



The IICCA Newsletter

Iowa Independent Crop Consultants

Summer, 2001

In this issue...

- [Tidbits from Shannon's Notebook](#)
- [2001 Summer Meeting Takes Shape](#)
- [2001 Soil Quality Results](#)
- [The Starlink Saga Continues](#)
- [Website Picks of the Month](#)
- [Budget Woes at the Land Grant](#)
- [Richard Drilling in the Spotlight](#)
- [Taxes and the Home-Based Business](#)
- [Soil and Water Management: See For Yourself!](#)
- [Calendar of Upcoming Events](#)

President's Message

Tidbits from Shannon's Notebook

Shannon Gomes

The 2001 season is half over and how time flies. This newsletter has some interesting research/data collected on fields in NE Iowa utilizing the NRCS Soil Quality Test Kit. Data was collected on eight fields ranging from full tillage to no-till. At each site an in-field and reference site were selected. The reference site was normally located along a fence line. What is interesting are the differences in between the field and reference sites with respect to infiltration, bulk density and soil respiration. There appears to be some clear differences also between tillage and soil quality indicators with no-till approaching the reference site attributes. This data will also be posted on the IICCA website.

I also attended the 6th Annual USGS Data Conference, July 18 at the Scheman Center in Ames. Data was presented from current and past water monitoring projects. USGS monitors all major waterways and water bodies within the US. Areas being monitored include stream and lake flow discharges of nutrients, pesticides and sediments, stream gauging and flood forecasting.

Of interest to crop consultants is the monitoring of the Hypoxic Zone in the Gulf of Mexico and its implications to Midwest agriculture. A useful website with down-loadable graphics can be obtained from <http://www.rocolka.cr.usgs.gov/midconherb/hyoxia.html> or <http://WATER.USGS.GOV/NAWQA/NUTRIENT.HTML>

Lastly, I would like to remind all consultants of the 29th August 2001 meeting at National Soil Tilth lab. We have a full day planned that includes a tour of the Soil Tilth lab, demonstration of the Veris Electrical Conductivity system, and a meeting with the Iowa Soybean Association regarding possible on farm research collaboration.

NIXON'S THEOREM

The man who can smile when things go wrong has thought of someone he can blame it on.

Summer Meeting

2001 IICCA Summer Gathering Takes Shape

Join us in Ames on August 29 for the annual IICCA Summer Meeting. Dr. Jerry Hatfield, Director of the National Soil Tilth Laboratory (NSTL) has arranged for members of the IICCA to tour the NSTL and talk with researchers about their past and present field studies. Representatives from state agencies, as well as commodity groups, will also discuss potential soil quality research opportunities for IICCA members. A special guest from Veris Technologies, Eric Lund, will demonstrate soil conductivity monitoring tools in a local research plot.

If you'd like to attend, please pre-register with Robin BEFORE FRIDAY AUGUST 24, acme@netins.net or 515/231-4481. Fee will include lunch and is estimated to be \$10. Registration fee will be payable the day of the tour.

August 29 Agenda

- 9:00 – NSTL Tour including a discussion of emerging issues, current research activities, future research & field plot tour (lunch included)
- 1:00 – Eric Lund, Veris, Soil Electrical Conductivity
- 3:00 – Research roundtable discussion with NSTL, IDALS, DNR and Iowa Soybean Association
- 4:00 – Adjourn

Soil Quality

2001 Soil Quality Test Results

The following data set was collected by Shannon Gomes, Cedar Basin Crop Consulting, Waverly, Iowa. Following the table are several reference tables and information used to interpret the results. Watch the IICCA discussion page (www.lowacropconsultants.com) for discussion on this topic.

For more information on soil quality, check out the Soil Quality Institute website (<http://www.statlab.iastate.edu/survey/SQI/>). The link to "guidelines for soil quality assessment" contains more detailed information for soil quality test interpretation.

