THE TAPA QUARTERLY

The Newsletter of the Tennessee Agricultural Production Association

ISSUE 1

March 1, 2014

MESSAGE FROM THE PRESIDENT
By Terry Kelley

Let me begin by expressing my sincere thanks to the board for their hard work in bringing about successful programs this year. Many thanks go to Dr. Larry Steckel for his support as well.

The summer meeting location has been moved to the Embassy Suites in Murfreesboro for 2014. The membership voted to move to a more centrally located venue in hopes of increasing attendance for the summer meeting. The meeting dates have also been moved to later in the month of July in order to avoid conflict with other summer meeting obligations.

The Embassy Suites has graciously offered us very reasonable room rates and will provide exceptional meeting facilities. The hotel is located close to excellent restaurants, shopping, and attractions. Its close proximity to Nashville provides entertainment opportunities for the entire family.

It has truly been an honor to serve as president of such an esteemed organization as TAPA. I encourage each of you in professional agriculture to become more involved in our organization because there truly is strength in numbers. Dr. Frank Yin, president elect, will assume the position of president with the close of our summer meeting. Let's all be sure to give our support to him as he takes on this responsibility.

TAPA THREE STAR SCHOLARSHIP ANNOUNCEMENT

The Tennessee Agricultural Production Association is pleased to announce the creation of three regional scholarships for deserving college sophomores and juniors seeking degrees in the field of agriculture. Students will be eligible for the $1,000 Three Star Scholarship in West, Middle, and East Tennessee by submitting a resume, statement of career goals, and explanation of what this scholarship opportunity means to the candidate.

To qualify, the candidate must be currently enrolled in a Tennessee college or university and actively pursuing a degree in agriculture or related area. Students may apply via email at psep@utk.edu by April 30, 2014. Requests should be made via the above email address. Within the subject line include "TAPA Scholarship". Place submission information within the subject area. No attachments please.

A TAPA representative will communicate the potential award to Ag program coordinators throughout Tennessee. TAPA is proud to reach out to the leaders of our future and we look forward to announcing winners at our summer meeting in Murfreesboro.

Rick Turnage
Scholarship Chairman
TAPA

INSIDE THIS ISSUE

Be sure to add this event to your Calendar!

TAPA Annual Meeting & Agronomic Workshop
Embassy Suites
Murfreesboro, TN
July 29-31, 2014

EVOLUTION OF AGRICULTURE

By John F. Bradley

It would take years to write a book to cover the topic of the Evolution of Agriculture. I often marvel at the change and advancement that has taken place in the past 100 years in agriculture in the U.S., from mules and horses to our modern day tractors, harvesters that pick and shell more corn in 15 minutes than my grand-father could hand pick in a full day, from simple hand hoeing and mechanical cultivation to the age of 120 foot spray booms applying crop protectants and fertilizer without being manually steered.

Since I have not been around quite 100 years, I choose to highlight the five greatest changes that I have seen and experienced in my 38-year career.

The first and maybe the most drastic change, has been conservation tillage including no-till, strip-till and all sorts of minimum tillage. Edward Faulkner introduced the notion when he wrote "The Plow-man's Folly" in in 1943 and introduced a simple sentence "The fact that no one has ever advanced a scientific reason for plowing". With this sentence he opened up a new era or what turned out to be the tillage revolution in agriculture. The book's main concern was the depletion of the soil, erosion, lower and decreasing productivity of the soil. Time magazine called this concept "one of the most revolutionary ideas in agriculture history." The volume is being made available again not only because farmers, ranchers, gardeners, and agriculturists demanded it, but also because it details the kind of "revolution" which will aid those searching for the fruits of the earth in the emerging nations.

The book is still available and recommended reading for all farmers. In the late 1960's planters were developed for no-tillage fields, but it was not until the 1970's that true and successful no-till equipment became commercially available to plant in to untilled soil.

I had the opportunity to lead the development and adoption of no-till cropping systems in the 70's –early 2000's on corn, soybean, wheat and cotton through the University of Tennessee and Monsanto. It was tuff proving that there was a better way to farm than plowing and mechanical cultivation. In a blog soon, I will discuss many of the objections and barriers that I encountered promoting conservation tillage. It was and is a hard "sell". According to the last national survey (2008) no-till and minimum tillage accounted for 42 % of all cropping acres in the U.S. with soybean (82%) and corn (62%) leading the CT acres.

