IICCA Newsletter

Iowa Independent Crop Consultants Association

November 2003

n this issue…

The President's Corner

Dan Eklund

Welcome to the President's corner. I would like to personally invite you to our One-Day December 2 update meeting just prior to the 15th Annual ICM conference at Ames. The Primary topics include Soybean Rust, Soybean Aphids and ISU research. Included in this newsletter is the agenda for the IICCA meeting.

1) A new item to the Agenda is the Dec 2, 7:00 p.m. Dinner – round table meeting with soybean rust expert Glen Hartman, National Soybean Research Laboratory, Urbana, IL. It should be a very informative event. A hospitality room will follow. Glen is a featured speaker to the ICM large morning group presentation at CY Stephens Auditorium. **RSVP by Nov 30th**.

2) Soybean aphids caused more economic crop loss in one year than any other pest or blight since the early 70's with Southern Corn Leaf Blight. The USDA state soybean yield for Iowa in 2002 was 48 bushels per acre; In 2003 it is estimated to be 33 bushels or less per acre. Some yield loss can be attributed to drought alone, but the majority of the yield loss is a combination of the drought and aphid infestation. We will have two presentations on aphids. Dr. David Ragsdale, Professor of Entomology, University of Minnesota, on the - Workable thresholds, value of seed treatments and foliar options and Dr. David Wright, North Central Soybean Research Program, on the Plant Health Initiative. These presentations will complement other presentations at the ICM conference. The more we can glean from several persons' experience over such a short period of time, the better we can serve our client base.

3) ***Water Runs Downhill*** is a new book about Iowa written by Arne Waldstein. He has a passion about Iowa agriculture. He has a passion about Iowa history. Arne remembers the strife of the Great Depression. He remembers how noble it was to farm and work the land with your hands. Arne grew up on a family farm. He was quoted *"Generally the family farm is more than just a place where a farm family lives; often it is the place where families become emotionally attached – 'the old home place.'"* (The book is available by e-mail from Arne at afmewald@aol.com.)

Reading Arne's book causes me to ponder about life on the farm, and about living as farmers and consumers in today's agriculture. Do you remember the farm strife of the eighties? It was about the survival of a way of life. Rural communities pulled together to support each other in a time of economic crisis. Politicians and farm leaders felt that the American farmer was worth saving. It was noble to fight for the family farm. I'm not sure that that is still the case. It seems that with the

new farm crisis many farmers no longer have the fire or desire to fight for that way of life.

Why all the questions? Why all the pondering? Why do I care?

I have been at two meetings in the last two weeks, where I was asked to provide feed back about ISU and ISU research priorities and direction. The same lack of fight for the family farm is apparent in the lack of support for agricultural research.

November 10, 2003, a small group met with the ISU Corn and Soybean Initiative team at the FEEL lab to hear about the issues facing ISU Extension. ISU Extension needs to refocus and gain public awareness and support.

November 20, 2003, the presentation, "Identifying Research Priorities for Iowa's Future", was presented by Catherine Woteki, Dean of the College of Agriculture at Iowa State University, at the ICN Center at ISU and broadcast to 19 other satellite sites. There was an interesting discussion to follow Dean Woteki's comments, mostly focusing on analysis of research funding and direction. Go to *www.ag.iastate.edu* for more information. I want your ideas and comments on paper so that we may formulate a goal or direction that we see for the needs of the IICCA. See you December 2 at the IICCA update.

Thanks

Dan Eklund
President, IICCA

CEMSA

The Iowa Soybean Association is beginning the second year of their Certified Environmental Management Systems for Agriculture (CEMSA) project. CEMSA is a farmer driven initiative to develop a performance based environmental management system (EMS) for use on the farm.

"Farmers recognize the need to control erosion from their fields, maintain water quality in their watershed and care for a whole host of environmental concerns on their farms. Many farmers are already using good management practices, but have no way to prove it," says Roger Wolf, Director of Environmental Programs at the Iowa Soybean Association. "CEMSA allows farmers to establish a way they can plan, implement, evaluate and demonstrate commitment to achieving objectives."

CEMSA is a three-year effort, eventually working with 150 Iowa producers. Participating in CEMSA will help a farmer document his good stewardship practices, make environmental improvement, and evaluate alternatives in environmental management. It is designed to balance environmental concern with economic and agronomic needs, keeping the farmer's bottom line a priority. Currently ISA is looking for individuals (farmers, consultants, agronomists) from around the state who would be interested in leading a group of farmers through CEMSA. If interested or if you have any questions, please contact Roger Wolf at (515) 251-8640.

