



CEO Report

by Doug Miller, CEO • dmiller@ilcrop.com

Where and How

Palmer amaranth has certainly become a point of discussion for parts of the seed industry. There are many avenues that undesirable, noxious or prohibited species can spread and become established in previously unaffected areas. Weed seed can be delivered to your farm for a fee through feed, mulch and used implements. But of all the man made means of weed seed transport the most reviled avenue is through seed for planting. Seed for planting as an avenue for Palmer amaranth is understandably a very serious issue. The issue is complicated by the fact that Palmer amaranth is native to the southern US and only 2 northern states have designated it as a noxious weed. But the industry has taken notice and a DNA based assay has been developed. As you will read in another part of this newsletter the assay has the ability to say "this Amaranths seed is or is not *Amaranthus palmeri*".

While decidedly more exotic rice has weedy cousins and noxious weeds that are also difficult if not impossible to distinguish from each other during visual seed purity exams. Red rice in the US is a weedy version of the cultivated species. But there are also separate red rice species on the Federal Noxious list that can be difficult to distinguish from weedy red rice. Thankfully the species listed as Federal Noxious are not known to occur in the United States. Geography keeps these other species

of rice at bay allowing seed analysts to make the call based on the location of the production and lack of trade.

Knowing where seed is produced and how it has been produced has and will continue to be the primary means of preventing the spread of undesirable species. Seed testing relies on quality seed production and quality seed production relies on seed testing. One without the other or the lack of communication between each other can be the root cause of serious issues in our industry.

Quality control programs cost money; a lack of quality control costs much, much more. Every penny counts, but knowing where and how seed is produced has value. For those who have had to monetarily "fix" issues, the value of field inspections become immeasurable. Remember that quality control is a more technical way of saying "we measure our process by looking here and testing there." Here and there you get a snap shot or estimate of what will be planted in your client's field. To be of value you need the best assessment and best snap shots available within a defined system that lets you confidently and profitably bring a product to market.

With the field inspection season just around the corner keep in mind the value of third party inspections. Mistakes such as incorrect varieties, varietal mixtures and similar problems may be relatively rare. But it takes a constant vigil to guard against them. Our inspectors have identified incorrect varieties and purity issues based on all

of the typical characteristics provided by breeders including; hilum color in soybean, awn type in wheat, color in oats and silk color in corn. Our inspectors have caught errors before they have become problems and prevented mistakes from becoming a blemish on a company's reputation. The problems that arise from faulty or poorly implemented internal field inspection, conditioning and sampling plans cost more than many will readily admit. Don't wait until your completion can measure how much your quality system is really costing you.

While you are thinking of field inspections ask yourself when you last had a fresh set of eyes look at your operation and its management systems? From simple audits to consulting projects Illinois Crop has assisted multi-nationals and family businesses with a different perspective on issues facing the industry. We know the value of our services outweigh the cost. Our field services and quality management capabilities are diverse and flexible, ready to support you in any or all phases of your operation. Many of you are in the seed industry because you do things differently. But is it the right kind of different? My hope is that the Palmer amaranth issue has made you consider the questions of where did it come from and how did it get here for every seed you sell.

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Seed Quality for the 2016 Crop Year

Corn germinations in the lab have slightly decreased this testing season with averages just under what we were seeing last year at this time. The overall germination average is 95.3% compared to 96.0% last season. The corn cold test germinations are averaging 91.4% which is 0.6% lower than last season. The same goes for the soybean samples that have been tested in our lab. The soybean germination average is 89.7% across all regions tested. This is a 1.7% decrease in the germination average from the 2015 crop year. We are starting to see soybean lots that are showing signs of increased mechanical damage in the germination from what we were seeing in earlier initial germination testing. This could be from weakened seed coats and damage received during the handling of the seed. The average Phomopsis (pod and stem blight) infection has increased across all regions this season and is 3.18% compared to 0.79% last season. Soybean cold test germination averages are higher this season at 89.3% compared to 87.7% last year at this time. The average soybean seed count across all regions is 2,647 seeds per pound. Seed applied fungicides may be beneficial to some seed lots with higher amounts of Phomopsis infection. Illinois Crop can hand apply fungicide seed treatment to your seed, prior to germination, to help determine if there is value to treating the seed lot to help increase the germination rate. Please contact the Seed Lab if you are interested in this service. Constant monitoring of germinations will ensure that you are supplying good quality seed to your customers.

