

“East Texas Agriculture: Production, Producers, Progress”

### **Fort Worth Stock Show and Rodeo**

We started this session with the Fort Worth Stock Show and Rodeo. The FWSSR was started in 1986 and runs for 23 days. It was interesting to hear the approach that the FWSSR is taking as compared to the Houston Stock Show and Rodeo that we visited with a few sessions back. FWSSR has full intentions on staying true to their agriculture roots and appealing to the agriculture crowd. They do not plan on bringing in hit pop names for concerts or themed events/days. I do not think either approach is wrong, but it is interesting how different the approaches are for similar type events.

### **Texas & Southwestern Cattle Raisers Association**

The TSCRA was founded in 1877, by 40 cattle owners who wanted to end livestock theft in animals who were unbridled. The Texas and Southwestern Cattle Raisers Association is a trade organization for cattle raisers and landowners. It is the largest and oldest livestock association in Texas and among the oldest in the U.S. TSCRA still remains focused on livestock theft, they also offer a number of services to with the purpose of bettering the industry. TSCRA is heavily involved in educating on Eminent Domain and the effects it has on landowners to government officials, especially when the Texas Legislature is in session.

### **Ardent Mills**

Ardent Mills is the largest flour milling company in North America with 37 locations. While we visited with Ardent Mills we learned that China is the largest flour milling country with 3000 flourmills. To compare this to the United States, we have 166 flourmills with 9 of them being in Texas. Flourmills use technology that was started in the 1930's with improvements and advancements. Ardent Mill's facility in Saginaw, where we visited, needs 400,000 acres of wheat per year to supply the facility. We were also able to tour the facility and watch the process of the milling. I was extremely impressed with the cleanliness and lack of dust. I just assumed there would be quite a bit of dust, but because of the flow of the pipes and container advancements, there was none!

### **BNSF**

BNSF Railway is one of North America's leading freight transportation companies, with a rail network of 32,500 route miles in 28 states and three Canadian provinces. BNSF is one of the top transporters of the products and materials that help feed, clothe, supply and power communities throughout America and the world. Today's BNSF Railway is the product of nearly 400 different railroad lines that merged or were acquired over the course of 160 years. BNSF was created Sept. 22, 1995, from the merger of Burlington Northern, Inc. (parent company of Burlington Northern Railroad) and Santa Fe Pacific Corporation (parent company of the Atchison, Topeka & Santa Fe Railway). We discussed the importance of the railroad industry to agriculture. In 2018, BNSF hauled 1.2 million carloads of agricultural commodities BNSF moves enough grain to supply 900 million people with a year's supply of bread. We talked about how the railroad system is an efficient way to move product, especially with the regulations that truck drivers are required to abide by with rest times and load weights. The

railroad system is also an environmental friendly option, because there are less emissions produced than multiple semis that would be required to carry the freight load.

### **LALA U.S., Inc.**

LALA U.S.'s name comes from our parent company, Grupo LALA – a Mexican dairy company, founded in 1949 in Torreón, Coahuila. It is the only dairy company that operates nationwide in Mexico. It expanded into the United States in 2005, and began acquiring manufacturing plants in North America in 2009. Today, LALA U.S. continues to expand its reach across North America with both regional and national value-added dairy brands from manufacturing plants in Colorado and Nebraska. We had the opportunity to talk with Jorge Ramos, who is the CEO of LALA U.S. Mr. Ramos was in Mexico, which made it interesting to discuss the differences in the US and Mexican markets. I asked Mr. Ramos what the biggest difference was, and he said that the U.S. is basically ten years ahead of Mexico. He said by being in the US, he knows what the demands of Mexico will be in the future, which he sees as a benefit to the company.

### **Certified Roses**

Certified Roses, Inc. is a leading producer and wholesaler of garden roses serving customers throughout the U.S., Canada and Puerto Rico. The company began in 1949 as Cooperative Rose Growers, which consisted of fifty rose growers in East Texas and our processing facility in Tyler, Texas. Today, Certified offers a broad selection of roses that are available at over 5,000 retail outlets including independent garden centers, mid-size hardware stores like Lowes and Home Depot, and mass merchandisers. We had the opportunity to tour the facility and see the process from receiving the rose clippings from Arizona, to packaging them up for shipping to the retailer.

### **John Soules Food**

Beginning as a family owned company in 1975 in Tyler, Texas, John Soules Foods grew quickly by selling ready-to-cook and fully cooked meat to the foodservice industry. We introduced beef and chicken fajita products, which provided an innovative way to combine flavor and convenience. Sales *skyrocketed* when retail distribution began in 2003 with great success. Today, the Soules family still operates John Soules Foods. Our state-of-the-art facilities are on 67 acres just north of Tyler. In 2014, we acquired ProView Foods, a leader in breaded chicken products for school and institutional nutrition programs. Breaded chicken products are made and distributed from Gainesville, GA., which expands our variety of chicken products to all customers. We learned that John Soules foods provides 44% of the ready to cook fajita meat in the US! We were able to tour the facility to observe the process from intake to grilling to packaging.

### **Texas Organics**

Texas Organics is actually owned by John Soules and his sons. John has a gift for finding value in used items that still have purpose. It is this idea that is the catalyst and concept of Texas Organic; utilizing brush, food wastes, and other organic wastes to create high quality composts, premium soil blends and mulches for northeast Texas. Texas Organic is Growing Results by showing how the added value of a higher quality growing product will increase growth output and ongoing soil health in agricultural, landscaping, industrial, and personal gardening applications. While we were there we were able to watch compost being grinded. We also got to see their intake process of receiving cut down trees from individuals. I found it

interesting that Texas Organics charges individuals to bring their waste products here, which means that Texas Organics is not incurring input costs for these products, which increases the profit in their compost.

### **Brookshire's Grocery Warehouse and Brookshire's Fresh**

Brookshire Grocery Co. was founded on Sept. 1, 1928, when Wood T. Brookshire opened the Company's first store in downtown Tyler, Texas. Throughout our 90-year history, Brookshire's is still a family business based in Tyler, Texas, and currently operates more than 180 stores in three states: Texas, Arkansas and Louisiana, with three distribution centers and a corporate office. While visiting Brookshire's we were able to tour their distribution center in Tyler and their Brookshire's Fresh store. My favorite thing at their distribution center was the "banana vault". In this vault they produce methane gas to ripen the bananas. They also have a "Banana Alarm" to shut off the methane gas if needed. Their Fresh Store opened in 2011 and is a specialty store that focuses on specialty foods and produce, and aims to provide a different experience for the customer. I was impressed with the wide variety of meats that they had, especially seafood!