The IICCA website address is www.iowacropconsultants.com

IICCA Fall Tech Update Meeting Agenda

What: IICCA TECHNICAL UPDATE MEETING
When: DECEMBER 2, 2003
Where: GATEWAY CENTER, AMES, IOWA

8:45 AM **Welcome** **President Eklund**

9:00 AM **Soybean Aphids: A research Update**
Dr. David Wright, North Central Soybean Research Program
Plant Health Initiative

Dr. David Ragsdale, Professor of Entomology
University of Minnesota
- Workable thresholds, value of seed treatments and foliar options

10:15 AM **Break**

10:30 AM **Syngenta Update**
-

10:30 AM **FMC Update**
-

11:00 AM **Monsanto Update: Corn Root Worm**

Noon **Lunch**
- **Sponsored by Monsanto**

1:00 PM **Dr. John Hill, Iowa State University**
Bean Leaf Beatle Research Update

1:45 PM **Soybean Rust**
Dr. David Wright, NCSRP
Plant Health Initiative

Michael McNeill
Bob Streit

2:30 PM **Break**

2:30 PM **Dow Agro Science**

3:00 PM **DuPont Crop Protection**

3:30PM **Bayer CropScience**

4:00 PM **Adjourn**

4:15 PM **Vans Depart Hotel for Bonus Session**

4:30 PM **Bonus Session**

WebGro Training
Davidson Hall, Iowa State University
Dr. Bill Batchelor, Associate Professor
Agricultural and Biosystems Engineering

6:30 PM **Session Concludes**
Vans return to hotel

WebGro Training

Training Workshop For WebGro Software to Help You Estimate Soybean Yield Losses Due to Interactive Stresses

The genetic yield potential of soybeans in the Midwestern United States is estimated to be approximately 100 bu/acre based on results from small plot studies. However, field and statewide average yields are much lower each year. Do you ever wonder how much yield was lost from different stresses or management decisions made during the year? Iowa State University has developed a web-based system to help you estimate yield losses due to different stresses and management practices. The software, called WebGro, was developed with funding from the Soybean Research and Development Council and is the culmination of six years of research to study the effects of interacting stresses on soybean yield.

WebGro is a web-based soybean decision support system (DSS) built on the CROPGRO-Soybean model. The purpose of WebGro is to help soybean producers in the Midwestern United States understand how different stresses interact to limit soybean yield in their fields. Stresses include water, soybean cyst nematode, herbicide injury, Rhizoctonia root rot disease and hail damage. The user can set up a field scenario by selecting variety, planting date, plant population, soil type and the nearest weather station using a web form. Different stress levels can then be entered and the soybean model can be run interactively, simulating the effects of one or more stresses at a time. The user can evaluate the yield loss relative to running the model with all stresses turned off (yield potential) to determine the effect of different combinations of stresses on yield. WebGro is available at http://webgro.ae.iastate.edu.

Training Workshops

The Iowa Soybean Promotion Board has funded a one-year pilot project for us to provide WebGro training to approximately 100 crop consultants, extension specialists, agribusiness professionals and producers. The purpose of these workshops is to provide training and obtain feedback from users that will be used to enhance the software in the future. We will provide a short lecture covering the calculations behind WebGro, followed by 1 ½ hours of "hands on" training. Each participant will have the opportunity to set up a field and run the software.

Registration and CCA Credits

The workshops are free, however each participant must register in advance. The registration form can be downloaded or printed off the Internet at http://webgro.ae.iastate.edu. Click on the button called "Register Now for WebGro Training". Due to space limitations, only the first 20 applicants will be accepted for each workshop. Upon accepting your application, we will mail you details about meeting location and some background reading on WebGro. Participants are encouraged to explore WebGro at the web site before the workshop. We are applying for 2 CCA credits for this workshop.

What is the Future of the Iowa State Extension Department?

Aaron Bilstad, Eklund Ag Consulting

The Iowa State Extension Department is faced with a serious problem. The problem can simply be stated as "What is the future of the Iowa State Extension Department?" I was able to attend the meeting between the Extension Department and the IICCA and was asked to summarize my take on the meeting. I will start by commenting on my concept of the Extension Department prior to the meeting, followed by some high points from the meeting, and then my reaction on what was laid before the group.

