

# **CEO** Report

by Dennis Thompson, CEO dthompson@ilcrop.com

# **IL Crop Accepts Increased Biotech Stewardship Responsibilities**

🗋 iotechnology Industry DOrganization (BIO) affiliate, Excellence Through Stewardship<sup>SM</sup>, has granted membership status to Illinois Crop Improvement Association, Inc. (IL Crop) according to Dr. Dennis Thompson, IL Crop's Chief Executive Officer.

IL Crop Quality manager, John McKinney, adds, "It truly is an honor in that IL Crop is the very first new member to be approved to join the ranks of the thirty-one founding companies. These companies include major multinational conglomerates to smaller organizations with very targeted biotech research activities. From a seed industry perspective, this includes both technology developers and the seed companies that license new traits."

first industry-coordinated initiative to provide stewardship and quality management programs for the full product life of biotech plants. The program is intended to promote the responsible use of agricultural biotechnology, the continued global adoption biotechnology, of plant the enhanced value and of biotech-derived plant products in the marketplace.

Stewardship<sup>SM</sup> (ETS) is the

#### "It truely is an honor in that IL Crop is the very first new member to be approved to join..."

**Quality Manager** John McKinney



This stewardship new builds program on the Biotechnology Industry Organization's (BIO) efforts consistently promote to high-quality guidelines agricultural across the biotechnology industry for product stewardship and quality management. While many organizations already have stewardship and quality management programs in place, ETS provides industry guidelines for the adoption of stewardship objectives, principles, and management practices as well as thirdparty audits.

IL Crop has provided thirdparty Winter Farm Services to the global agricultural seed and research community from their base in Puerto Rico since 1986. The company's station is located at Juana Diaz on the south coast on former sugarcane production land owned by the Common Wealth of Puerto. The three hundred acre station is operated by a permanent core team of five agronomists, three technicians, and one administrative assistant. In addition, several IL Crop corporate staff members based in Champaign, IL, have major responsibilities in the operation and management of the station.

Since 2007, IL Crop has also been providing limited field services in the US for both US regulated soybean and corn projects according to Thompson as a result of Winter Farm clients who have requested expanded services.

Article continued on page 8

#### **Calendar of Events**

July 6, 2009 Closed - 4<sup>th</sup> July Holiday

July 20-23, 2009 AASCO Annual Conf. web: seedcontrol.org

August 13, 2009 UofI Agronomy Day web: cropsci.illinois.edu/ edu/agronomyday

August 20, 2009 Monmouth Agronomy Field Day web: cropsci.illinois.edu/ events

September 7, 2009 Closed - Labor Day Holiday

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Excellence Through

# Seed Lab News

by Gary Cook, Seed Lab Director • gcook@ilcrop.com

### Seed Quality Corn and Soybean

For the period ending June 2nd, the seed laboratory had completed corn samples that averaged 95.6 percent germination and soybean samples with an average germination of 94.1 percent. Corn cold tests have averaged 89.3 percent and soybean cold tests averaged 89.2 percent. The average germination and cold test for corn samples would be higher if only new crop samples were included. Carryover seed quality has been markedly lower than new crop seed.

#### Anticipating Small Grain Seed Quality Issues:

Wheat harvest is just beginning in some areas of the state and from early observations and surveys appears that we may have some problems with scab (fusarium ssp.) and other diseases. The weather has been favorable for the development of plant diseases that thrive in a moist environment, although the cooler temperatures may have retarded some of the growth. I would anticipate some seed lots having enough infected seed that seed treatment may be required.



Bulk wheat seed with scab (fusarium) damaged kernels



Fusarium ssp infected wheat during germination

If you suspect there may be a problem with specific lot when pulling preliminary samples, I would suggest that a hand-treated sample be germinated instead or in addition to a standard germination. The IL Crop Seed Laboratory can clean up your sample, removing most of light kernels with air column blower and treat the sample with the fungicide you prefer. Running both tests concurrently would save 8 to 9 days as opposed to waiting for the completion of the standard germination. Of course, the information gleaned from hand-treated samples cannot be used for labeling, but gives a good estimate of the improvement made possible by fungicidal treatment.

#### **Cold Testing Organic Seed Corn:**

During the process of cold testing seed corn samples, we were confronted with inconsistent results on some of the organic/untreated seed corn. In some cases, results appear to be higher than expected for stress levels inherit in a normal cold test. During the retesting of some samples, we also ran an additional saturated media cold test for each lot. The extreme stress generated by the saturated cold test should show the weakness of any of seed lots tested and be fairly easy to relate to the normal cold test conducted.