### **Color Spot Nurseries**

We had the opportunity to tour Color Spot Nurseries in Troup. This facility grows starter plants for big plant retailers, including Lowes and Home Depot. With a big group it was hard to hear, but it was neat to see the variety of plants.

### **Stephen F. Austin Agricultural Department Overview**

Dr. Joey Bray gave us an overview of SFA and their agriculture department. SFA specializes in forestry and poultry production, as those are main economic drivers in East Texas. SFA's agriculture school was founded in 1946 and is called the Arthur Temple College of Forestry and Agriculture (ATCOFA). The ATCOFA offers four majors and ten areas of emphasis, along with a Master of Science and Ph. D Program.

### **Poultry Production and Consumer Demands**

Mr. David Alders who is a poultry producer in the Nacogdoches area gave a great presentation on poultry production and consumer demands. Some interesting facts that he gave us included: increased efficiency with the average broiler size in 1918 being 2.5 pounds at 112 market days compared to average broiler size in 2018 being 6.26 pounds at 47 market days; there are forty companies that are involved in the business of raising, processing and marketing chickens – with 3 being in East Texas: Pilgrim's Pride, Tyson Foods, and Sanderson Farms; and in East Texas there are roughly 29,500 family farmers that produce 95% of the broiler chickens needed for these facilities. We also learned there are more than 9 billion broiler chickens produced in the US in 2018. The US has the largest broiler chicken industry in the world and we export 17% of our production to other countries.

### **Tyson Foods**

Vince Lucas, who is the Poultry Complex Manager in Tyler, gave us an overview of Tyson Foods. Tyson Foods is a modern, multi-national, protein-focused food company producing approximately 20% of the beef, pork and chicken in the United States. The Tyson Foods story begins during the Great Depression. In 1931, John W. Tyson moves his family to Springdale, Arkansas, in

search of new opportunities. He finds them, thousands of them, all feathered and squawking. He begins delivering chickens to larger markets in the Midwest.

### **Texas Farm Products**

Born in the deep pine forests of eastern Texas more than nine decades ago, TFP Nutrition began as one man's dream. In the spring of 1930, M.S. Wright began building a company and a legacy that has grown to represent one of the oldest and most respected agricultural and pet food processing companies in the South. M.S. Wright knew the fertilizer business best after working for two decades in the industry, so he chose to start a new manufacturing enterprise where the need was great and its supply limited. Researching probe sites carefully, he learned that Texas farmers and ranchers applied 235,000 tons of commercial fertilizer annually, and that Nacogdoches County, located in central East Texas, consumed 12,000 tons, but did not have access to a successful agricultural enterprise there. Wright arrived in Nacogdoches on January 1<sup>st</sup> 1930, with \$10,000 in his pocket. Following a series of meetings with various local banks, investors were secured, enabling business to begin in Nacogdoches. The company was incorporated on January 15<sup>th</sup>, 1930. I think it interesting that a business was built on a foundation of the railroad system availability. We had the opportunity to tour the facility and meet with one of the pet food dieticians. I was surprised at the sanitation requirements when touring the facility.

### **Texas Forestry Association**

The original concept of TFA in 1914, and today offers programs for almost every Texan interested in conservation, business, history, education, wildlife and more. TFA promotes an economic, social, and political climate that will advance forestry in Texas. They also provide education opportunities, political action, public relations and promoting understanding of forestry conservation practices. TFA is like other commodity groups in Texas. They lobby in Austin for environmental, forestry and other regulatory issues affecting you and your timberlands. They publish a monthly newspaper to keep you informed on forest issues. They also assist with preserving the forest productivity tax law of Texas and helps with timber classifications for taxation.

### **Angelina Forest Products Sawmill**

Angelina Forest Products Sawmill is a \$100 million state-of-the-art sawmill in Angelina County. The AFP team is eager to continue the tradition of producing outstanding building materials while providing high quality, career-oriented jobs. The sawmill will produce a full line of Southern Yellow Pine lumber products. We were able to tour the facility and see the process from intake of logs, to shaving and cutting, and sorting. Safety was a very important factor to the AFP team. I was impressed with the amount of technology in the sawmill.

### **Sterling CLT**

For 70 years, Sterling has delivered innovation that matters to our customers, with expert customer service. Today we're helping customers safely access even the most remote and complex jobsites. Our turnkey solutions come from decades spent working in all the industries we serve, at every stage of major projects. We got to tour this facility as well, and see these finished mats that are used to access job sites, for example solar farms and wind turbine farms.

## **ArborGen Nursery**

The ArborGen Nursery in Jasper was built in the early 1970's and started as the St. Regis Timber Company. They had their first planted crop in 1989 and had an average crop size of 30 million trees. Now they produce over 1 billion seedlings at the Jasper site alone and then became ArborGen took over in 2019 and produced 34 million trees in 2019. This provides enough seedlings to plant 55,000 acres! While there, we were able to watch one of the crews harvest trees and package them up for shipping.

## **Rayonier**

Rayonier's mission is to provide industry leading financial returns to their shareholders while serving as responsible stewards of the environment and good partners to the communities they serve. We learned that many financial companies are using timber real estate to provide returns for their shareholders. They are doing this in one of two programs. The first is called a Real Estate Investment Trust (REIT). Many forest companies have converted to REITs and own and manage timberland for investors through publicly traded stocks. The REIT is more liquid than the other structure known as TIMOs. The REIT is an efficient tax structure because the majority of the income is distributed as dividends taxed as capital gains at the shareholder level, which eliminates double taxation. Cash flow from timber and real estate sales is required to fund the dividends.

The other investment option is called Timberland Investment Management Organization (TIMO's). With this model the Forest Products companies divested timberlands and manage them for pension funds, endowments, and investors. These TIMO organizations hold timber real estate for a set period, which is typically 7-15 years. The investment returns for this structure are derived from: growth of timber, which is merchantable, land appreciation, timber sales, and some real estate sales.

## **Forestry Production in East Texas**

Our group had the opportunity to visit different sites and see the forestry production at different levels. We were able to see one location that a "First thinning" was occurring and being trucked out. This first thinning produces trees that will be used for plywood, paper, and packing materials. While at this location, I was thinking how different forestry crops are different than cotton and wheat crops. With row crops we plant year to year, however with forestry than plant one year and use that crop for on average 10 years. That sure puts a lot of pressure on planting, knowing that you cannot replant and start over next year! I really enjoyed seeing the process of forestry from start to finish!