The next biggest evolution came in 1996 with the commercial introduction of biotechnology, genetic modification, transgenic crops, Bacillus thuringiensis (Bt) and Roundup Ready crops. I had the privilege of attending Monsanto update on new technologies in 1984 at Chesterfield Research facility (with the greenhouses on the roof) . Dr. Rob Fraley, Chief Technology Officer and recent recipient of the 2013 World Food Prize, gave us the vision of Monsanto's technology focus for the next 20 years including discussion of Roundup Ready corn and using Roundup to control 100 weeds including Johnsongrass. Spraying Roundup over the top of corn to control Johnsongrass was almost too far reaching for me. Yet in 1997 I had the fortunate experience to work for Monsanto to introduce RR corn, soybean and cotton in conservation tillage systems. Roundup ready technology boosted the adoption of no-till crops more than any one other tool. It brought down the weed control barrier.

Biotech crops increased in 2012 for the 17th consecutive year. A record 170.3 million hectares of biotech crops were grown globally in 2012, at an annual growth rate of 6%, up 10.3 million from 160 million hectares in 2011. 2012 was the 17th year of commercialization of biotech crops, 1996-2012, when growth continued after a remarkable 16 consecutive years of increases making biotech crops the fasted adapted technology in history of agriculture.

Boll Weevil Eradication was another huge accomplishment to me, having grown up on a cotton farm in West Tennessee. For years we sprayed as many as thirteen times in a season with organic phosphate insecticides to attempt to control the omnipotent boll weevil. This insect probably caused more damage to cotton in the U.S. for over 100 years than all other cotton pest combined. It put cotton farmers and communities like Enterprise, Alabama out of the cotton business in the 1960's, thus the citizens erected a bronze monument on court square to memorialize the defeat of cotton production in the area.

The Boll Weevil Eradication Program is a program sponsored by the United States Department of Agriculture (USDA) that has sought to eradicate the boll weevil in the cotton-growing areas of the United States. It is one of the world's most successful implementations of integrated pest management. The program has enabled cotton farmers to reduce their use of pesticides by between 40 to 100 percent, and increase their yields by at least 10%, since its inception in the 1970s. By the autumn of 2009, eradication was finished in all US cotton regions with the exception of less than one million acres still under treatment in Texas.

The fourth evolution is Precision Farming, another fast growing technology with a high adaption rate. The development and implementation of precision agriculture or site-specific farming has been made possible by combining the Global Positioning System (GPS) and geographic information systems (GIS). These technologies enable the coupling of real-time data collection with accurate position information, leading to the efficient manipulation and analysis of large amounts of geospatial data. GPS-based applications in precision farming are being used for farm planning, field mapping, soil sampling, tractor guidance, crop scouting, variable rate seed, pesticide and fertilizer applications, and yield mapping. GPS allows farmers to work during low visibility field conditions such as darkness, rain, dust, and fog.

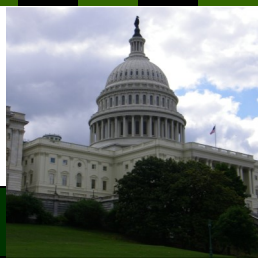
And lastly, Seed Treatments. Before we had the foresight and technology to apply insecticides, fungicides, PGR's and micronutrients to individual seed before and at planting, seed protection was much more complimented. We used dry and granular boxes and liquid tanks on the planter to hold seed treatments to apply in-furrow with the seed. We were always running out of one treatment or the other and slowing down planting tremendously. Now it is all on the seed and pest control is more effective and safer for the handler than the old hopper box treatments and in-furrow sprays.

I remember hearing about 15 years ago that we in agriculture would see more changes in the next 15 years than we had seen and experienced in the past 50, and WE HAVE!!

It has been fun, exciting, educational and profitable for those of us in agriculture unless you insisted on continuing to manufacture plow points and hoe handles.

Dr. Bradley is VP Technical Sales Support, FBSciences

News from the Hill



OSHA Backs Off Regulations on Small Farms' Grain Storage

U.S. Sens. Thad Cochran (R-MS) and Roger Wicker (R-MS) are pleased that small family-owned farms will not be subjected to unlawful scrutiny by OHSA. Under pressure from Cochran, Wicker and other lawmakers in the Senate and House, OSHA has agreed to withdraw its 2011 guidance memorandum on regulating small farms with grain storage. That instructional memorandum was widely viewed as violating a long-standing congressional prohibition on OSHA regulation of small farms and as a potentially costly burden on more than 300,000 farms in the U.S. with on-farm grain storage.

The OHSA withdrawal of its June 2011 directive follows its acknowledgment in January that small farms with grain storage facilities are exempt from regulations, a concession made after Cochran, Wicker and 41 other senators demanded that OSHA stop its regulatory overreach toward small farms. Congress has specifically exempted small farm operations from OSHA regulations since 1976. OSHA reiterated its pledge to work with the USDA and organizations representing farmers to clarify rules regarding grain storage.