Therefore during this season, we are conducting some cold test experimentation designed to test vigor levels on non-treated organic corn. This type of seed corn sample reacts differently to the stresses created by a normal cold test and we want to be sure that level of stress is appropriate. This will not only help our laboratory be more consistent on organic corn cold test results, but will assure the level of stress encountered in the test is correct for the crop being analyzed.

#### Saturated Cold Testing:

Early this season, seed corn planted was subject the most stressful soil conditions imaginable. With saturated soils and temperatures running in high 40's to low 50's for weeks on end, any corn that had been planted needed every bit of vigor they contained just to survive. Seed that had been tested using a saturated media cold test and obtained a good score was more liked to have survived these extreme conditions. Seed laboratory has been performing this test for a number of years on a limited basis, but the spring field soil conditions for the last 2 years have indicated a real need for this test on seed corn planted early season. Some farmers that were lucky to be able to get corn planted early, ended up being disappointed by emergence levels, uniformity and final stands obtained. Replanting was the only remedy. At least with a good saturated media cold test result, the farmer has a better chance of obtaining the desired result in the field. There are also some indications that seed corn with higher Saturated Cold results has a better chance of obtaining maximum yield.

Seed Lab News

by Gary Cook, Seed Lab Director • gcook@ilcrop.com

# Eastern Gamagrass

E astern Gamagrass is native grass which has been gaining more attention than just for re-vegetation and conservation. It has excellent potential for summer pasture and hay, as well as bio-mass fuel, and is well suited for buffer strips along streams and rivers and anywhere with wet to moist soils.



**Eastern Gamagrass seed units** 

The IL Crop Seed laboratory recently completed a referee dealing with some of the problems that quality testing Eastern Gamagrass presents. of This crop can be very dormant which makes germination testing and stand establishment problematic. In the laboratory, we have taken cues from field conditions to help with the germination process. The normal germination process would involve no additives or special treatments and a time period up to 28 days and a TZ analysis of the dormant seed at the end of the test. Frankly, this is not very satisfactory for assuring the seed will actually

germinate. There is a difference between viability and germination. Viable seed are alive, but we can never be sure they will produce a normal seedling.

Therefore, dormancy techniques have been applied from a number of options, such as stratification, hormonal and chemical treatments. In the laboratory, removal of the cupule from the seed unit also helps in breaking the dormancy, but is a very time consuming and delicate procedure. The advantages of using stratification/pre-chill are quickly outweighed by time required for test. The stratification would add another six weeks to the 21 day germination period. Therefore, the more promising techniques are hormonal or chemical. Ga3 has been effectively used in some labs, but we chose hydrogen peroxide as the chemical of choice. 15% hydrogen peroxide soak for 18 hours prior to germination works very well in breaking dormancy, but due to the caustic nature of hydrogen peroxide, we have opted to use 3% and extend the soak time to 48 hours. At this point, this treatment appears to give equal results. We will be experimenting with this germination procedure in the laboratory as well as in the field.

This is the type of experimental evaluations that must be conducted on crops for which there are no standardized rules for testing. When we receive crop kinds for which no standardized exist, we search the records for same species tested in other labs. Finding no published information, we would try the methodologies used on related or similar species as a starting point. Sometimes this is a matter of testing using several different protocols and reporting the information and test method from the one with highest constant germination.



Normal seedling of Eastern Gamagrass

Any comments or questions about seed testing and seed quality issues can be directed to the IL Crop Seed Laboratory. Please Contact the Seed Laboratory Assistant Director, Steve Beals or myself at the IL Crop office.

# Seed Laboratory 217.359.4053

Steve Beals Assistant Director sbeals@ilcrop.com

Gary Cook Director gcook@ilcrop.com



# **Statistical Power Plays** a Large Part in **Testing**

Tow is the time of year you begin to see rogues in your seed fields and "talls" in your commercial hybrids. But you tested all of these lots and they did not indicate near this many "plants that don't belong." You believe or "are confident" that all went according to plan. Proper production, proper handling and proper sampling are the hallmark of your business. Perhaps the lab results or winter growout data was in error.