I feel that it is important to understand my background and concept of the Extension Department prior to the meeting, so my point of view can be understood. I grew up on a farm near Somers, IA. I spent every minute that I wasn't sleeping, eating, or going to school working on the family farm. The work allowed me to gain an understanding of what it takes to operate a farm at an early age. As I grew up I rarely heard about the local Extension office. I became an official member of the farming operation in 1998 when my brothers and I rented our first ground. Since 1998 we have acquired more land, but we have not acquired any more information about or from the Extension Department. I graduated from Iowa State this spring with a B.S. in Agronomy. I had one

experience with the Extension Department during my college career. I attended a meeting on value-added crops, and it was a tremendous waste of my time. At this point I had come to the conclusion that the Extension Department was useless. I am currently working as a crop consultant. I am fairly new to this profession, but the first thing that I realized is how important it is for information to be current, accurate, and practical. This idea was strengthened by my experiences with soybean aphids and their economic thresholds this growing season. I found myself looking to other sources for information about soybean aphids to stay better informed. The Extension Department again lost value in my eyes.

The meeting began with introductions of everyone in the room and a quick summary of some current Extension projects. The most notable project dealt with a group formed for the early detection and control of soybean rust. The meeting got a little livelier when the next topic was introduced. The Extension Department realizes that they have a problem. They believe that many producers are struggling to see the usefulness of the Extension Department. They believe that they need to revamp the entire department to regain usefulness. Greg Tylka is the leader of the new corn and soybean initiative for the Extension Department. Tylka feels that producers need to see the Extension Department as their "one stop shop" for production information. This concept was compared to a lunchable snack pack that conveniently contains different foods in one container. The target audience is another major change they plan to make. They believe that corn and soybean producers around 1000 acres or more will benefit the most. The Department also feels that they need to create a network of people that will be able to handle the needs of producers. Finally, the Extension Department stated that they would like to develop a close partnership with the IICCA, so both programs and producers could benefit from knowledge gained.

My initial reaction to this meeting was positive. The Extension Department realizes that they have a problem, and they are trying to fix it. The methods and direction they intend to use to fix these problems is where they may encounter more problems. The first issue that I noted was the comparison of the Extension Department to a lunchable. Greg Tylka went into great depth explaining to the group that people will buy a lunchable for $2.99, which contains items worth half that amount, because it is convenient. The desire is to put the ISU information in a convenient package such that the ISU Extension customer base sees value. The next issue that arose was the target audience. The initial target audience was stated as corn and soybean producers near 1000 acres or more, but during the meeting it became clear that this was a moving target. I believe that developing a network of personnel to help meet the needs of producers is a step in the right direction. Finally, I agree that it will be vital to form partnerships with the IICCA and other organizations, so that producers can benefit from information gathered from several sources.

In conclusion, I feel that the Extension Department has a long way to go in order to gain back value with many producers, but the steps that they plan to take could go a long way.

Electrical Conductivity Meter and Nitrogen Management

Shannon Gomes

Introduction:
Soil electrical conductivity measures the ease with which electrical current can travel through the soil. Electrical conductivity is a function of soil properties such as water, clay content, soil organic matter and salt content.

The magnitude of the conductivity reading can be used in characterizing soil variability due to soil texture, organic matter and available Nitrogen. Soil conductivity can be used to characterize the mineralization of soil nitrogen on a temporal basis - that is being able to take readings in a timely fashion and get results quickly from year to year. The current Iowa State University recommendation for nitrogen application is the yield potential multiplied by a factor (i.e. 150 Bu/ac X 1.2 = 180 lb./ac nitrogen). While this method may have worked in the past and is a quick rule of thumb, it ignores current research and findings from field trials. Year to year variability of nitrogen mineralization is influenced by weather conditions. Merely using a quick fix factor ignores the years where mineralization of nitrogen from the soil is maximized as in 2001 and 2002 where field trials conducted by Dr. Blackmer and the Iowa Soybean Association found a maximum of 90- 110 lbs./ac nitrogen after soybeans produced between 180- 200 Bu/ac yields. Late Spring Nitrate Test (LSNT) results indicated an adequate nitrogen

level during these years. And yet in wet/cool years more nitrogen may be needed due to lower mineralization rates.