Agricultural Law Development
Feb. 17, 2014

Experts on Food Biotechnology (GMO-Containing Food) Tell it Like It Is

The latest issue of the journal of the International Food Technologists (officially known as *Food Technology),* has an excellent, clearly-written, non-technical discussion of just about all the aspects of bioengineered food one would hope to get in a few hundred words. Co-written by ACSH advisor Bruce Chassy, Ph.D., Professor Emeritus of Food Science at the University of Illinois and President of AcademicsReview.org, and Wayne Parrott, Ph.D., Professor of Crop and Soil Sciences, University of Georgia, here's the nugget:

"Although controversial, genetically-modified crops are safe, efficacious, and necessary to meet future food needs and preferences." So why all the fuss? (Which happens to be a header over one section of their essay). Here is why:

All too often, the concern that any particular brand will be viewed as less than 100% safe by consumers leads food companies to bow before public pressure—just witness the current move to claim "no high-fructose corn syrup" prominently on some labels. While there are clear short-term benefits from this strategy, it allows public opinion to become the arbiter of what is healthy and what is not, rather than specialists in the field. The inevitable outcome of such "science by plurality of opinion" is to ensure that food ingredients and novel technologies available to the industry are continuously attacked until removed from food products. At this moment many consumers trust the activists on the issue of GM safety more than they do the food industry. The food industry and members of IFT need to invest time, resources, and energy to explain GM technology, why the world needs GM crops, and the food industry's commitment to safety and sustainability.

ACSH's Dr. Gilbert Ross added this: "In other words, do not cave to 'consumer concerns', usually provoked by special interest groups with agendas: science, especially food science in this age of ongoing malnutrition, is not a democracy. The anti-science voices raised up against GM food must not be allowed to stifle this important progress."

American Council on Science and Health
February 19, 2014

Global Status of Commercialized Biotech/GM Crops: 2013

The report released by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) notes that "... more than 18 million farmers in 27 countries planted biotech crops in 2013, reflecting a five million, or three percent, increase in global biotech crop hectarage. 2013 also marks the first-ever commercial plantings of drought-tolerant biotech maize in the United States ... Global biotech crop hectarage has increased from 1.7 million hectares in 1996 to over 175 million hectares in 2013. During this 18 year period, more than a 100-fold increase of commercial biotech crop hectarage has been reported. The United States continues to lead global biotech crop plantings at 70.1 million hectares or 40 percent of total global hectares ..."

FIEN
Feb. 14, 2014

These thumbnail summaries are printed exclusively for TAPA members. The views expressed in these articles are not necessarily the views of the Tennessee Agricultural Production Association but the articles were felt to be worthy of your attention. Source: *On Guard*, Southern Crop Production Association, Dawson, GA

L-R: Phillip Rogers, Lance Carter, Dr. Chris Henry (Univ. of Arkansas)

TAPA AGRONOMIC WORKSHOP

FOR CERTIFIED CROP ADVISORS

JACKSON, TN
2/12/2014

L-R: Cletus Yeomans, Matthew Wiggins (Univ. of Tennessee), Charlie Weaver

L-R: Bob Sharp, Dr. Hugh Savoy (Univ. of Tennessee), Joe Jenkins

It was a cold, dreary day on the outside, but our speakers warmed things up with a full day of timely and interesting information. We're extremely grateful for our speakers, TAPA members, and CCAs in attendance!

L-R: Tracey Sullivan, Kenney McRae

SCHEDULE OF EVENTS 2014

FIELD DAYS	DATE	TIME	LOCATION
FRUITS OF THE BACKYARD	JUNE 17	TBA (CDT)	MIDDLE TENNESSEE AGRESEARCH CENTER (SPRING HILL)
TOBACCO, BEEF AND MORE	JUNE 26	TBA (CDT)	HIGHLAND RIM AGRESEARCH CENTER (SPRINGFIELD)
SUMMER CELEBRATION	JULY 10	TBA (CDT)	WEST TENNESSEE AGRESEARCH CENTER (JACKSON)
TOBACCO AND FORAGE PRODUCTION	JULY 17	TBA (CDT)	GREENEFIELD AGRESEARCH CENTER
MILAN NO-TILL	JULY 24	TBA (CDT)	MILAN AGRESEARCH CENTER
TAPA AGRONOMIC WORKSHOP & ANNUAL MEETING	JULY 29-31	TBA (CDT)	EMBASSY SUITES MURFREESBORO
STEAK AND POTATOES	AUGUST 5	TBA (CDT)	PLATEAU AGRESEARCH CENTER (CROSSVILLE)
15TH ANNUAL MONSANTO FIELD DAY	AUGUST 7	TBA (CDT)	MONSANTO RESEARCH FACILITY UNION CITY
COTTON TOUR	SEPTEMBER 3	TBA (CDT)	WEST TENNESSEE AGRESEARCH CENTER (JACKSON)
TURF AND ORNAMENTAL	SEPTEMBER 11	TBA (EDT)	EAST TENN. AGRESEARCH CENTER (PLANT SCIENCES UNIT KNOXVIILLE)
PUMPKIN	SEPTEMBER 25	TBA (CDT)	WEST TENNESSEE AGRESEARCH CENTER (JACKSON)
NORTHEAST TENNESSEE BEEF EXPO	OCTOBER 9	TBA (EDT)	GREENEVILLE AGRESEARCH CENTER
WOODS AND WILDLIFE	OCTOBER 15	TBA (EDT)	FOREST RESOURCES AGRESEARCH CENTER
ORGANIC CROPS FIELD TOUR	OCTOBER 23	TBA (EDT)	EAST TENN. AGRESEARCH CENTER (ORGANIC CROPS UNIT, KNOXVILLE)