While error is always a possibility, the method may not be the culprit you believe it to be. The statistical power is a factor in every seed test. No one can test every seed in a given lot. The ultimate seed test will always occur in your seed production fields or your customer's commercial production fields. Some characteristics that indicate impurities are very forgiving. "Talls" are noticeable in a corn field, while "selfs" generally are Herbicide tolerance not. purity is readily observable after application, while insect resistance trait purity would require an infestation that is uniform and consistent to be readily observable. A conventional variety or

hybrid with adventitious traits will readily enter the commodity market unless it is delivered to a non-GMO program that test for the traits.

First some assumptions about the testing you use. Assumption number 1 is that you are using a test (or tests) that targets or "accurately reveals" the characteristics question. The result in of a Roundup test on a conventional soybean lot does not make it non-GMO if the Liberty trait is present. An Electrophoresis result may show acceptable purity for an inbred line while a winter growout shows a mixture of two sister lines (corn) or an unacceptable level of wild-types (sunflower). Each test has its place and has its limitations. Once the issues of proper sampling and the suitability of the test are established, statistics comes into play.

The number of seeds tested and what you can say about the results from those seeds can help you understand risk and the suitability of your product for selected markets. The table below provides some examples of what can be said for a test or growout that finds zero, one, three or six off-types for a given number of seed tested. The first thing that must be understood is that "zero, negative or non-found" translates into a range of 0% to 3.6% if you test 100 seeds. Mathematically you see "zero" off-types or "100% purity," but statistically you can say, "I am 95% confident that the impurity in my seed lot is less than 3.6% or 96.4% pure based on a 100 seed test."

Now that we have the "zero" or "negative" test result under our belt, we can see that 1 off-type in a 100 seed test is mathematically 1%. Statistically we should say, "I am 95% confident that the impurity in my seed lot is less than 5.5% based on a 100 seed test with 1 off-type. Depending on the

characteristic in question, 5.5% is a very noticeable issue in the field. So let's test twice the number of seed. Zero or negative in a 200 seed test indicates an impurity range of 0.0 to 1.8% for the characteristic or trait in question. And so it goes, the more seed tested the smaller the range. Better numbers for making decisions. When will the range cease to be a range and an actual number? You will achieve a true number when you test every seed and you have nothing left to plant. What dictates the sample sizes for tests? The implementation of a new test balances the cost, current wisdom on statistics and the practical considerations of space and time.

The take home message is know the statistical power, understand the suitability of the test and always, always submit а representative sample.

(publicly available at www.seedtest.org)					
Plants Evaluated or Seeds Tested	Zero Off-types	One Off-type	Three Off-types	Six Off-types	
100	0.0 - 3.6%	0.0 - 5.5%	0.2 - 8.5%	2.2 - 12.6%	
200	0.0 - 1.8%	0.0 - 2.8%	0.3 - 4.3%	1.1 - 6.4%	
300	0.0 - 1.2%	0.0 - 1.8%	0.2 - 2.9%	0.7 - 4.3%	
400	0.0 - 0.9%	0.0 - 1.4%	0.2 - 2.2%	0.6 - 3.2%	
600	0.0 - 0.6%	0.0 - 0.9%	0.1 - 1.5%	0.4 - 2.2%	

IPG Lab News

by John McKinney, IPG Lab Director • jmckinney@ilcrop.com

## **Updating Our Pricing Structure**

beginning September 1, 2009 - most testing unaffected

s the IPG Lab has developed over the past 20 years, our service menu that started with relatively few tests has grown considerably. What this means to customers, in many cases, is the ability to come to one place to meet all of their grain and related product testing needs. What we have found over the past several years, is that while several of these tests are highly utilized, many are rarely used or used occasionally by just one or two clients. The 80/20 Rule generally applies -80% of our business is from 20% of our test offerings.

We know that having a wide range of tests available is important to many customers, but our current model of providing this variety is outdated. In a few cases, underutilized tests will be removed from our repertoire. Beginning September 1, 2009, many of our most popular tests will continue to be priced, as they have previously been, on a "per sample" basis. Others will be performed on a "per project" basis, utilizing a combination of hourly rate and consumable materials usage. This still may be stated using per sample pricing, depending on the nature of the work.

Tests such as our Food Grade Bundles, Stress Cracks, Ethanol Fermentation and NIR Composition Analysis will continue as per sample charges. Others, such as Amino Acids by HPLC, certain mycotoxins, amylose content and some other wet chemistry procedures, will likely be affected. With volume, there could very well be instances of reduced "per sample" cost to clients.