Summary Table for 2001 Soil Quality Sites Selected by Shannon Gomes

Site	Tillage	Soil	Drainage	Respiration Standardized (lbs. CO ₂ --C/ac/day)	Infiltration 2 nd inch (in./hr.)	Bulk Density (g/cm ³)	WFPS %	Slake Rating
1B	Conventional	83B	MW	67.7	0.9	1.39	67.8	2.3
2R	Reference	83B	MW	138.6	4.9	1.24	38.9	3.5
3B	Conventional	407B	SWP		5.7	1.38	86.6	3.0
4R	Reference	407B	SWP		18.3	1.22	64.7	5.5
5C	No Till	120A	MW	54.0	0.7	1.29	67.7	5.3
6R	Reference	120A	MW	78.1		1.20	45.0	5.8
7A	Conservation	171B/782B	SWP	45.1	1.9	1.62	81.9	3.0
8R	Reference	171B/782B	SWP	228.6	17.8	1.33	52.4	6.0
9B	Conventional	398	P	30.5	0.9	1.40	61.5	6.0
10R	Reference	398	P	184.3	0.9	1.31	50.9	5.5
11C	No Till	398	P	164.0	3.0	1.25	64.2	
12B	Conventional	120B	MW	20.0	1.9	1.38	61.5	6.0
13C	No Till	120B	MW	155.1	3.2	1.25	53.5	6.0
14R	Reference	120B	MW	139.0	32.6	1.25	53.5	6.0

NRCS staff: Kurt Hoeft, Cedar Valley RC&D; Acacia Bender, Soil Scientist; Stephanie Hill, Conservationist

Key to table:

Site designations –

A = Conservation Tillage

B = Conventional Tillage

C = No-till

R = Reference Site

General soil respiration class ratings and soil condition at optimum soil temperature and moisture conditions		
Soil respiration (lb CO ₂ /acre/day)	Class	Soil condition
0	No soil activity	Soil has no biological activity and it virtually sterile
<9.5	Very low soil activity	Soil is very depleted of available organic matter and has little biological activity.
9.5 – 16	Moderately low soil activity	Soil is somewhat depleted of available organic matter, and biological activity is very low.
16 – 32	Medium soil activity	Soil is approaching or declining from ideal state of biological activity.
32 – 64	Ideal soil activity	Soil is in an ideal state of biological activity and has adequate organic matter and active populations of microorganisms.
>64	Unusually high soil activity	Soil is at a very high level of microbial activity and has high levels of available organic matter, possibly from the addition of large quantities of fresh organic matter or manure.

Infiltration rates and classes		
Infiltration rate (min per inch)	Infiltration rate (inches per hour)	Infiltration class
<3	>20	Very rapid
3-10	6-20	Rapid
10-30	2-6	Moderately rapid
30-100	0.6-2	Moderate
100-300	0.2-0.6	Moderately slow
300-1000	0.06-0.2	Slow
1000-40,000	0.0015-0.06	Very Slow
>40,000	<0.0015	Impermeable

General relationship of bulk density to root growth based on soil texture			
Soil texture	Ideal bulk densities (g/cm ³)	Bulk densities that may affect root growth (g/cm ³)	Bulk densities that restrict root growth (g/cm ³)
Sands, loamy sands	<1.60	1.69	>1.80
Sandy loams, loams	<1.40	1.63	>1.80
Sandy clay loams, loams, clay loams	<1.40	1.6	>1.75
Silts, silt loams	<1.30	1.6	>1.75
Silt loams, silty clay loams	<1.40	1.55	>1.65
Sandy clays, silty clays, some clay loams	<1.10	1.49	>1.58
Clays (>45% clay)	<1.10	1.39	>1.47

WFPS = water filled pore space

Microbial activity generally occurs when 60% of the soil pores are filled with water. WFPS gives an indication of how well aerated the soil is at the time of sampling. When the WFPS exceeds 80%, soil respiration may be restricted by the wet conditions and should not be measured.

Soil slake ranking

Slaking is the process of fragmentation that occurs when aggregates are suddenly immersed in water. Slaking occurs because the aggregates are not strong enough to withstand the stresses of rapid water uptake. At fast rates of wetting, internal stresses arise from differential swelling and air entrapment in the soil aggregate. These stresses may be released through the creation of an increasingly extensive network of failure zones in the soil fragments, or aggregates. The differences between tests of aggregate stability and slaking are the type of stress applied and the size of aggregates or soil fragments used. The slake test is a qualitative and simpler test to perform. The two tests may not necessarily yield the same result.