## **Boggy Slough Conservation Area**

Boggy Slough is positioned within the Neches River Corridor and includes an 18 mile frontage on the Neches. Often called Texas's last "wild" river, the 416-mile Neches River is truly one of the state's least discovered natural resources. The river's slow moving water along with its pine and bottomland hardwood forests has been a part of eastern Texas's history and culture for thousands of years, dating back to when Native Americans and early European settlers depended on the river and its forests for food and shelter. Healthy forestlands across East Texas, including Boggy Slough, are important habitat for white-tailed deer and eastern wild turkey as well as numerous ducks, songbirds and fish. Its sloughs and oxbows host two sites home to the threatened Neches River rose-mallow. Additionally, the endangered Texas Prairie Dawn can be found on Boggy Slough. The property also hosts two clusters of the endangered Red Cockaded Woodpecker and is home to three

different species of Texas State champion trees--the largest trees for their species in Texas (Loblolly Pine, Longleaf Pine, and the White Fringe Tree).

**DeLinda Hicklen #7**  
**TALL XVI**  
**Session 7 - East Texas**  
**January 19-24**

**"Production, Producers, Progress"**

**Sunday, January 19**

**Fort Worth Stock Show/National Cattleman's Museum**

A return visit to one of my old haunts - the cattle barns at the Fort Worth Stock Show. It was great to see all the improvements that have been made to some of the old cattle barns since I was last here in 2012. The group then met at the Cattle Raisers Museum near the show grounds to see the exhibits and hear from Shanna Weaver, Publicity Manager for the show. It was interesting to hear some of the history of the show and how it's progressed to the point of opening the brand new rodeo arena this year.

**Texas & Southwestern Cattle Raisers Association**

During dinner at the TSCRA headquarters in Fort Worth, we heard from Jason Skaggs, Executive Vice President/CEO of the association. TSCRA was formed in 1877 in an effort to combat livestock theft and is the largest & oldest livestock association in Texas, representing over 17,000 cattle producers and businesses. Today they investigate cattle theft with special law enforcement rangers (recover \$7-12 million in assets every year) and also register and record brands, among other important functions, such as advocating for cattle producers on local, state and federal legislation and policy. They are funded by member dues and cattle sale assessments - they do not take government money. Mr. Skaggs talked about the many other issues they deal with, from trade issues to "fake meat" to politics. I never realized before the broad scope of their work. Mr. Skaggs also touched on something that has come up in several sessions - the declining political representation for rural Texans.

**Monday, January 20**

**Ardent Mills**

A tour of a flour mill was a first for me - and it was very educational. The plant manager, Jon Cozad, along with other workers, gave us an overview of the company and this specific mill before taking us on a tour of the facility - all seven stories! It was interesting to hear more about what kinds of grain they use and why, as well as a little history of the milling business. Challenges they face include market competition, food safety issues and the issue faced by nearly every business we have toured with TALL - labor, both availability and regulatory. As for the mill itself, they are using the latest technology to run a safe, clean, efficient mill. I was surprised at how little flour dust we could see anywhere - and coming from a cotton-ginning family, I know a little about the challenges of controlling dust pollution in a manufacturing facility.

**BNSF**

A visit to the headquarters of a large railroad company was next on the agenda. Their visitor center is full of railroad memorabilia and beautiful artwork commissioned by the railroad in the past for advertising that depicts many of our national landmarks and landscapes. Mignon Lambley, Southern Ag Products Ombudsman, hosted us for lunch and an overview of the company and railroad history.

Travis Thorne, Director of Network Strategy, shared some railroad history with us. Over the years, many different small railroads gradually merged or acquired other companies, which makes for some fascinating stories about the way that happened, some of them not so tame! It was obvious that Mr. Thorne has a passion for history and he has spent time outside of his normal business duties compiling this presentation.

Next up was Victor Valdes, director of the Mexico Business Unit, with an overview of US/Mexico ag trade and the railroad's place in it. In 2018, Mexico had \$4.2 billion in trade with the US, so this is an important market with potential for further growth. BNSF Mexico does not own any rail track in Mexico, but operate with other railroads there to ship 10% of BNSF's total ag product shipments.

Ms. Lambley talked briefly about some of the changes and challenges BNSF plans for and how shipment of ag products fits into their total volume. Coal and consumer products are their biggest volume shipments, but ag products account for 10-12% of their total volume each year. She explained what "shuttles" or unit trains were and how they only stop at their final destination, instead of stopping to drop or add rail cars en route.

Sam Saxis, Vice President of Ag Products, and Darrell Faircloth, in Feed Product Marketing, also spoke about their respective areas. Mr. Saxis explained why and how they try to forecast demand from China, one of the primary buyers for many American ag products. China is investing heavily in handling facilities in the Black Sea area and in South America, so what effects that will have on the source of future ag imports is important to BNSF and to ag producers in America.

On our way out, we got a glimpse through the door of their Network Ops Center (NOC). This state of the art control center is like a Mission Control for the entire BNSF system in America - and it looks much like you might imagine NASA's Mission Control to look like now!

## **LALA US INC**

A member of my TALL cohort, Matt Okeson, works for LALA and he was able to set up a session at their offices in Dallas. Before we heard from LALA's leadership, we had a presentation from David Howard, Landmark Nurseries and CXI Biological. CXI's biological soil treatment products was right on target with what we have heard from other companies during TALL who are trying to answer market demand for non-chemical products for production and/or improvement of plant products.

We were then joined by Jorge Ramos, CEO of LALA US, George Lorenz, VP of Supply Chain, and Darla Roden, General Counsel. LALA is the largest drinkable yogurt distributor in North America, and is now introducing other LALA dairy products into the US market. This is a large company with over 38,000 employees worldwide, most in Mexico, but also in Central America and Brazil. We had the opportunity to ask questions about their business and its entry into American markets. Mr. Ramos, in particular, had a unique perspective on the differences in the consumers in the US versus the consumers in other countries they do business in. They also talked a bit about their new offices in Dallas, and the way they organized it in open-concept style to encourage collaboration and teamwork. Ms. Roden compared it to a start-up with really good backing!



### **Rozell Sprayer Mfg.**

We traveled from Dallas to Tyler to enjoy a steak dinner at Rozell Sprayer, hosted by TALL XII alumnus Darren Rozell and several other alumni, board members and area supporters. It was a great chance to meet some local agri-business people and county extension and research personnel.

### **Tuesday, January 21**

#### **Cavender's Boot City, Tyler**

The day started with an early visit to Cavender's, where we were treated to new Stetson's and a wealth of information about the company and its stores. Cavender's is a family owned business and strives to support the communities it does business in. A big thank you to the management and employees for opening up early and helping us with our hats!