In making this change, we are cognizant of the needs of our customers, but also aligning these needs with our operational realities. Only in cases where the logistical feasibility brings service provision into doubt will tests be completely dropped. One instance of this will be micro-constituents (Amino Acids, Fatty Acids, Isoflavones, etc.) by NIR. The expense to appropriately maintain the equipment and calibrations is well beyond the scale of testing demand. In the case that we can no longer provide a particular service, IL Crop will work with clients to find a provider or help train the client to set up their own testing facilities. For clients who appreciate the convenience of one report, we will continue certain subcontracting of tests and may expand this practice based on the availability of qualified laboratories and the ability to use our combined testing volume to negotiate rates that are more economical for our clients.

We appreciate your feedback. Let us know your thoughts on this initiative, or any ideas on how to provide better service to you.





Congratulations to Sandy Harrison for achieving Approved Chemist credentials for oilseed meal from the American Oil Chemists' Society



#### **Approved Chemist Program**

The Approved Chemist Program recognizes the highly skilled participant in the Laboratory Proficiency Program. Successful applicants must have achieved a high level of accuracy in the measurement of a number of parameters on every sample in a proficiency series. The AOCS Examination Board annually awards Approved Chemist status to applicants whose results are complete and where statistical analysis reveals a low aggregate deviation from the consensus value for each analyte. Approved Chemists may be employed by independent or industrial laboratories and their certification may allow them to become referees for commodity trading.

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by Lizandro Perez, Station Manager • lperez@ilcrop.com

## **Steady Work Load and Full Staff**

t the winter farm, the work load has been steady since we began our main planting season last October. The summer of 2008 was also a busy one due to the projects that we received from Argentina in addition to our regular summer growouts and continuous plantings. Fourteen acres of summer sunflower growouts was a welcome addition and 2008 was the last summer growout for corn in Illinois. Summer growouts for corn will now be done on the winter farm. This is very good for the farm because we can keep our main group of workers all year around. The work load usually slows down after the planting of second cycle of soybean and harvest of the corn nurseries, but that was not the case this year. We are harvesting the cotton trials and peanuts. Both crops increased considerably in size compared to last year. One new crop that we planted during the 08-09 season was wheat. We did a small trial and the results were excellent. This client is planning to move part of their wheat winter nursery trials to IL On the soybean crossing services, the work load Crop. is still under our capacity, but will soon change because we are already receiving seed for new projects. We now have donor and recipient seed for RR2 Yield<sup>TM</sup>/Dicamba. IL Crop is the only authorized provider for Monsanto licensees' introgressing RR2 Yield<sup>™</sup>/Dicamba. As a result of the RR2 Yield<sup>™</sup>/Dicamba and other soybean crossing blocks, we are doing a lot more tissue sampling. Thanks to the addition of a lyophilizer and a label printer, we can offer a complete package from planting to having tissue samples ready for the laboratory. The lyophilizer is not only for soybean tissue. We are offering the service for corn samples and other crops too.

About half of the new 64 acres was used for soybean increases. The plan is to leave it fallow during summer having it ready for corn and sunflower growouts next fall. The tillable acreage of the other two farms was used all at least once during the 2008-2009 fiscal year. The agronomist that we hired last fall for the field inspections has been very busy due to the large number of fields for phytosanitary inspections or certification, but this service is working well. Our new staff member, Tamar Detrés, allows IL Crop to provide all of the necessary technical and administrative services for seed companies in Puerto Rico including field inspections under the National Seed Health System, Puerto Rico Department of Ag Phytosanitary, OECD and AOSCA seed certification. We are in the process of hiring one person to work part-time helping us with the field inspections on the North side of the island. This person has experience working with seed crops and has already accepted the job. In June we will be giving him the field inspection training and have him doing field inspections for the North side of Puerto Rico by July. Puerto Rico Department of Ag has also issued us a nursery license for expediting the shipment of seed grown on our farm.

Equipment needs will be ok if we have the same acreage for next season. However, if it increases, additional spraying equipment is going to be needed.

## IL Crop Welcomes Tamar Detrés to the PR Team



Tamar joined the IL Crop staff in Puerto Rico as our fifth professional agronomist and first female "working mom" agronomist. She and husband Juan have two sons Ommy (7yrs) and Jose (3yrs).

Prior to joining the company, she held seed industry positions at both Ag Reliant Genetics and Monsanto in Puerto Rico. Tamar obtained her B.S. degree from the University of Puerto Rico, Mayaquez in 2002.