2016 Soybean Crop Results by Region

Region	Germ %	Phomopsis %	Seed Count/lb
Central	89.2	3.95	2,751
East	87.5	5.37	2,680
E-SE	92.0	1.40	2,413
NE	88.5	1.95	2,629
NW	91.3	2.91	N/A
SE	94.3	2.66	2,794
SW	92.6	2.03	2,887
W	92.0	2.03	2,817
W-SW	93.2	0.76	2,882
Out of State	88.5	2.59	2,546

as of 3/14/2017

Illinois Crop is an Officially Recognized Canadian Seed Testing Laboratory

Illinois Crop Improvement recently became an officially-recognized seed laboratory under the Canadian Food Inspection Agency Seed Grading System. The seed lab is recognized foreign laboratory number 3010. Contact me directly for more information about Canadian seed testing at sbeals@ilcrop.com.

Patriot Soybeans

Commodity Traders International of Trilla, IL has been authorized by the University of Missouri to be the maintainer of Patriot Soybeans. Patriot is a late group III variety developed at

the University of Missouri, Columbia, MO and released by the Missouri Agriculture Experiment Station. It is a conventional cultivar with excellent yield potential, resistant to race 3 cyst nematode, tolerant to sudden death syndrome as conducted by the Southern Illinois Uniform Trials and resistant to the race 1 Phytophthora root rot. Patriot has good tolerance to lodging with an average height of 37 inches. Patriot has a relative maturity of 3.9, intermediate growth habit, white flower color, tawny pubescence, and a tan pod color. Patriot also has a buff hilum and an intermediate seed coat luster. Please contact Charles Stodden at Commodity Traders International for Patriot soybean seed. Phone: 217-235-4322 or email: sales@commoditytraders.biz

New Full Time Employees in the Seed Laboratory

In April 2016 we added a new full time position in the Seed Lab for a Seed Analyst. We hired Kelly Redmon. Kelly had worked part time for IL Crop approximately 8 years before becoming a full time employee. Kelly has helped in many areas of the seed lab from planting to evaluation, as well as dividing working samples for purity. Her primary role is purity and secondary role is germination evaluations. Kelly resides in Urbana, IL with her fiancé Mark. Kelly has 2 children, Madison, 5 and Easton, 7 months. In her spare time Kelly enjoys reading, movies, and spending time with her family. A very belated welcome to the seed lab Kelly.

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Palmer Amaranth Seed Identification Testing Options

Palmer Amaranth (*Amaranthus palmeri*) has been declared a noxious weed in several states so it has become necessary to be able to properly identify the seeds from this weed in commercial seed samples. Since distinguishing Palmer Amaranth seeds by visual means from other *Amaranthus* species is unreliable, the seed testing industry is using DNA based testing methods to identify Palmer seeds.

When *Amaranthus* species seeds are found in a seed sample sent to us, the customer is contacted to let them know of the potential issue with their seed lot and we determine further testing options. The primary testing option is to have Illinois Crop forward the suspect seeds to a lab specializing in DNA methods of Palmer Amaranth seed identification. The seeds are analyzed individually and results are reported through Illinois Crop. A second or alternative option is to have Illinois Crop conduct a greenhouse growout on the suspect seeds and send the leaf tissue to the University of Illinois Plant Clinic for DNA analysis. In the alternate testing scenario the leaf tissue instead of the seeds is analyzed for identification and results are again reported through Illinois Crop.