#### **Certified Roses**

In the 1930s-1950s, 50 million roses per year were grown in East Texas, but competition and weather led to a decline in rose production and by the late 1980's most of the roses were grown in Arizona and California. Certified Roses, founded in 1949, still receives, packages and distributes roses grown out of state from their Tyler facility. They have the capacity to handle 5 million plants per year, but will do about 3 million in 2020. During the high season, they will have 200 seasonal employees in addition to the 32 full time employees. They send 800,000 plants per year to Wal-Mart, and also ship to Costco, Lowe's, Sam's, HEB and many others, in addition to online sales. They work with rose breeders and do R&D to develop new varieties of roses. It was interesting to walk through the plant as they were preparing plants for shipment and to see the different ways they package and sell the rose plants. We got a few tips about what kind of roses we should try in our own gardens!

#### **John Soules Foods**

This family owned company is well known for the fully cooked fajita meats they sell in retail stores, but they have other products for both retail, wholesale and institutional use. Started in 1978 by John Soules Sr. and two of his uncles, they now boast \$500 million in sales and employ over 700 people at this plant alone. During the lunch they hosted, we heard about the history of the company and the high food safety standards they maintain. Some fascinating statistics: they purchase 45 million pounds of beef each year - 70% of it is from the US - and over 150 million pounds of chicken. We were able to tour the plant and see the multiple layers of food safety checks they use to go above and beyond USDA requirements - from x-rays to pathogen testing. We also saw the automated packaging line and large grill/ovens. One of the speakers said they produce 10,000 pounds of finished goods per hour!

#### **Texas Organic Soil**

An organics recycling, wood grinding and composting service started by John Soules Sr. of fajita meat fame (see above). They provide composts, mulches, and premium soil blends for the Tyler area. Mr. Soules thought there was value in using the resources available locally to make high quality compost and mulch. The staff is carrying on his ideas and also experimenting with using different materials.

## **TALL XVI Reception and Better East Texas (BET) Awards Program**

We visited the Hollytree Country Club in Tyler for a reception and dinner for TALL and for the BET awards ceremony. During the reception we had a chance to mingle with local and area agribusiness people, elected officials and many Texas A&M AgriLife employees. I personally spoke with two Tyler city councilmen and the Mayor of nearby Bullard. During the dinner, awards were presented to exceptional research and extension employees and to one of our own cohort, Rob Hughes of the Texas Forestry Association. Mr. Donnell Brown, of R.A. Brown Ranch in Throckmorton, gave a keynote speech about his family's effort to keep the family on the ranch - and why they believe that's important. It was a great evening!

## **Wednesday, January 22**

### **Brookshires Fresh Store and Brookshires Grocery Warehouse**

We started the day with an early morning visit to a prototype grocery store where we enjoyed breakfast before going for a tour of the grocery warehouse. Brookshires was founded in 1928 and was and is still family owned. It now operates 184 stores in Texas, Arkansas and Louisiana. Their massive grocery warehouse sends out 50-90 trucks per day - over 2 million pounds per day. As we walked through the different sections of the warehouse, the warehouse manager, Mark Bowen, gave us a wealth of information about the technology they used to efficiently operate. One of the most interesting things we saw were the four "banana vaults". Bananas are the second most popular product they ship out. Bananas are still green when they arrive and have to be ripened in the climate controlled banana vault. There is even a separate "banana alarm" on the wall in the control center, because a problem in the banana vault could cause them to lose thousands of dollars if the bananas were ruined. Avocados are also ripened in the vaults. We also strolled (quickly!) through the freezer rooms. Employees in this section get extra pay and warming stations to compensate for the uncomfortable working conditions.

After the warehouse tour, we returned to the Fresh store to learn more about Brookshires counterpart to United's Market Street stores or HEB's Central Markets. The store manager told us lots about how they decide what to sell and how to display it. Lots of research and testing go into what appears in the store and how it's marketed. For example, they found that they sold more meat when people could see the butcher's workstation. They also try to satisfy consumers' desire to know where the food comes from and how it's produced. He noted that this type of store is only successful in a more urban setting - this isn't the Brookshires they would put in a small town. We had a little time to shop and sample before heading towards Nacogdoches.

### **Color Spot Nurseries**

On the way to Nacogdoches, we made a stop and tour of Color Spot plant nursery. A very interesting peek into an ag sector I was not at all familiar with. There were many greenhouses full of a variety of plants, including flowers, succulents and vegetables - all for resale at retail stores and nurseries. Though a lot of the work here is manual, they are using technology where they can to automate some processes and to help with drip irrigation. As you can imagine, they have an extensive irrigation set-up!

### **Nacogdoches County Extension Office**

County Extension Agent Ricky Thompson hosted us for a delicious fried catfish lunch and several presentations from the local area:

## **Stephen F. Austin University Agriculture Department Overview**

Dean of the Ag Department, Joey Bray, told us more about SFAU and their prominent poultry research facility. He noted that they are able to retain many of their students in the area, especially in poultry and forestry.

### **Poultry Production and Consumer Demands**

David Alders, a local poultry producer, told us about the history of poultry production in the area and its current status. As the rate of chicken consumption in the US has risen, so has the poultry production in the region. They have three large poultry plants in operation in the area - Pilgrim's, Sanderson and Tyson - so there are many contract chicken growers in the area also. It was interesting to hear how the business has gone from backyard chickens at the turn of the 20th century to the massive, vertically integrated companies operating today.

### **Watermelon Farming in East Texas**

Will Coffin and Ronald Murdoch told us about their "side job" growing watermelons, and how it started as a way to occupy them and their growing sons during the summer months. They sell to truck peddlers and to groceries. Mr. Coffin is a former ag teacher, now school principal, and he made note of the critical need for teachers for the trades - particularly Ag Mechanics. While their business talk was interesting, things got very entertaining when they began to describe their "noodling" or hand-fishing adventures!

### **Tyson Foods Presentation**

Tyson Foods has a poultry plant in nearby Center, Texas. Vince Lucas, the complex manager, went through the company's benchmark goals for employee safety, bio-security, food safety and labor compliance. He briefly explained the process within the plant and noted that they "sell everything but the cluck".

### **Texas Farm Products pet food and animal feed plant**

This 90-year-old family owned business started as a fertilizer plant, but now is focused on pet food and animal feeds. We toured the facility and learned more about their focus on food safety. Perhaps the most interesting things we heard had to do with the extensive amount of research that goes into the shape, color and packaging of pet food - even though the animals don't know the difference! It's the consumer who wants to see these aspects and it's the consumer who will pay more for identical ingredients that are more attractive. They sell to Tractor Supply and HEB, as well as other stores and private label.

### **Forestry in East Texas**

During dinner in Nacogdoches, sponsored by Heritage Land Bank, we were joined by a few forestry-related people to get an overview of an industry I knew NOTHING about.

