

Oklahoma Agricultural Leadership Program

Class XVII

Scribe Notes

Seminar 3

November 12 - 14, 2014

“The Noble Foundation and Mid-Southern Oklahoma Agriculture and Industry”

Wednesday Nov. 12

Scribe: Bryan Nichols

Oklahoma State University Institute for Agricultural Biosciences (IAB)

Dr. Randy Allen welcomed OALP Class XVII and gave an introduction to the IAB. The IAB was approved and funded by the state of Oklahoma in 2006. Construction was initiated in 2009 and completed in 2012. The IAB is a research facility for molecular and cellular plant biology. Its focus is on basic research aimed at crop improvement and much of its work is done in cooperation with researchers at the Noble Foundation. Current projects are focusing on plant development such as leaf expansion and cell wall development in cotton fibers, stress tolerance to environmental and biological stressors, and weed control.

The group was split into two groups and toured the lab with Dr. Randy Allen and Dr. Todd Baughman.

During the tour with Dr. Baughman, it was discussed that the plants *Arabidopsis*, *Medicago truncatula*, and tobacco are used as model plants for research because their entire genome has been mapped. Since they are mapped, researchers can force genetic changes upon the plant and evaluate how these alterations affect the plant's phenotypic and genetic traits.

OALP Presentations

Each member of the class gave a 5-minute presentation on the following topics:

Kristin Alsup	Designing the new USDA dietary guidelines and the process so far
Christy Combs	Problems with attracting and keeping young people in production agriculture
Crystal Cowan	Improving/expanding the role of women in agriculture
Patrick Crouch	The case against corporate farming
Brian Forrester	Produce traceability
Jared Grissom	Major concerns/challenges of the future for wheat and small grains production
Janlyn Hannah	Case for keeping government in agriculture
Chad Hartin	Keys to Successful Beef production
Amanda Horn	Improving breakfast for children to improve education in Oklahoma
Brad Lyle	General agricultural risk management
Bob Mulligan	Need for a law requiring farmers to keep application records
Susan Murray	Educating the American public about agriculture
Bryan Nichols	Major concerns/challenges of the future for beef cattle production
Shawn Norton	Educating the American public about agriculture

Josh Payne	The case for corporate farming
Robert Rana	Expansion issues and credit opportunities for farmers and/or ranchers due to land values and alternative land uses
Matt Sandmann	The challenge of balancing water conservation in rural, urban, and agriculture settings
Bambi Sidwell	How to make your Farm Bill Program decision
Preston Simic	Problems attracting young people to production agriculture
Kirby Smith	Challenges facing rural Oklahoma families
Bill Steinert	Family partnerships
Justin Street	Agriculture and environmental issues/concerns
Coleen Thornton	Food safety
Josh Widener	Agricultural tourism

Noble Foundation

The group had lunch with the following Noble Foundation employees:

- Dr. Ryan Reuter – Associate Professor in Beef Cattle Science
- Dr. Deke Alkire – Livestock Consultant
- Steven Smith – Wildlife and Fisheries Consultant
- Dr. Robert Wells – Livestock Consultant

Adam Calaway, Director of Communications for the Noble Foundation, told the story of the founder of the Noble Foundation, Lloyd Noble. The Noble family came to Indian Territory in the late 1800s and were owners of a hardware store in Ardmore. Lloyd Noble was born there in 1896. In the early 1920s, Lloyd was given a loan from his mother to get started in the oil business and he quickly became very successful. During and after the dust bowl of the 1930s, Noble saw the effects of poor farming practices upon the landscape. In 1945, he established the Samuel Roberts Noble Foundation, named after his father, with the goal of conducting research and educating landowners in order for them to succeed and stay on the land. Currently, the Noble Foundation employs approximately 350 employees from over 20 different countries. Mr. Calaway discussed the fact that world population is expected to rise in the coming years with food demand increasing as well and that the Noble Foundation is working to increase food production and efficiency. Examples of this are genetically modifying plants to resist stress tolerance, plant breeding using novel endophytes to improve animal response while maintaining stress tolerance, and utilizing technology to improve on-farm decision making.

David McSweeney, Biosafety and Greenhouse Research Manager, gave a tour of the Noble Foundation Greenhouse. The greenhouse is approximately 50,000 square feet, with 10,000 feet of that being one of the most technologically advanced greenhouse spaces in research. This facility is certified through the USDA to handle plants in research for genetic alteration. One challenge the greenhouse faces, as does the rest of agricultural production, is the battle against pests, especially thrips. In the past, staff relied on regular applications of synthetic and natural pesticides to control them. Thrips have a very short generational turnover and resistance was becoming a problem. They have now incorporated biological controls which have reduced pesticide use and improved efficacy of the pesticides.

Dan Childs, Senior Agricultural Economics Consultant, gave a presentation on successful marketing and use of futures contracts and options. According to Mr. Childs, things that a person should know in order to be a successful marketer are as follows: costs, production potential, breakeven prices, seasonal price patterns, price cycles, price trends, profit objectives, and yourself. All people have a different aversion to risk and should not ignore this fact.

Good habits of marketers are looking at the big picture, focusing on profit and not price, selling when profit is available, managing the future, and not worrying about the past. He discussed using seasonal price cycles to help with marketing decisions and that breaking the cycle, essentially buying in the low time of the year and selling in the high time, is a way of capturing value. He cautioned that not every year is average, especially this past year, and decisions need to be evaluated in current conditions.

He then covered the use of futures contracts and options which are tools for protecting yourself from price moves. A large factor in the decision for a person to use these is their comfort in paying margin calls when the market goes against them. The potential for margin calls is present in futures contracts or when an option is sold. Margin calls are not made when buying options. Many different strategies exist and in order to use them effectively, a person should understand and feel comfortable with the strategy they are employing.