Both methods have pros and cons. The benefits of the primary method is that it identifies each and every suspect *Amaranthus* seed as Palmer or not and offers a quicker turnaround time on results. The drawbacks are that testing costs are high and due

to the small amount of seed material the sample may not be able to be re-tested if results are questionable. The benefits of the alternate greenhouse growout method are that costs are lower, a preliminary identification of the seedlings can reduce the number of samples needed to be analyzed and plants can be re-tested if results are inconclusive. The drawbacks are that dead, dormant or sterile seeds will not germinate and be able to be tested and growing the plants prior to testing can significantly prolong the turnaround time on results.

For more information on Palmer Amaranth seed identification testing contact any of the following staff members: Matt Raymond, Field Services Director, mraymond@ilcrop.com; Steve Beals, Seed Lab Director, sbeals@ilcrop.com; or Doug Miller, CEO, dmiller@ilcrop.com.

Palmer Amaranth Field Identification

Don't let Palmer Amaranth become an issue in your seed lots. Inspecting your seed fields for weed problems can help reduce your seed testing costs down the line. The first step in this process is being able to properly identify the weeds in the field. A weed identification key for Palmer Amaranth that I find useful is *Pigweed Identification: A Pictorial Guide to the Common Pigweeds of the Great Plains* from Kansas State University. At the following web address www.bookstore.ksre.ksu.edu/pubs/s80.pdf a complimentary PDF of the guide can be downloaded. The guide provides several pictures of each type of species and good details of the different characteristics between the pigweeds.

Reminders for Application Time

As application time approaches we would like to remind producers of the requirements for submitting Certified Seed field inspection applications.

- Applications should be filed on or before the following dates:
 - Winter grains: May 1
 - Spring grains: June 1
 - Corn: June 1
 - Soybeans (Foundation): July 1
 - Soybean Herbicide Inspections: June 15
 - Soybeans: August 1
 - All other crops: May 12.
- Source of seed (AOSCA or OECD tags) eligibility must be submitted with applications.
- For new inbred corn varieties, a corn inbred eligibility form and corn inbred characteristic form must accompany the applications. Forms are available on the IL Crop website.
- New certified varieties of soybeans and sunflowers must be approved by the National Variety Review Board before a variety can move beyond Breeder Class
- Include varietal descriptions for new soybeans and small grains.
- Include a detailed map that accurately reflects the locations of the field.
- Is a field phytosanitary inspections needed?
- If there are any questions on applications please contact Paula Palmgren at 217-359-4053 or use fieldapps@ilcrop.com when inquiring via email.

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Corn Testing Bundle Options

The Identity Preserved Grain Lab offers three test bundles to the corn processing industry. Test bundles include many of the individual quality and composition tests that customers can request on an ala cart basis. The three corn test bundles are the Basic Food Grade Bundle, Dry Miller Bundle, and the Alkaline Cooker Bundle.

The Basic Food Grade Bundle of tests evaluates those characteristics which have traditionally been most important to food-grade corn handlers and users. These include: NIR Proximate Analysis, Thins, Horneous Endosperm %, Density, 100 Kernel Weight and Average Kernel Volume, and Test Weight. Wet Miller's may stop with the completion of the Basic Food Grade Bundle.

The Alkaline Cooker Bundle, along with the Basic Food Grade Bundle, is helpful when marketing specific seed products to alkaline cooking companies' and their "approved hybrid" lists. This bundle is designed for corn chip, corn tortilla, and corn tortilla chip makers.

When selecting the Alkaline Cooker Bundle, you will get Pericarp Removal, Moisture Uptake during Cooking and Visual Kernel Characteristics along with the tests included in the Basic Food Grade bundle.