### **Wes Moorehead, Texas Forest Service**

Mr. Moorehead gave us an overview of the size and scope of forestry in Texas. East Texas has 12.3 million acres of forest - mostly privately owned - and the output accounts for \$36.7 billion in economic impact for the area and 168,000 jobs. In Texas, these pine forests have a 25-30 year life cycle. As he explained the timber cycle time line, I realized it was similar in many ways to how we talk about row crop farming - plants per acre, etc. - just a much longer time to harvest! In the past when I heard about clear-cutting forests, I thought that was a negative thing - and it is for old growth hardwoods in other geographic areas - but in a managed pine forest, the trees are planted, thinned out a couple of times over the years, then clear-cut before replanting to start the cycle over. Landowners have different age trees growing in different "fields", so that they never clear cut a whole forest at the same time.

### **Rob Hughes, Texas Forestry Association**

Rob talked in more detail about the shift in land ownership from individuals to C-Corps or REIT's, which allow for treating timberland as a business asset, rather than the way an individual landowner pays property taxes on the land. Those tax advantages have led to much of the East Texas timberlands being bought up by these large companies or investment groups. When asked by someone in the audience what the return on investment for timber was, he explained it could return \$125 per acre, per year over the 25-30 year lifespan of the trees.

#### **James England, timber buyer for LP**

Mr. England gave a few remarks about his background in the industry. Raised in South Texas, he came to school at Stephen F. Austin and went into the timber business. During his professional life, he has worked in different places and also served on the board of the TFA. He currently buys timber for an OSB mill (oriented strand board).

### **Thursday, January 23**

#### **Angelina Forest Products sawmill**

I had personally been looking forward to this tour for weeks before the trip, as I knew it would be something completely foreign to me and very interesting! After several AFP employees gave us information about the lumber mill, we were able to walk through this very impressive new facility. It started operating in October 2019 and uses 600 or so loads of logs per week - that is the equivalent of 200 acres of clear cut forest every week. They are making lumber, or boards, in multiple sizes from 2x4's to 2x12's or more. Each days' output of lumber is enough to build about 100 houses. Computer technology is used throughout the plant to run timber through efficiently and safely. We started the tour near the massive crane-like machine that unloads the log trucks and walked through the various stages until we saw the lumber palletized and put into the giant kiln. I can't adequately explain in words how it all works - but it does work really well! This sawmill cost many millions to build and is obviously a major employer in the area, with a staff of 120 working in two shifts.

#### **Sterling Solutions**

This manufacturing plant opened in August 2019 in the old Lufkin Trailer Mfg. buildings directly in front of AFP. Sterling makes cross-laminated timber (CLT) "mats" that are used by pipeline or utility companies for temporary roads during construction. These mats can be made in different ply strengths to stand up to different sizes of equipment driving on them. Rather than selling the mats to the users, they lease them for a specified time, help the user design and install them and then pick them up for reuse when the lease ends. The mats can be used for 3-5 years in most cases. This plant is making 1000-1600 panels per day from local pine timber. In other parts of the US, these mats are made from hardwoods, but that is problematic for several reasons: hardwood mats are heavier to ship, don't last as long and may be made from old-growth hardwood forests. Sterling is the largest CLT manufacturer in the world, with output of 70,000 cubic meters per year. We were able to go into the plant and watch the computer-operated machines assemble and glue the mats and we also got to visit the quality assurance department where they explained the different tests they perform to assure quality output.

#### **ArborGen tree nursery**

We enjoyed a barbeque lunch while learning about the production and breeding of pine tree seedlings. I feel a little ignorant writing this, but even though I have years of familiarity with cottonseed breeding, I had never thought about pine trees being bred for certain characteristics just like any other field crop seed. This company has nurseries all over the world, but at this location they focus on the loblolly pine varieties grown in the area. Although I didn't fully understand the process, the basic idea is that they look for desirable traits such as

increased growth rate, trunk straightness, disease resistance and wood quality and develop tree seedling varieties with those traits. They have grown over a billion seedlings here since 1989. They plant in April and were harvesting while we were there. Seedlings have a 28 day germination period and need one gallon of water per tree to reach plantable age, so they use sprinkler irrigation as needed. We were able to observe the harvest crew for a few minutes, which was interesting.

### **Logging site visits**

We had wet weather on this day, so not many loggers were working, but we were able to see one crew working to thin tress on a 12 year old site that the crew chief described as marginal. (The better quality forest sites were too wet.) This would be the first thinning on a site of this age, so the crew will cut every fourth or fifth row of trees and other spot areas of lesser quality. The better trees are left for the second thinning and final clear cut years later. We watched Mr. Tommy Cunningham's crew work and even got a close-up look at the cutting machinery. It was amazing to hear how much responsibility the person operating the cutter had to select which trees to leave and which to cut - especially considering how young the man was. All the machinery was huge and foreign to me, but I'm sure they deal with the same issues as we do with our tractors and cotton strippers.

Next we visited an area where the Temple company is doing final, clear cut harvest, so these were bigger, older trees. Although they weren't logging today because of the weather, they expect it to yield 110 tons per acre, versus the 1/2 truckload per acre the first site we visited was yielding. Temple owns about 1 million acres in East Texas. They clear cut about 25,000 acres per year, so they will have complete turnover every 25 years.

### **Jeremy Flood, Rayonier**

We visited the Texas Forestry Association offices for a presentation from Mr. Flood, who explained more about Timber Investment Management Organizations (TIMO) versus Real Estate Investment Trusts (REIT) as ways to manage timber interests. I won't go into the details, but one of his main points was that TIMO's usually have a limited time frame, while REITs are typically more long term. Also, TIMO's are a middle-man for management of investments, while REIT's own and operate the real estate to generate income. He had lots of information and pictures from Rayonier's operations and was great and informative speaker.

### **Friday, January 24**

#### **Boggy Slough Conservation Area**

Our visit to Boggy Slough was the last stop of this trip, where we toured this privately owned conservation area devoted to the "conservation, management and stewardship of natural resources". Established and administered by the TLL Temple Foundation, this area consists of about 22,000 acres along the Neches River near Lufkin. As Dr. Steve Jack and Robert Sanders pointed out, they seek to conserve, not preserve, so they still harvest timber and game animals from the property, but only in observance of their objectives to manage for ecological diversity. The northern part of the conservation is more managed pine forest, with the southern part more natural pine forest. We made several stops in the park where they explained how they don't clear cut here, they instead harvest select trees with the intent of leaving a variety of pine species and ages of trees. They use controlled burns to control the growth of undesired hardwoods and understory growth. Interestingly, pine forests are fire tolerant, so the undergrowth can be burned off without killing the small pine seedlings. We visited the small area where the federally-endangered red cockheaded woodpeckers nest and heard more about the efforts to protect them from natural predators and encourage their repopulation. We also had a short lesson

in how to identify the three main species of pines in this area. While we visited a field of native grasses, we heard from Jenny Sanders, with the Texas Longleaf Taskforce, about their efforts to encourage and assist landowners to plant longleaf forests. She pointed out that the fire-tolerant, open pine forests are vital habitat, but a long-term investment that can be tough sell to landowners in the short term, so they offer cost share incentives for landowners to plant trees and help with controlled burns, treatments and conservation easements. Not too many weeks after we visited this native grass field, they burned it off and we could see in the pictures how many little pine seedlings survived. All in all, this morning in the Boggy Slough was the perfect way to end our East Texas session.