Primary responsibilities of her newly created position focus upon administering and performing technical duties related to IL Crop's expanded service offerings across the island. IL Crop now delivers National Seed Health System accredited field phytosanitary inspection and OECD and AOSCA seed certification services to multiple seed company locations.



by Don Rhoads, ISTA President • corndr@burrusseed.com

### **ISTA Update**

**T**ow! What a spring! In my 21 years in the seed business, I have never seen such an adverse planting season for so much of the state. As I write this in mid June, a few areas of Illinois have not completed corn planting. Much replant has been required in Eastern and Southern Illinois, with some farmers having to replant for the third time. Continued heavy rains saturated the soils, impeding emergence. Late good plantings in 2008 generally produced good yields because of good growing conditions throughout the summer. Hopefully that same weather pattern will allow for acceptable yields in 2009.

I'm always amazed and proud of the resiliency of farmers and their input suppliers. Adverse conditions require them and us to "go the extra mile" and "give 110%" to get the job completed during that small window of opportunity. Agriculture is one of the few industries where this type of teamwork can accomplish such huge tasks.

The annual ISTA meeting was held June 9th. Attendance was down somewhat from previous years because some members were still planting seed. As Chairman of Illinois Seed Trade, I had the option of naming and honoring a person during the annual meeting as a Lifetime Honorary Member of Illinois Seed Trade Association.

At first, I was reluctant to single out one individual, since so many have helped me throughout my years at Burrus. Soon an obvious choice came to mind, Dr. Robert Hoeft.



Dr. Robert Hoeft named ISTA Lifetime Honorary Member

Dr. Hoeft has been a friend to agriculture and the seed industry for decades. With his humility he probably does not recognize the influence and benefits he has brought to the American farmer.

He co-authored an excellent reference book, Modern Corn Production. When I started in the seed business 21 years ago, Todd and Tom Burrus told me to utilize the information in that book, and if I didn't understand something, call one of the authors. Soil fertility was my weakest area, but I was hesitant to make that first call to the author. Upon that initial call, I quickly recognized there was a kind voice at the other end that was very helpful in answering my elementary questions. compassionate He was with helping me through the maze of soil fertility, and passionate to get the information distributed to all of agriculture. If speed dial had been available back then, his number would have certainly been at the top of the list.

Together with his colleagues, he has focused on balancing responsible fertility programs to accomplish optimum production along with minimizing environmental impacts. The nitrogen rate calculator is one of many tools resulting from this type of research. Thank you, Dr. Hoeft, for your years serving American Agriculture.

The old cliché, "the older you get, the faster time flies" is certainly true for me. It only seems a short time ago I became a board member of ISTA, and now my year as being chairman has come to an end. It's been a rewarding, challenging and learning experience I have enjoyed.

The rewarding part is

having the opportunity to meet many people who are serving in various organizations and committees to represent the interests of Illinois Agriculture.

The many challenges we face in agriculture continue. That's why we need qualified people in leadership roles to represent and fight for Illinois and American agriculture. Our numbers continue to dwindle, so it's imperative our voices in governmental affairs be strong and unified.

The learning experience sitting on the board has been the most enjoyable part of my tenure. I had little understanding of the inner workings of state government and the interactionrequiredbetween groups such as ours and the politicians who ultimately make decisions that affect our livelihoods. Learning to work with governing bodies is an on-going process, sometimes agonizingly bitter, sometimes fruitful.

Hopefully the road ahead for agriculture will bear more fruit.



### IL Crop Accepts Increased Biotech Stewardship Responsibilities (continued from page 1)

IL Crop provides US services in collaboration with an affiliate contract research company.

IL Crop, according to McKinney, views the ETS program somewhat comparable to the company's successful 2008 ISO/IEC 17025:2005 accreditation of the company's three Champaign, IL, based laboratories.These include: bioassay/immunoassay, seed and bioprocessing laboratories operated by IL Crop.

W hile it is incumbent on the members of ETS to encourage their suppliers and contractors to incorporate the principles of stewardship promoted by ETS, IL Crop saw the importance of seeking full compliance and independent verification. In some cases, technology developers have designated IL Crop to perform services for licensees, and the ETS credential will assure both the technology owner and licensee that the work will be done to industry standards for trait stewardship.

IL Crop will pursue accreditation for ETS modules 3 and 4 which respectively are "Confined Field Trails" and "Plant and Seed Multiplication." The accreditation will apply to work performed in Puerto Rico and the US.