Slaking rating	
0 – 3	Relatively unstable soil aggregates
4	Soil has some stability, but very little strength
5 - 6	Relatively stable soil aggregates

Slaking is affected by the soil water content, rate of wetting, texture, clay mineralogy and organic matter content. Slaking is more severe when the soil is initially dry than when it is moist. For loamy soils, the pressure of entrapped air has been shown to be more important. For clayey soils, differential swelling was shown as the more important process. In generally, organic matter can influence both the rate of wetting and the resistance to stress generated during wetting. The stability of aggregates is strongly dependent on the rate of wetting; therefore, aggregate stability declines as the rate of wetting increases.

2001-2003 IICCA Executive Board		
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GMO Update

The Starlink Saga Continues

EPA REJECTS BIOTECH CORN AS HUMAN FOOD: FEDERAL TESTS DO NOT ELIMINATE POSSIBILITY THAT IT COULD CAUSE ALLERGIC REACTIONS, AGENCY TOLD

July 28, 2001 ~ Washington Post/Toronto Star

The U.S. federal government's investigation into whether StarLink corn causes allergic reactions failed to establish that the genetically engineered corn was safe to eat, according to an expert panel convened by the Environmental Protection Agency.

The stories say that while the panel did not conclude the modified corn causes allergies, it said that months of study by federal agencies "do not eliminate the possibility of such a reaction."

Based on the panel's recommendations, the EPA yesterday announced that it would continue its policy against permitting even trace amounts of StarLink in foods -- turning down a request to change that position from Aventis CropSciences, which developed the corn.

The unapproved presence of Starlink has required hundreds of food recalls and costly international trade problems, and food industry officials said yesterday they were disappointed in the EPA's refusal. But critics of biotechnology said they were pleased by the decision, which they said vindicated their concerns about the potential risks of some genetically modified products.

Stephen Johnson, of the EPA's Office of Prevention, Pesticides and Toxic Substances, was cited as saying the agency had no choice but to turn down the Aventis application, adding, "Some of the world's leading experts on allergenicity and food safety told us there was not enough data to conclude with reasonable certainty that there was an acceptable level of [StarLink corn] that people could eat. That leaves us no room" to allow StarLink.

An Aventis official was cited as saying that the company was not surprised by the panel conclusions and the EPA decision and that there is no way to conclusively determine if the Cry9C protein in StarLink -- which protects the corn against the European corn borer -- can cause allergic reactions.

In a statement, the company emphasized its commitment to directing all corn with the StarLink Cry9C protein to livestock and industrial uses. "We will continue to support the grain handlers and millers with their testing programs," the company said. "We are proud of the progress we have made in containing StarLink corn."

Internet Hot Spots

Website Picks of the Month

Grasshoppers: Their Biology, Identification, and Management, USDA-ARS
<http://www.sidney.ars.usda.gov/grasshopper/index.htm>

Swine On Line. Join the weekly game to grow the best pig with winners receiving prizes and heaping amounts of fame. <http://www.swineonline.com>

Agriculture Network Information Center. AgNIC is a guide (search engine) to quality agricultural information on the Internet as selected by the National Agricultural Library, Land-Grant Universities, and other institutions.
<http://www.agnic.org>

Extension Update

Budget Woes at the Land Grant

Due to a \$1,133,000 budget shortfall in Iowa State University's Agriculture program (Agriculture and Natural Resources Extension, College of Agriculture and College of Veterinary Medicine) actions have been take to reduce costs and increase revenues at the University. In short, cost recovery is being implemented in various areas including contracts and grants, publications, consulting services, lab fees and meeting presentations. Vacant positions are not being filled at this time.

Extension is reviewing charges for publications to ensure that there is an accurate balance between the cost and purchase price. Charges may be implemented, or increased for some publications.

Extension programs that target specific audiences, i.e. certification programs, are being studied to see if the current user fees are adequately covering costs. Adjustments to program fees may be implemented for those programs where cost recovery is currently not in place or where fees are not sufficient to cover program costs. If a Extension faculty or staff person is asked to speak at a meeting that targets a select audiences, i.e. ag chemical dealer customer meeting, a fee will charged. This fee is based on a cost recovery worksheet that each faculty and staff has access. For instance, if an area ag engineer is asked to consult with a producer redesigning their cattle feedlots, the engineer will provide an initial one or two hour site assessment at no charge. If the producer can not local a private engineer to develop a design, the Extension Ag Engineer will charge \$375 for each day

the engineer works on the feedlot design. The fee is not being implemented to undercut or compete with private business, but rather to recover salary dollars for services provided to clientele who were not able to find a local vendor who could meet their needs.