### **Closing thoughts**

My anticipation for this trip to the forests was rewarded - I learned so much about the management of timberland and have a whole new appreciation for the diversity of agriculture in East Texas. Texas residents always talk about how big our state is, and this trip is a good example of how many different regions exist in this one state - we went from cattle country to forest lands in just a few days. Just as in all the trips we have made in TALL, several common themes emerged - from regulatory and political challenges to changing markets and consumer demands. As in every region, we met so many hard-working, innovative and family-oriented agriculturists who adapt to the changing circumstances and financial conditions that exist. For myself, I never realized how big of an economic benefit the state realizes from the timber industry and I had SO much to learn about the life cycle of pine tree production. It's bittersweet to realize that this was our last TALL trip in Texas!

**Matt Okeson #15**

**TALL XVI**

**Session 7 – East Texas**

**January 19-24, 2020**

**Session Theme: Production, Producers, Progress**



The seventh and final domestic session found the cohort in the DFW metroplex as well as throughout East Texas. The week’s agenda included speakers representing a wide array of industries, particularly those less commonly thought of when discussing Texas agriculture. Nonetheless, these industries play a pivotal role in the state’s agricultural sector.

### **The Livestock Industry**

Throughout the week, the cohort heard from various speakers representing the livestock industry, primarily beef cattle. Ms. Shanna Weaver welcomed the cohort to Fort Worth and shared with the group the importance of the Fort Worth Stock Show and Rodeo to the city’s economy. Dating back to 1918, the Fort Worth Stock Show and Rodeo is known as the world’s original indoor rodeo. Once located in the historic stockyards, it is now housed in the Will Rogers Center and the newly constructed Dickies Arena. Spanning 23 days, the event brings in close to 13,000 exhibitors, 30,000 head of livestock, and over 1.2 million visitors, contributing over \$100 million to the city’s economy. The success of the Fort Worth Stock Show and Rodeo can be attributed to the organization’s focus on its core. Unlike other events across the state, Fort Worth focuses on the rodeo and the stock show to bring in visitors, rather than relying on entertainment to draw people through the doors. The organization has also expanded its reach, adding additional vendors and incorporating wine and viticulture into the event, and coordinating admissions with the Children’s Museum and the Cowgirl Museum located on the grounds. However, none of this would be possible without the support of 21 full-time staff, 900 seasonal staff, and over 1,500 volunteers.

Located just around the block from the Fort Worth Stock Show and Rodeo, the Texas & Southwestern Cattle Raisers Association also has historic ties to the city of Fort Worth. Founded in 1877, the organization’s primary purpose was to combat cattle theft. While this is still something that is a part of their mission today, the way in which Cattle Raisers supports its members has changed. The organization now utilizes fees collected at sale barns to pay for market inspectors, making up the “cattle police force” which helps prevent the sale of stolen cattle. In addition, Cattle Raisers also works to ensure there is ample export demand of beef from the area. With over 96% of beef eaters residing outside of the United States, the export market is critical to the industry. As such, Cattle Raisers works to influence policy both in Austin and Washington DC that proves favorable to the beef industry. Promoting the passage of USMCA, assisting with trade discussions with China, and working towards resolution of traceability measures are all areas in which Cattle Raisers has focused on supporting its members.

While the beef industry has a longstanding history of being a protein supply, poultry, one of the more recent “newcomers” to the scene, has become very important to East Texas. What started out as an industry focused on egg laying has evolved throughout its 100-year

history to become more heavily focused on broiler production. With the change in focus for the industry came a shift in industry practices too. Mr. David Alders explained to the cohort how the industry's structure dramatically changed with the introduction of vertical integrators. Beginning in the 1950s, vertical integrators began contracting the growing operations to farmers with the sole purpose of raising the birds. The integrator provides the chicks, feed and health support, and in return, the growers are paid for raising the birds into finished broilers. Today, there are around 40 integrators in the USA, 3 of which are in East Texas, and over 29,500 contract growers.

Supply chain efficiencies have not only benefited the growers and producers; in fact, these industry improvements have led to much more demand too. Chicken has now surpassed beef as the number one consumed protein in the USA as it is relatively cheap compared to alternatives. Chicken is a much more versatile protein and can be grown in just 47 days. Despite a short length of time for growing, planning for demand requires additional lead times. Companies such as Tyson Foods must constantly evaluate forecasted demand and carefully plan their production more than 9 weeks in advance. While it may seem relatively easy, forecasting plays a crucial role in a business the size of Tyson – they process over 42 million birds a week across the USA.

### **The Food Business**

The cohort not only had the opportunity to hear from producers of various commodities, but also from those representing food manufacturing, processing, and grocery. Before leaving Fort Worth, the cohort heard from the leadership team at Ardent Mills and toured the milling operation. The 78-acre facility has capability to store over 3.4 million bushels of wheat, can grind over 16 million bushels per year, and can mill over 2.7 million pounds of flour a day. The mill produces over 160 different products and ships flour both in bulk and in bags. What sounds like a very challenging and complex operation is simplified using gravity, various sized screens, and an inbound wheat supply blended for the utmost consistency. Most importantly though, Ardent Mills prides itself on safety – not only for its employees but also for the products they produce.

Food safety has become a high priority and area of focus for several food manufacturing companies. In fact, many of the points emphasized by Ardent Mills were echoed once more by the team at LALA U.S., Inc., a value-added dairy manufacturing company. During the visit to LALA, the cohort learned about the changing requirements in food safety, driven primarily by new regulations that have gone into effect. The new regulations result in increased scrutiny around sourcing and traceability, manufacturing practices, and even transportation. While designed to ensure a safe food supply, these regulations result in additional testing, audits, and cost to comply. Not only do food manufacturers face the challenge of complying with regulations, but more importantly, they face a changing consumer. Mr. Jorge Ramos, CEO of LALA U.S., explained that while it is important for food manufacturing companies to make safe, quality food, none of that matters if there is not a willingness by the consumer to purchase the



product. Food manufacturing companies are constantly under pressure to come up with the “next big thing” that will bring benefit to consumers and encourage them to purchase products.