A current method for assessing nitrogen needs has been the use of the Late Spring Nitrate Test developed by Iowa State University. This method requires one to take soil samples when the corn is 6 - 12 inch height and send samples to a testing lab for analysis. While this method has shown good promise, it has serious drawbacks. The most pressing are time constraints on taking samples, chilling samples, transport to a lab, analysis and reporting back to the farmer. All in all, this method requires at minimum 24 - 72 hours to get feedback to a farmer. Additionally, it does not lend itself to quick response and monitoring nitrogen over a short period of time.

Dr. John W. Doran, USDA-ARS, Soil Scientist at Lincoln, Nebraska has developed a newer and quicker method. In this method, a portable electrical conductivity meter was used to get direct readings from soil or soil/water solution, and a corresponding quick calculation was made from that reading for available Nitrate-nitrogen.

Methods

Dr. Doran developed a method utilizing a portable Hanna DiST 4 Electrical Conductivity Meter in a 1:1 soil to water mixture. The method requires one to take soil samples using the same scheme of sampling as in the Late Spring Nitrate Test. A composite sample (coffee scoop) is placed in a container along with an equal volume of distilled water. The mixture is then stirred and allowed to settle for 5 minutes and a direct reading is taken from the solution with the Hanna meter. If the soil pH is less than 7.2, soil electrical conductivity serves as a measure of soil nitrate levels for most Iowa soils. Thus a reading of 0.1dS/m* from a 1:1 soil: water mixture would indicate around 14ppm Nitrate-N. The use of the Hanna meter allows one to take multiple samples in a field and get results in a more timely fashion.

Dr. Doran has also developed a probe for use with the Hanna meter that would further facilitate the use of the EC measurements by allowing one to take a direct reading from the soil without the need for taking a composite soil sample. This method looks extremely promising and would further streamline the assessment of nitrogen needs for the crop.

2003 Study Results:

In the 2003 crop season, two crop consultants, Tom Hillyer and Shannon Gomes from the Iowa Independent Crop Consultants Association, conducted field trials on 172 sites across NE and SE Iowa. The results corroborate well with Dr. Dorans' findings in that field measurements correlated with laboratory results with an R squared of between 87-90%. As a result of field trials a derived factor of 13-ppm Nitrate-N for every 0.1dS/m correlated with the theoretical factor of 14-ppm/0.l dS/m from the EC meter.

Funding Request

A project proposal has been requested through the NRCS to fund 100 meters to be used by Crop Consultants and interested farmers. If anyone is interested in participation and/or would desire to see the Excel spreadsheet of the raw data, contact Shannon Gomes.

* deci Siemens/meter - measure of electrical conductivity

References:

Eigenberg, R.A., Doran, J.W., Nienaber, J.A., Ferguson, R.B., Woodbury, B.L, Electrical conductivity monitoring of soil condition and available N with animal manure and a cover crop. Agriculture, Ecosystem and Environment 88 (2002) 183-193

Lund, E.D., Wolcott, M.C., Hanson, G. P., Applying nitrogen site-specifically using soil electrical conductivity maps and precision agriculture technology. 2nd International Nitrogen Conference of Science and Policy, Potomac, MD, October 14-18, 2001

Smith, J.L., Doran, J.W., Measurement and Use of pH and Electrical Conductivity for Soil Quality Analysis: Methods for Assessing Soil Quality, SSSA Special Publication Number 49 169-185.

Calendar

Calendar of Upcoming Events:

Date	Place	Event/Contact
2 December 2003	Gateway Center Ames, Iowa	IICCA Tech Update
3-4 December 2003	Scheeman Ames, Iowa	ISU ICM conference
19 December 2003		Registration Deadline for next CCA exam http://www.cai.iastate.edu/
21-24 January 2004	Hyatt New Orleans	NAICC Annual Meeting Contact 901/861-0511
6 February 2004		CCA Exam http://www.cai.iastate.edu/
18-19 February 2004		Soil Fertility Short Course http://www.ucs.iastate.edu
28 Feb. to 5 March 2004	Brazil	2004 International Rust Symposium
25-26 February 2004		Crop Scouting School I http://www.ucs.iastate.edu
6 March 2004		Crop Scouting School http://www.ucs.iastate.edu
8-9 March 2004		IICCA Annual Meeting
30 November 2004	Ames	IICCA Fall Tech Update
1-2 December 2004	Ames	2004 ICM Conference

Watch the website for updated information about upcoming events.
www.iowacropconsultants.com