"ETS and ISO accreditations will assure global clientele of IL Crop's commitment to providing field and laboratory based technical service and while meeting US field regulatory compliance under recognized quality management systems," concludes Thompson.

### SCST Elects New President

IL Crop's Field Services Director Doug Miller



SCST's new president, Doug Miller, accepts the gavel from president Gil Waibel at their annual meeting

Doug has served on the Society of Commercial Seed Technologists board for 4 years. He has previously served as Ethics Committee Liaison and Co-Chair of the Method Validation & Statistics Committee. He is currently Co-Chair of the Immuno Assay Working Group.

### Annual Inspector Training Day

June 23,2009, n IL Crop hosted its annual inspector training day. Inspectors from across the state were trained at Parkland College's Tony Noel Ag Center. This was the first year for a single training site. Peru and Springfield are typically used to train inspectors closer to home. Inspectors new and old often have excellent questions and suggestions that in the past were condensed into newsletter an inspector or were simply lost. To increase the uniformity and inspector participation, one training session was offered this season. Thirty-three participated inspectors in the training covering corn, soybean, small grain, phytosanitary and safety. IL Crop also has 12 Insect

Resistance Management assessors trained by AOSCA.

Training for full-time staff will occur later this summer. Leigh Brand (IRCA Certified OMS Lead Auditor #A008984) from the Brand Consulting Group will be training 5 staff members as Lead Auditors for the ISO 9001 quality system. IL Crop's third-party services can assist companies at any level and in any capacity as quality systems and documented processes become the norm in the seed industry. IL Crop categorizes its process services into four types: full outsource, third-party

audits, systems enhancements and systems rewrites. For more information, contact Doug Miller, Field Services Director.

> Field Services 217.359.4053 dmiller@ilcrop.com







IL Crop News Extra's

### Congratulations Matt Raymond & Tammy Hobbs

(RST) designation from the Society of Commercial Seed Technologists.

Matt Raymond has qualified to take the practical exams for Certified Genetic Technologist (CGT) with excellent scores on his written exams.



### **Sample Submission Supplies**

Did you know you can order sample submission supplies online? Please visit <u>www.ilcrop.com/seedlab/supplies/</u> <u>supplies.htm</u> to request any of the following items:

Large white sample bags (5 lb. - 12" x 20")

Unclean samples
OECD samples

Manila sample envelopes (6" x 10") 500/Case

- Multiple tests - Greenhouse tests

Sample Boxes 25/Bundle

- Holds 6-8 sample envelopes

### IL Crop, along with Seedburo Equipment Company, host tour for visiting engineer Mr. Ammar Najm Abed with the Ministry of Agriculture - Baghdad Iraq

ur guest, Mr. Ammar Najm Abed, is an engineer with the Ministry of Agriculture - Baghdad Iraq. They currently have 13 corn receiving stations (similar to our grain elevators) for drying, processing and bagging the corn for poultry feed. They have 7 separate conditioning seed and processing locations for wheat. The wheat is received by the farmer / growers, cleaned, conditioned and bagged for seed wheat sales to local farmers. They will be expanding to sorghum production in the southern regions of Iraq in the next year.

While IL Crop has hosted other visitors from the Ministry of Agriculture, for security reasons, the visits were not publicized. Tom Runyon, President of Seedburo Equipment Company and Ammar shared that the situation is stabilizing, granting us permission to share a photo and a few words about the visit with our members. Over the years, IL Crop has hosted



world including Asia, Africa, Europe, Australia and South America. It is always exciting to see the level of interest and excitement when a visitor sees laboratory activities that can help improve seeds and crops. First hand information from laboratory tours demonstrates visitors to how seed and grain science benefits agriculture. The common language of science is hopefully making the world a richer and more peaceful place.

visitors from all parts of the

# ISTA Extra



Congratulations to Carol Bonin for being awarded ISTA's W.L. Burlison Award

W.L. he Burlison Memorial Award, established in 1960, is sponsored by the Illinois Seed Trade Association to commemorate the career and legacy of Professor W.L. Burlison, third head of the Department of Agronomy (1920-1951),<deceased,1958>, whose leadership under major growth in the department faculty occurred and soybean became a major crop in Illinois.

#### In photo above (left to right): Matt Raymond, Assistant Direc

Matt Raymond, Assistant Director IL Crop Field Services; Tom Runyon, President Seedburo Equipment Co.; Ammar Najm Abed, Engineer Ministry of Agriculture and Sandy Harrison, Assistant Director IL Crop IPG Lab.

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