In the Dry Miller Bundle, corn is physically separated into grits, flour, and meal. In addition to the Basic Food Grade Bundle tests the lab determines the Germ-to-Endosperm Percentage (Grit-to-Germ Ratio) and conducts Extended Kernel Sizing (22/64, 20/64, 18/64, 16/64 round screens).

While we say three bundles are offered, everything starts with

the Basic Food Grade offering. Components for the Alkaline Cooker and Dry Miller industries are added to the Basic Food Grade bundle.

For those new to identity preserved grain analysis, the major components of the grain; protein, oil, starch and moisture are classified as proximates and are included in our Proximate Analysis of corn. Physical attributes look at factors ranging from color to condition. Any detailed analysis that addresses the more complex chemistry of sugars, amino acids and other molecular characteristics is beyond the proximate analysis.

One attribute that is a common concern for food grade processors, that can be controlled by the grower and handler, is stress cracks. For all millers, high stress crack levels result in larger amounts of broken corn that reduces the grade and can be lost to cleanout (screening to remove chaff, broken grain and small kernels). Wet Millers also find that high-temperature drying and the resulting stress cracks indicate lower starch yields. For Dry Millers the most valuable product, large flakes, are reduced due to stress cracks. The lack of uniformity in water uptake in stress cracked corn during steeping can cause Alkaline Cookers to overcook or undercook their product. Nobody likes stress cracks.

The Thins Test addresses kernel size. Kernel size is very important to all food grade corn users. Small kernels will result in excessive cleanout losses. It is also difficult for Dry Millers to make large flakes from small kernels. Variability in kernel size will affect the consistency of the alkaline cooking process. The Thins test provides a good estimate of the average kernel

size of a sample. The desired Thins percentage will vary within the food grade corn industry, though nearly all would prefer less than 50% thins or small kernels.

Of course the entire corn industry makes critical decisions on the official grading system promulgated by the USDA-Grain Inspection Packers and Stockyard Administration (GIPSA). Test weight, broken corn and foreign material (BCFM), total damage, class and mycotoxins procedures and standards are what keep the greater commodity system operating on a daily basis from small country elevators to the final consumer or processor. For more information on corn quality be sure to visit our website www.ilcrop.com or call the lab at 217-359-4053.

ICIA Calendar of Events

April 4-5
AOSCA Northern Regional Mtg
Moline, IL

April 14
CLOSED - Good Friday

May 29
CLOSED - Memorial Day

June 11-14
AOSCA Annual Mtg
Cleveland, OH

June 16-22
AOSA/SCST/ISTA Annual Mtg
Denver, CO

June 28
ISTA Annual Golf Outing
Stone Creek Golf Club
Urbana, IL

June 29
IL Crop/ISTA Joint Annual Mtg
Parkland College
Champaign, IL



Farm Updates and Conditions

Most of the crops planted for one cycle have been harvested but there are still fields pending harvest due to their late planting date. Sunflower, wheat and barley fields are all harvested. Sorghum and corn harvest are in progress. I want to let our current or potential customers know that we provide shelling options for most of our crops. Crops can be shelled by single plants, row or multiple rows and bulk.

All two cycles plantings were finished by late February. Most of the second cycle of soybean fields should be ready to harvest by May. So far harvested fields are good to excellent in terms of amount and quality. All corn and sunflower growouts are read. Fields shows good plant development despite the challenging planting period due to a rainy October to November.

Insects, diseases and weed control were excellent. New clients were really pleased with our results. General feedback from clients visiting the farms during the winter season were positive. Our soybean trait introgression program continues at the farm with no major changes but our trait introgression group is also assisting and coordinating tissue sampling activities in other crops giving the farm more options to offer sampling services to clients requesting it.

On the field inspection service area we noticed a decline in the amount of fields mostly due to the rainy period that fell during our main planting window. After the rainy period our weather has been dry. At the moment 46% of the island is under abnormally dry conditions but the other 54% is under normal weather conditions. Water reservoirs and deep well levels are adequate. Temperatures across the Caribbean are forecasted to rise but generally continue to be comfortable until April with the chance of heat waves appearing in May and June. As the region transitions from the dry to the wet season, there are indications that April to June will be wetter than normal.