Services such as weed, insect and herbicide damage identification are still free to the public, but soybean cyst nematode testing and pathology fees have been adjusted.

Administration has also reorganized the five Extension administrative areas (area offices). The Cedar Rapids and Mason City offices have been closed, with the affected staff being integrated into nearby offices. The Director position in the Mason City was unfilled at the time.

Field Specialist boundaries, such as the area agronomists, area engineers and area farm management specialists, have not changed at this time but are under review. Because the administrative areas have changed, this means that the area specialists may have to report to two or more area directors. Carroll Olson, southwest Iowa area agronomist retired on July 1. At this time, neighboring crop specialists are covering his area and there are no plans to fill his position in the near future.

University faculty members are encouraged to recover costs associated with expenses incurred by their programs. Recovery of salary dollars for field and campus staff is also urged.

Member Profile

Richard Drilling in the Spotlight

Richard Drilling, Heartland Crop Pro-Tech
401 E. Washington Street, New Hampton, IA 50659 ~ 641/394-4525 -4525 fax

Heartland Crop Pro-Tech

Drilling started with Crop Pro-Tech in 1986 as a summer crop scout. In 1995, Rich opened an independent Crop Prot-Tech office in New Hampton. Services provided include field crop monitoring such as soil testing, fertility recommendations, weed, insect and disease management, hybrid and variety recommendations, field scouting, manure management plans and contract research,

Education:

Ag Business with special emphasis in agronomy and ag finance, Iowa State University

Background:

Drilling grew up on a family farm near New Hampton.

Memberships in Professional Societies & Offices Held:

American Society of Agronomy Certified Crop Advisor

Personal Life:

Rich lives in New Hampton with his wife, Teresa, who is a dietician. Rich enjoys outdoor activities, such as hunting fishing, and camping – however finds fitting those activities into his summer scheduled difficult! Rich also enjoys working with computers.

"When choosing between two evils, I always like to try the one I've never tried before."

-Mae West

Your Small Business

Taxes and the Home-Based Business

Selected information regarding some of the tax issues facing home-based business

By Kimberly Moore, CPA

Many home-based business owners fail to operate their businesses as viable separate entities. A home-based business should be addressed with the same level of professionalism and authenticity as any other business. The business should have its own designated space that is devoted solely to that business, including a separate phone line and mailing address.

Many home-based business owners fail to comply with all the federal, state and city reporting requirements because they are unaware that the regulations exist. Registering your business with the city, state and federal agencies will help to ensure that you are notified of the required filings.

Proper record keeping is vital to the home-based business.

Your local state tax and IRS offices offer free (or bargain) workshops and/or assistance to businesses and individuals. If you need assistance in completing or understanding forms these offices are here to help you. Use them. The telephone number for the IRS is 501-324-5685 or 1-800-829-1040.

The IRS offers free tax preparation assistance from January to April 15th of each year at various locations throughout the state with the VITA (Volunteer Income Tax Assistance) program. These volunteers can assist you in completing your businesses newly required tax forms.

As a home-based business if you do not pay wages to yourself in the form of W-2 wages subject to withholding, but instead draw from the profits of the business. Keep in mind that you are still required to pay income taxes on those earnings as they are earned over the course of the year through the use of quarterly Forms ES, Estimated Tax for Individuals. You could be penalized at year-end if you owe more than \$500 in taxes.

Take advantage of the deductions available to you as a small or home-based business. A taxpayer's principal place of business can qualify as a tax deduction based upon the relative importance of the functions performed at the location and the amount of time spent at the business location. Other deductions can include the use of personal automobiles, furniture and equipment, portions of the mortgage or rent payments and portions of the electric, gas, phone, cable and water bills.

The IRS makes numerous publications available to the taxpayer at no cost to aid in understanding tax deductions and regulations. Some of these include "Publication 334:Tax Guide for Small Businesses", Publication 505: Tax Withholding and Estimated Tax, and Publication 583:Taxpayers Starting A Business. Guides are available on practically every subject.