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TENNESSEE SOYBEAN PROMOTION COUNCIL	tnsoybeans.org
VALENT USA	valent.com

Industry Sponsors: TAPA is very grateful for your support. Please accept this invitation to participate in the "Industry Update" session at our Summer Meeting in Murfreesboro July 29-31, 2014!

High Yields from Homogenous Fertilizer

By Jake Bachman

In 2012, the High-Yield Corn U.S. champion was Randy Dowdy of Georgia at 373 bushels. This tremendous accomplishment, while rewarding, was not enough as he set his sights on 400 bushels. With a "can do" attitude, along with homogenous fertilizer, he believed this feat could be accomplished.

Dowdy attributed variable rate technology to breaking 350 bushel yields in 2011, the first time he surpassed this benchmark with his personal best 363 bushels. But, then, he was introduced to homogenized fertilizer and a world of possibilities opened up. He recently spoke at the annual BASF media symposium held in conjunction with this year's Commodity Classic. "If there's one thing I want you to take away, it's this," Dowdy says, "Understand the Law of Minimum." It is a term used by biochemists Carl Sprengel and Justus von Liebig to mean a plant's growth is limited by the nutrient in shortest supply.

"The law traditionally states that yield is proportional to the amount of the most limiting nutrient, whichever nutrient it may be," Dowdy says. "However, I venture to say the law also should include agronomic practices that are in our control." These mindsets led Dowdy to homogenous fertilizer. In each grade, precise amounts of each nutrient are chemically combined to form a homogenous product. The uniformity gives an even spread, allowing plants across the field to get the precise amounts of major, secondary and micro nutrients needed for vigorous growth.

Recently, the 2013 high yield corn results were announced and Dowdy, with the help of homogenous fertilizer, eclipsed 400 bushels. He yielded 405 bushels on an irrigated plot and 417 bushels on a no till/strip-till irrigated plot. This accomplishment has only made Dowdy hungry for what's next, 500 bushels. But, one thing is for sure - he will be striving for that next benchmark with homogenous fertilizer.

Jake Bachman is Regional Sales Representative for Agrium Rainbow Plant Food

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We have a Facebook page! You can now follow our organization on facebook. So jump on and click the "Like" button! Just click the link here to go our FB page!

TAPA Board of Directors Meet in Jackson

Front row: Dianne Jenkins, Terry Kelley, Hugh Savoy, Frank Yin; Middle row: Ricky Foster, Harry Craft, John Bradley, Don Tyler; Back row: John Duke, Rick Turnage

The TAPA Board of Directors met in Jackson on February 11, 2014. One of the items of business was to formulate plans for the Annual Meeting & Agronomic Workshop, to be held at the Embassy Suites in Murfreesboro July 29-31. The ground work is now being laid for a terrific three days of education, rekindling friendships, and a few surprises along the way. If your business is agriculture, this event is for you! Pre-registration, lodging, and meeting agenda details will be coming soon!

Need CCA CEUs for your meeting?

Do you want to know the simplest way to gain CCA CEU approval for your meeting? If you do, clink on the link below and follow the instructions:

https://www.certifiedcropadviser.org/files/certifiedcropadviser/certified/ceu-app-step-by-step-directions-2011.pdf

If you need additional assistance with this process, please let me know.

Jaymie Seay
Executive Secretary
CCA Board of Directors (TN)
(615) 793-8410

The Tennessee Agricultural Production Association (TAPA) is a non-profit organization established in September 1996 through the merger of the Tennessee Agricultural Chemical Association (TACA) and the Tennessee Plant Food Educational Association (TPFEA).

TAPA's purpose is to promote, coordinate and disseminate information related to current recommended agricultural production practices among those engaged in research, education, manufacture, distribution and regulation of Tennessee agriculture.

The TAPA Quarterly is published in March, June, September, and December. Please submit articles or other information of interest to be published to Ron Akin at tapanews@ymail.com. Use this e-mail address if you wish to unsubscribe to *The TAPA Quarterly*.