About farm equipment, granular insecticides applicators were replaced by new units on one of our sprayers and also on the three points granular applicator. Improvements done to the hooded sprayer (low pressure nozzle and electrical pumps) were a success. Drift was reduced with no breakdowns and less cost. One other area that the farm is going to be working on is netting screen houses for the exclusion of insects.

Trials are on schedule for summer with the idea of offering the service during the winter season by 2017-18. Main purpose is for sunflower seed production but trials on other crops are on schedule too.

A new party and new governor took position of Puerto Rico's government last January 2017. Most of you are probably aware of the precarious situation of Puerto Rico's government. At this time it is uncertain how it is going to affect agriculture because they are still evaluating options. By next newsletter I should have more information about this important topic. Meanwhile, our farm crew keeps focused on offering our clients a reliable and professional service.

Customer Praise

I recently visited the Illinois Crop Improvement Association Puerto Rico Research Farm with Doug Miller, CEO. This was my first visit to the farm and as a Board member of ICIA, interested in learning more about the activities happening there.

Doug had a very full 3 day schedule prepared for us. Upon initial welcomes first thing in the morning, I was impressed with the extremely friendly staff at the site. During the morning staff meeting, it became very evident the desire to work together to meet the expectations of each and every research project on the farm. What a great team!

A visit to the lab gave an insight into the equipment used for evaluation of seed samples, plant diagnostics, and tissue sampling, handling, and drying requirements for clients.

As we traveled out to the production area, I noted how clean the plots were...excellent weed control, careful monitoring of irrigation activities, timely planting, spraying and harvesting, insect monitoring, and fungicide applications...all very professionally done. A lot of pride and "ownership" was evident as I visited with staff members about their activities. This is just what I would want if I had a project there!

Even though it was a short visit, I could see why ICIA has the client base and projects that are completed there. I heard numerous comments relating to clients being very pleased with the service, timeliness, updates, results and data collected for them. It was quite impressive, and the staff told me they were willing and ready to do more! What a great opportunity for new clients!

Doug tells me that he has a standing invitation open to anyone who is interested in visiting the farm, whether for research or to just understand what ICIA has to offer. I would recommend contacting him and taking him up on the invite...you will be glad you did!

Dale Wehmeyer, Wehmeyer Seeds



Working for the Success of Our Industry

As Spring quickly approaches, your Illinois Seed Trade Association remains hard at work monitoring 18 different bills that could affect our industry. A few of those include the “Saving IL Pollinators Act”, the “Industrial Hemp Act”, the “Genetically Engineered Food Act”, and “Designating Corn as the State Grain”. Each bill that comes across the desk of our ISTA Lobbyist, Mike McCreery, must be analyzed to determine the impact to our members. At that point, we work closely with other associations, companies, etc. with similar interests to help lawmakers understand the impact to our industry.

We continue to work very closely with the American Seed Trade Association. Our Executive Secretary, Richard Denhart, is the current Chairman of the “ASTA State Governmental Affairs Working Group”, a subcommittee of the Legislative and Legal Concerns Committee. This working group and committee provide a lot of insight for our organization on bills, proposed legislation, and issues at a national level and in all 50 states. It presents a forum for similar organizations to ours, across the nation, to discuss how to combat issues they are facing. This also helps prepare us to also handle those same issues if we see them in the future.

The ISTA continues to sponsor the Seed Liaison Testing Program. Steve Beals of Illinois Crop Improvement, and a supporting committee, supervise this program,

which allows lab technicians from across the country to analyze referee samples and benchmark their results. This year, there were 60 participants. This is a unique opportunity for lab techs, which continues to grow in popularity. Thanks to Steve and the committee for all the time and effort in making the program a success.