Mr. Lance Youngs from John Soules Foods further emphasized the importance of both food safety and developing innovation that delivers what consumers want from their food. The Tyler plant produces various types of fully cooked beef and chicken products resulting in over \$500 million in sales. The family owned business produces various beef and chicken products for both food service and retail channels. During our visit to the facility, the cohort saw various quality and food safety measures in action such as hold and release testing protocol and utilizing various colors of uniforms and equipment to segregate the raw and cooked sides of the plant. Mr. Youngs also explained how consumer preferences have changed what one might consider a very commoditized business over time. John Soules is constantly looking for ways to differentiate their products, whether it be through lower sodium usage, elimination of allergens, natural and clean labels, or by providing big, bolder flavors.

Appealing to the consumer is not only a challenge for food manufacturers but also for retailers such as Brookshire’s Grocery. During our visit to Tyler, the cohort had the chance to tour the Brookshire’s Grocery warehouse, where Mr. Mark Bowen explained how the facility constantly ships products consumers demand to over 120 stores. Utilizing its own fleet of trucks, Brookshire’s ships over 2.3 million pounds of product a day on approximately 90 trucks to stores throughout the region. Product arrives at stores such as Brookshire’s Fresh Market, where store employees ensure product is promptly displayed and rotated to keep consumers coming back to shop. By offering a variety of organic products, emphasizing customer service, and providing the highest quality perishable products, Fresh Market offers a destination that provides consumers a unique shopping environment. While the store is not the cheapest price in the area, many repeat customers shop there for the experience despite increased competition in the area.

### **The Rose Capital of the World**

In addition to being known for poultry production, East Texas is more popularly referred to as the rose capital of the world. Dating back to the 1950s, the region began to see rose production growing rapidly replacing the peach tree industry. In fact, Smith County produced roughly 80% of all roses grown in Texas with over 20 million roses produced. However, production soon declined after a disease known as Rose Rosette wiped out nearly all roses in the region. While most roses are now produced in other states such as Arizona, East Texas still packages a large portion of roses sold in retail stores. During our visit to Certified Roses, the cohort witnessed how rose bushes are packaged for retail sale. Utilizing machinery originally created for the poultry industry, Certified Roses has developed production lines capable of packaging 5,000 rose bushes per day. In addition to packaging for retail, the operation also prepares rose bushes for sale in either containers or bare root too.

While the operation is focused on packaging and selling roses, the organization also spends time understanding genetics, varieties, and consumer needs. Certified Roses works closely with breeders across the globe, looking for new varieties that exhibit certain features such as short and compact stature, good foliage, will regenerate multiple years, and is disease resistant. More importantly, they look for varieties with strong, pleasant fragrance and meet consumer needs for instant gratification. While consumers have changed their preferences over time, the time-honored tradition of finding the best rose genetics can be traced back to the founding of organizations such as the Texas Rose Rustlers. The Rose Rustlers were some of the first to look at genetics of roses, spending their time evaluating genetics of roses in cemeteries and abandoned areas. They found these genetics to be very strong, not requiring spraying and maintenance for survival.

Roses are not the only ornamentals grown in East Texas; a variety of other plants are produced and prepared for retail sale across numerous states. The cohort had the chance to visit Color Spot, a 60-acre nursery growing geraniums, mums, poinsettias and various other ornamentals. Utilizing various growing techniques such as propagation, transplant, and seeds, Color Spot has the capability and technology to grow various products demanded by customers in as little as 14 weeks year-round. Their greenhouses can regulate temperature through various water and heating techniques to maintain an ideal 65 degrees. Additionally, the roofs can be opened and closed as needed in order to regulate the amount of sun and shade plants receive. However, the operation is very manual today and is headed down an unsustainable path. Labor is becoming increasingly challenging to find, and there are few automation techniques available.

Supporting the ornamental industry in East Texas, compost production in the area is budding. Texas Organics, a new enterprise owned by John Soules, collects various organic waste materials and grinds them up for composting to create value-added products. After grinding, the organic matter is placed into piles where nitrogen is added. The piles are then warmed up to 130-165 degrees. Piles must constantly be monitored for temperature to ensure they do not combust during composting and are rotated to allow moisture and air flow to move through the pile. After roughly 6 months of composting, product is screened and ready for shipment to customers such as local nurseries and landscapers where they are used for various ornamental products.

### **Forestry and Wildlife**

Continuing the journey through East Texas, the cohort also had the opportunity to learn extensively about the forestry industry courtesy of Mr. Rob Hughes, Executive Director of the Texas Forestry Association. Mr. Wes Moorehead of the Texas A&M Forest Service provided the cohort with an overview of the forest industry. Comprising over 12.3 million acres, the 43 eastern counties make up the pinewoods in Texas. Mostly commercial forests, nearly 70% of land is privately owned, close to 10% is public land, and the remaining 20% is owned by institutional investors who acquired land divested by industry players.

While the vast majority of timberland is privately owned, of interest is the 20% of land owned by institutional investors. For many years, timberland was owned by timber milling corporations to vertically integrate operations. However, this structure became very burdensome for the mills due to the corporate tax structure. Many of the mills started to sell their real estate to investors who established Real Estate Investment Trusts (REITs) such as Rayonier, which became a REIT in 2014. The REITs purchased the land and have hired other companies to grow trees on the acreage for the purpose of harvesting. As timber comes of age, the REIT sells the harvest to the mills for a profit. Unlike corporations, land owned by a REIT is considered a different asset class and is only subject to capital gains tax.

Business organization structure is not the only change the forest industry has experienced in recent years. Genetics have also started to play a larger role in the industry by improving efficiency and productivity of forestland. During our visit to Arbor Gen Nursery, Mr. Shannon Stewart explained to the cohort how elite genetics are critical to improve reforestation productivity. Seedlings are a 25 to 30-year investment from the time of planting until final cutting, so genetics play a critical role in this investment. Through their genetic work, Arbor Gen is improving growth rate, stem straightness, reduced disease incidence and stem forking, and superior wood quality. However, this work is still in its infancy as it takes almost 8 years to bring a varietal to market and close to 30 years to truly understand performance in a commercial environment.