Thursday Nov. 13
Scribe: Josh Payne

Boarbuster:

Feral hogs are known to be in 47 states. They are known to cause rooting damage, can spread disease, and can affect habitat for other wildlife such as the lesser prairie chicken. A sow can produce up to two litters per year with 8 piglets per litter. Due to feral hog invasion, the Noble Foundation has conducted work on hog trapping. Pen traps are not as effective because they are too small. Corral traps capture larger groups but only capture 49% of population and you also trap nontarget animals. Drop nets work well and result in 89% capture rate. They are portable, reduce trap shyness, and eliminate nontarget captures. They require a man on site to trigger and it may be difficult to remove pigs. The goal is to trap an entire sounder of pigs. The Boar Buster is a drop pen that allows hogs to enter an open area containing feed as bait. A video camera and remote control allow a producer to drop a cage on the hogs. A text message can be sent when you have pen activity. The diameter is 18' and the cost is \$4-6,000.

Pecan Orchard and Production:

In 1941, the farm started by planting 500 acres. Pecans are native to the U.S. with Georgia being the #1 state for pecans. New Mexico is #2, Texas is #3, Arizona is #4, and Oklahoma is #5. The U.S. produces 300 million pounds per year. About 85% of Oklahoma pecans are native. Pecans prefer hot weather. One large tree can use up to 250 gallons of water per day. Pawnee and Kanza are popular varieties. The pecan weevil is the #1 enemy. Producers can lose 50% of a crop each year. Weevils bore into nuts. Pecan nut casebearers and stink bugs are also an issue. About 74% of a pecan nut is oil. There is potential for a pecan oil market. Most Oklahoma producers will double-crop with cattle.

Noble Foundation Cattle Herd and Handling Facilities:

The Noble Foundation owns a stocker and cow calf operation. It tests all calves for Bovine Diarrhea Disease - Persistently Infected (BVD-PI). One out of 500 calves may test positive. If they have a positive case, they don't sell the calf but take the loss. The Foundation also owns a pecan orchard where they will double-crop with pecans. They have an elaborate cattle working system with a remote-controlled chute system. They use an EID tag system for cattle record-keeping.

GrowSafe System:

An EID reader is located inside the feed bunk. The reader determines individual feed intake and can also be used for the watering system. The reader can obtain a front-end body weight and knowing this helps diagnose sick animals based on feed intake. If there is a concern with the

weight of a calf, then it will shoot a spot of paint on the back of the calf to identify it. This system also helps with sorting a uniform pen for selling.

Technology to Assess Forage Mass:

Biomass estimation is important for determining cattle stocking rates. Several tools can be used from a forage stick to a falling plate meter. Noble researchers have developed new sonar technology which can be mounted on the front of an ATV or tractor and used for estimating pasture biomass. Producers would simply drive across a field to determine biomass.

Noble Foundation Consultation Program:

The Noble Foundation provides free agricultural consultation to local producers within a 100 mile radius. They have plans to expand their reaches beyond this radius. Consultants include agricultural economists, livestock specialists, and agronomists.

Past and Future Effects of Drought in Oklahoma:

Hugh Aljoe highlighted changing weather patterns and how that will impact agriculture. Higher temperatures and longer droughts will most likely impact pasture management. The #1 drought management issue is proper stocking rate. Rest and recovery periods for forage and pasture insurance may become increasingly important.

Cunningham Farm and Ranch:

We visited a stocker operation that buys high-risk calves. However, their death loss is low (around 1%). They also have native pecans. They combine a wheat and stocker program. They mainly purchase 400-600 pound calves and cutting bulls. They use a tillage wheat system. No-till doesn't work for this particular operation due to the soil type. They also plant ryegrass with grazed wheat and use pesticides for grasshopper control. The producers highly recommend risk insurance.

Near the end of the day, the group visited the Greater Southwest History Museum where we were allowed a tour after volunteering our time cleaning up inside and outside of the museum. Some of the class members went to the Good Shepherd Community Clinic storage unit to sort and repack boxes. We ended the day with dinner provided by alumni and a tour of the Gene Autry Museum.

Friday Nov. 4

Scribe: Matt Sandmann

After breakfast, we made our way east to Madill, Oklahoma. One may not realize the diversity this town has to offer, but in Madill one can find many different types of manufacturing companies.

CM Trailers - We started our tour at CM trailers. It was neat to see the trailers being made from start to finish. There were no cameras allowed, but knowing the hard work and craftsmanship that goes into making these trailers makes you appreciate them a whole lot more. I never thought of a difference in manufacturing when it comes to aluminum and steel. Aluminum trailers are made from essentially scratch and steel trailers are framed from scratch but some parts are ordered already assembled. CM does everything from welding, painting, and electrical work on all of their trailers. They ship trailers all over the country and make certain styles and produce those styles daily, making between 15-20 trailers per day.

Savage Equipment - Savage is a large pecan equipment manufacturer. Instead of having an assembly line set-up on their equipment, they build on order (to an extent) making a few

different pieces of equipment as needed. The day we attended, field cleaners were being assembled. One of the major pieces of equipment made by Savage is the pecan cracking system. All pieces for this cracker are manufactured by Savage. We learned that more than 90% of all pecans cracked are cracked with a Savage cracker.

Oklahoma Steel and Wire - There is so much to share about this facility. So I will do my best "in a nut shell" version. Oklahoma Steel and Wire melts scrap metal and turns it into 6"x6"x33' steel bars. From there they roll the steel bars into miles of rebar coiled in large spools. They then take the spools and stretch them into every kind of wire or panel you can imagine. They started with a single panel welder and now they make barb wire, slick wire, cattle panels, rebar, and so many more items. We learned where to buy their products and how to buy them more directly.

After all the tours we packed up and headed home.