “Kix is really involved in it. He’s at the winery frequently. I enjoy spending time there with friends because it’s such a beautiful setting.”

Initially, their ambition was to sell 2,000 cases of wine per year. Today, the winery has reached sales of 20,000 cases a year. An events center was added in 2013 to accommodate weddings and corporate events.

“Red Fox Red, a blended red wine, continues to be a best-seller,” Barbara says. “I also love the K.B., named for Kix. It’s comparable to a French Cabernet. I like the Chardonnay a lot, too.”

Open for tastings year-round, Arrington Vineyards hosts a free “Music in the Vines” jazz event on weekends April through November, where visitors are encouraged to bring a picnic and enjoy the vineyard grounds.

When they aren’t on the road or at the winery, Barbara and Kix can be found on their farm loving on the horses. Barbara is recovering from a ruptured disc, so she isn’t riding now but hopes to saddle up again soon. Her favorite pastime is riding the trails through their property with Kix.

“He’s a natural rider,” she says. “One time we were out on the trails, and Kix was on the black horse he rode in the ‘My Maria’ music video. My horse hadn’t been out much yet, but he was really enjoying himself. We were riding side-by-side, and our horses were just egging each other on. It was so fun. So we just let ‘em go.”

Few things make Barbara happier than seeing her horses out in the pasture.

“I love the little ones when they spend their days playing,” she says. “But it really gets exciting when they grow up and start their training. There’s nothing like watching a young horse learn new skills and figure out his job.”

– Jessica Mozo
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