When seedlings are ready for planting, they are lifted from the nursery and transferred to the commercial forests for planting like the forests managed by Forest Resource Consultants. These seedlings are then planted either mechanically or manually with close to 700 seedlings per acre. Acreage receives herbicide treatment, and growth is monitored for roughly 10 years before the first cutting occurs. After roughly a decade, loggers conduct the first thinning operation to remove the poorest-growing trees. During this process, loggers remove the 4<sup>th</sup> or 5<sup>th</sup> row from the forest as well as the weakest trees in remaining rows. This process redistributes the remaining trees giving them space and ability to continue growing bigger and taller without the drain on the soil from competitors. Depending on growing conditions, acreage may receive a fertilizer treatment or prescribed burn as well. Soil management and water quality data is critical for this process. After another 10 years loggers return to the forest to conduct a second thinning, repeating the same process as was done with the first thinning. The trees remaining after the second thinning will be the best trees that will yield the best final crop possible. Around age 30 the remaining trees will be clear cut.

As timber is harvested during each of the cuttings, the resulting logs are then shipped to various mills in the area depending on the size and quality of the logs. On average, logs travel roughly 50 miles to various chip, OSB, plywood, specialty, or sawmills in the area. Angelina Forest Products is one of the more recently built sawmills in the area. Using timber from final cuttings, Angelina processes close to 50 truckloads of timber a day and has capability to convert enough timber to make 100 houses worth of wood per day. The continuous process begins

with unloading logs, debarking, and scanning for metals. The logs are then scanned to profile the log for optimal cutting. Once profiled, the logs run through a series of saws to cut various boards that yield the most possible board from the log. Boards of similar length and grade are sorted, stacked, and kilned for approximately 30 hours to remove water. After the kilning process, boards are once again sorted and graded, packaged together and bundled for sale. Boards may be used to create pallets, sent to retail for sale, or sent to other plants for incorporation into other value-added products.

Some of the boards made at mills like Angelina Forest Products end up at other milling operations, such as Sterling. At Sterling, boards are transformed from basic boards to cross-laminated timber (CLT). Comprised of layers of wood glued cross-sectionally using a strong adhesive, the CLT mats are utilized in panels to make temporary roads for pipelines or electrical transmission lines. Unlike the traditional hardwood mats, CLT is reusable and much more versatile than the hardwood mats they are replacing. Sterling not only sells these mats to customers but also provide a lease option for companies in need. If leased, Sterling works with their customers to design, lay out, maintain, and move the temporary roads for the client. Currently, Sterling's CLT is used only as mats; however, numerous other potential applications exist. In Europe for example, builders use CLT in the construction of buildings. Sterling is evaluating this potential, but it requires working with architects to start designing buildings utilizing this technology. Not only can CLT be used in a variety of applications, but it is also much more sustainable than its alternatives due to its reusability and repairability.

While many people unfamiliar with the forestry industry believe logging destroys the environment, the industry places a great emphasis on sustainability and protecting wildlife. The industry not only employs sustainable practices in day to day operations but has also partnered with conservationists on research and outreach. The Boggy Slough Conservation area is a prime example of this. Formerly commercial timberland, the 19,500 acres were purchased by a private family for conservation purposes. The property's focus is managing the entire ecosystem including its wildlife and ground cover. Unlike a commercial forest, the conservation area focuses on maintaining the canopy and habitat for wildlife. As a result, the area looks much more like a naturally generated forest with a variety of tree species much more like the area's historical forest makeup. In doing so, the conservation area has brought back threatened and endangered species for flora and fauna such as the Red-Cockaded Woodpecker. This endangered animal thrives in forests with trees that are prone to fire survival and have resin wells where nests will be safer. The resin helps keep predators away and keeps the young alive. The conservation area has 2 pairs of cooperative breeders who continue to reproduce, while many of the young disperse to other regions. Through various grants, Boggy Slough continues to work with partners to grow and expand the breeding area within the property and assists with research to ensure this species sustains for years to come.

## **The Railroad**

Our East Texas trip not only included visits to various agricultural operations; we also had the opportunity to hear from professionals in supporting industries such as the railroad. While in Fort Worth, the cohort had the chance to visit BNSF headquarters. Mr. Travis Thowe provided the cohort a great account of the BNSF's history. The railroad as it is known today was created in 1995; however, the company's 400+ predecessors date back to 1949. One of the most notable predecessors was James J. Hill, founder of the Great Northern Railway. Not only did Hill build an empire, but he also helped build communities along the way to the Pacific Northwest. Various other railroads were founded in similar fashion, following paths for demand and opportunities for trade. This remains the business strategy today, as BNSF continuously evaluates opportunities to grow, remain relevant.

Rail is a critical mode of transport for the agriculture industry, with the BNSF moving over 50% of agriculture rail volume. However, agriculture only comprises approximately 10% of the BNSF's total volume. Grain makes up the majority of agriculture volume moved, primarily shipped via shuttle trains to ports for export. However, recent trade issues have compromised this business as agriculture exports slow. Combined with slowing movement of coal for energy uses, BNSF and other railroads are dealing with a challenging business environment. Furthermore, increased regulations around employee labor duty hours, challenges to autonomous and other advanced technology, and competition from other forms of transportation pose even greater challenges to the BNSF. These challenges have forced BNSF and other railroads to think differently in order to avoid collapse like companies such as Kodak.

## **Leadership**

Lastly, the cohort heard from a few speakers who are committed to leading East Texas forward despite the challenging times agriculture and supporting industries face. During the Building East Texas reception, the cohort heard from Mr. Donnell Brown, a cattle producer in the area. Mr. Brown encouraged the group to focus efforts on getting where we want agriculture to be rather than spending time on where we do not want to be. He also emphasized the importance of being willing to change, and that we must move quickly. Change is happening faster than ever but will never again be this slow.

Mr. Joey Bray from the Department of Agriculture at Stephen F. Austin University echoed Mr. Brown's comments as he explained to the group how SFA supports the area. Through various outreach programs, SFA's Department of Agriculture is engaging with the community and encouraging youth to get involved in the industry. The Department of Agriculture also utilizes its 726-acre research center to research various topics related to the area's major commodities – poultry and timber. Through these research efforts, students and faculty are helping drive change in ways that will help local industries not only sustain but also thrive for years to come.

The East Texas session was one of the most jam-packed and educational sessions of the TALL program. Unlike many other regions of the state, East Texas contains a variety of different agricultural commodities. The region not only leads the state, but also the nation in production in categories such as nursery, poultry, and timber. While these industries are not commonly associated with Texas agriculture, they are critical to the region and the nation. I thoroughly enjoyed the opportunity to expand my knowledge of Texas agriculture and appreciate the diversity of East Texas compared to other parts of the state. The success of the region can be attributed to the great leaders, such as those involved with Building East Texas. Without their hard work, dedication, and passion for the industry, many East Texas industries would have buckled under the numerous challenges experienced over the years. East Texas is very resilient and truly an inspiration for leadership in other parts of the state and around the nation!