Once again, Governor Bruce Rauner, has proclaimed April 2017, as Seed Month in Illinois. This Proclamation is given in appreciation of the seed industry’s contribution in supplying food and fiber to the world. Please contact us if you would like a copy of this Proclamation to display in your place of business.



With Seed Month upon us, that means that the ISTA Annual Meeting and Annual Golf Outing are also quickly approaching. The date for the Annual Meeting has been set for Thursday, June 29th, and, our Annual Golf Outing will

be on Wednesday, June 28th. The ISTA Board of Directors is making an effort to reinvigorate attendance at this year’s golf outing. Our golf outing is one of few opportunities for Illinois Seedsmen to come together in a relaxed atmosphere, that is close to home, to enjoy some fun and fellowship, all in support of a common cause. The ISTA Annual Golf Outing supports our Burlison Scholarship, which goes to an outstanding graduate student in the College of ACES. This year the golf outing will be held at Stone Creek Golf Club in Urbana, IL. Besides golf, the day will include a meal, beverages, a guest speaker, and prizes. We would like to see a record turnout, but will welcome any support of the event through sponsorship, prize donations, etc. Even if you are not a great golfer, please plan to attend to enjoy the day and camaraderie of fellow Illinois Seed Trade Association members. Please look for more information and registration details soon.

Thank you all for your continued support of ISTA. Despite challenges, many seed companies and farmers continue to prosper in Illinois. That success provides jobs to a large portion of our state’s population, and ultimately helps feed the world. The challenges are likely to only increase, which makes our organization and its common interest and voice more important than ever.

I hope you all enjoy a safe and successful spring planting season!



IL Crop News Continued...

New Full Time Employees in the Seed Laboratory

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Above: Seed Analyst, Kelly Redmon

We hired Carma Deck on February 20th of this year as a full time Seed Lab Technician. Carma has worked as a part time employee for the last 6.5 years. She helps with dividing samples, planting samples, first reading evaluations, and large seed purity. Carma will become more involved with other functions of the lab as time and training allow. She and her husband Shaun live in Philo, IL and have 2 children, Kyle, 15 and Kayle, 12. In her spare time Carma enjoys spending time with her family. Welcome to the seed lab Carma.



Above: Lab Technician, Carma Deck

Our Full Time Seed Laboratory Staff

The Illinois Crop Seed Laboratory is becoming well known in the industry for the diversity of crops that we are now testing. We are adding more species tested on a regular basis. We currently have two Registered Seed Technologists (RGT's) and other very knowledgeable staff that are capable of testing most any crop. The Illinois Crop Seed Laboratory follows the AOSA Rules for Testing Seeds

and we are ISO/IEC 17025:2005 accredited. Illinois Crop conducts a wide variety of traditional testing services and will also perform customized quality testing according to your specifications. Do not hesitate to contact me by email, sbeals@ilcrop.com or by phone 217.359.4053 if you have any questions about seed quality testing.



**Back L to R: Steve Beals, Jeff Morse, Brittany Stoll, Mary Jo Edmison, Gary Cook
Front L to R: Mary Jo Redmon, Kelly Redmon Susan Schmidt, Carma Deck**

Registered Genetic Technologist (RGT)

Field Services *continued from page 3*

Since 2009 I have been a Certified Genetic Technologist (CGT) member in the Society of Commercial Seed Technologist (SCST) with competencies in the testing disciplines of herbicide bioassay and immunoassay. This past year I applied to take the SCST exams to add another testing discipline, electrophoresis, and move to the higher Registered Genetic

Technologist (RGT) membership category. I recently completed my electrophoresis exams and as of March have been granted RGT membership status in SCST.

Part of the practical examination required that I go off site to demonstrate and conduct electrophoresis testing methods. I would like to thank Brian Beal and his staff at the AgReliant Genetics Quality Assurance Lab for graciously allowing me to come to their lab to complete this portion of the exam.



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