Consult your CPA or local tax authorities for specific recommendations appropriate to your individual situation.

This article is from the Iowa Small Business Development Center website. This website contains a multitude of resources, such as more than 300 business training courses available online. <http://www.iabusnet.org/index.html>

CCA Credits

Soil and Water Management: See For Yourself!

On Monday, August 27, a soil and water management CCA-credited class, "Soil and Water Management: See for Yourself!" Will be held near Atlantic. This program will provide information on emerging information on soil health and tillage systems, as well as hands-on, in-field experience. Six hours of CCA CEU's in Soil and Water Management are pending approval.

The class agenda is below. Contact Agren at 712/ 792-6248 or email jragren@netins.net for additional information or to register.

8:00	Registration, coffee, juice & donuts
8:30	Primer on soils and soil conservation– Pete Hill, Monsanto
9:45	Intro: Observing soil characteristics in a soils pit- Doug Karlen, NSTL
10:00	Intro to the USDA-ARS Soil Quality Test Kit- Rick Bednarek, NRCS

10:30 Concurrent sessions 1-3. Speakers will rotate through the plots to each group and give short presentations on different soil quality aspects, detailing protocol for data collection and importance of soil property. Each small group, with the assistance of a 'leader', is responsible for data collection on their specific tillage type.

Speaker topics- 30 min each

- 1) Understanding the importance of water infiltration - Speaker TBA
- 2) Understanding the importance of soil biological properties - Don Reicosky, ARS, Morris, MN
- 3) Understanding the importance of soil chemical properties - Brian Weinhold, ARS- Lincoln, NE
- 4) Understanding the importance of soil physical properties -Doug Karlen- NSTL

12:10 pm Lunch
1:00 pm Concurrent Session 4
1:30 pm Testing soil properties: Hands on use of the Soil Quality Test Kit
2:45 pm Break
3:00 pm Panel discussion: Tillage and management effects on soil properties – whole group
4:15 pm Conclusion: Observing soil health in a soils pit - Doug Karlen, NSTL & Mahdi Alkaisi, ISU
4:45 pm Wrap-up & Evaluation

Calendar

Calendar of Upcoming Events

August 15 OR August 16. Soil Management Clinic at ISU. Open enrollment – to reserve your spot, call Richard or Brent at (515) 294-6429. CCA CEU's are pending.

August 21. Neely-Kinyon - ISU Research Farm Field Day featuring crops. Start time: TBA. For more information contact Agronomy Extension at (515) 294-1923.

August 22. Doon - ISU Research Farm Field Day featuring crops. Start time: 9 a.m. For more information contact Dave Haden (712) 446-2526.

August 27. Soil & Water Clinic. Atlantic. See class info above.

September 4. Late Season Disease Clinic at ISU. Open enrollment – to reserve your spot, call Richard or Brent at (515) 294-6429. CCA CEU's are pending.

September 5. Alfalfa Clinic at ISU. Open enrollment – to reserve your spot, call Richard or Brent at (515) 294-6429. CCA CEUs are pending.

September 5. Kanawha - ISU Research Farm Field Day featuring crops. Start time: 9:30 a.m. For more information contact David Rueber, (515) 762-3247.

September 6-7. MNICCA Summer Meeting and field Tour. For more information, contact Robin.

September 6. Nashua - ISU Research Farm Field Day featuring crops. Start time: TBA. For more information contact Ken Pecinovsky, (515) 435-4864.

September 6. Crawfordsville - ISU Research Farm Field Day featuring crops. Start time: TBA. For more information contact Kevin VanDee (319) 658-2353.

****September 29**** IICCA Summer Meeting & Tour of the USDA's National Soil Tilth Laboratory. See article on page two of this newsletter)

December 4. IICCA Winter Meeting in Ames.

December 5-6. ISU ICM Conference. Registration materials will be released in November.

Currently...

...there are more full-time prisoners than full-time farmers in the US.

...farmers over 65 outnumber those under 35 by three-to-one.

...Nebraska and Iowa are expected to lose an additional one-third to one-fifth of their remaining farmers within the next two years.

- Taken from, World Watch magazine