



Bringing it together



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## Our Mission:

Agren, Inc. responds to agricultural and environmental challenges by providing comprehensive, integrated services to groups and individuals to positively impact our natural resources. The Agren team is dedicated to achieving client objectives through a commitment to quality and excellence.

Welcome to the first edition of Agren's newsletter, "Bringing it Together." The newsletter will provide you with useful articles to keep you updated on the programs Agren offers and new projects the Agren team is developing.

## Farm\*A\*Syst Offers New Resources to Protect Water Quality

Fish kills, rising nitrate levels and groundwater contamination make prime headlines for the press, but farmers and acreage owners can take advantage of the Iowa Farm Bureau's Farm\*A\*Syst program to show a different side of the story-- environmental protection.

Developed in 1997, Iowa Farm\*A\*Syst is a self-assessment tool that helps farmers and acreage owners evaluate their level of risk for surface and groundwater pollution. The program consists of 12 easy-to-use publications, including water well condition and maintenance, open feedlot manure management, and pesticide storage management. "The materials have recently gone through technical review and have been updated to reflect current regulations," said Jamie Ridgely with Agren.

The latest publication, "Emergency Response Planning for Manure Spills" became available in early 2005. It explains that while prevention is the key, producers can take steps to respond effectively if they have a manure spill. In addition, the feedlot and confinement publications have been completely revised to reflect changes in the

enforcement of livestock regulations in Iowa. These detailed publications help producers understand where their operation falls within Iowa law, and they offer simple, straightforward options for staying within those regulations.

Each publication in the series includes educational information and an assessment to evaluate on-farm practices affecting drinking water. The materials also provide a list of resources where landowners can find more technical assistance. You can access the publications online at [www.iowafarmbureau.com](http://www.iowafarmbureau.com).

### Working with farmers one-on-one

From now through October of 2005, Agren staff will be conducting 50 on-farm, one-on-one Farm\*A\*Syst assessments in Iowa. These are being funded through the Iowa Farm Bureau Federation and are free of charge to participants.

Agren is basing these assessments on an environmental management system

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*"Agren has been involved in the development of the Farm\*A\*Syst program from day one, and they are a great resource. The staff are working hard to make sure Farm\*A\*Syst is useful and meaningful to folks who use the program."*

*Rick Robinson, environmental policy advisor for the Iowa Farm Bureau Federation*

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concept, Ridgely said. "Agren will help farmers spot potential trouble areas and write an action plan with practical recommendations to reduce their risk for water pollution." To request a third-party Farm\*A\*Syst Assessment, phone Iowa Farm Bureau at 515-225-5490.

To learn more about Farm\*A\*Syst, contact Jamie Ridgely at 712-792-6248, [jamie@agren-inc.com](mailto:jamie@agren-inc.com), or log onto [www.agren-inc.com](http://www.agren-inc.com) and click on "Links" and then "Iowa Farm\*A\*Syst".

## Agren Demonstrates Corn Rootworm Risk Management Tool

Applying crop protection chemicals in excess to control insect pests may seem like overkill, so why do growers do it? According to Agren's specialists, it's to manage risk via "product" insurance. Agren is currently designing a warranty program that improves the feasibility of integrated pest management (IPM), reduces farmers'



Sue Ratcliffe, North Central IPM Facilitator, University of ILL reviews the corn rootworm rating procedure with Bob Buman.

dependence on high-toxicity insecticides, and serves as a resistance tool for both pesticides and genetically-modified corn.

Consider northern and western corn rootworms (CRW), the most serious insect pests of continuous corn cropping patterns in the Midwest. It has been estimated that nearly 50 percent of continuous corn acres are treated with soil insecticides to control CRW larvae. Up to half or more of these applications could be avoided with the use of crop scouting and integrated pest man-

agement (IPM) treatment, said Stan Buman with Agren.

"Yet many growers don't follow the scouting procedure, or they treat with insecticides, regardless of the sampling results. Why? IPM practices and best management practices (BMPs) can't guarantee success, and farmers can't afford to take the risk." Crop protection inputs serve as inexpensive "insurance" relative to the risks of yield, grain quality, and profit loss due to uncertainties in weather, pest populations, crop pricing, and other unpredictable factors outside the farmers' control, Buman noted.

### Finding a new solution

In 1997, Agren began working with the Agricultural Conservation Innovation Center, the IPM Institute, and other collaborators to develop a commercial risk management tool to replace the need for farmers to use "input insurance" with CRW. Agren's specialists calculated that they could replace "input insurance" with a real financial product at a half to a third of the cost.

In 2004 Agren worked with six growers and 540 acres in Wisconsin and Illinois to test the warranty program. Farmers in the pilot project worked with their crop consultant to scout fields for CRW beetles. The consultant used the state university's recommended threshold levels to determine if no CRW treatments were needed. "To encourage growers to try BMPs and IPM with no risk, Agren made a guarantee," Buman said.

"If yield losses were greater than the insecticide cost (approximately \$12 to \$18 per acre), we'd make up the difference. There was no cost to the producers to participate."

To determine losses, Agren used side-by-side test strips to check the yields from the treated areas and the untreated areas. "We paid the farmers on the difference, if there was any," Buman explained. "Out of six producers and nine fields, payments were made on five fields. The average payout totaled \$4.28 per acre."

### What's next?

Based on the lessons learned from 2004, Agren is fine-tuning the warranty. "We are also looking into funding sources so we can replicate this project again," Buman said. "We hope to commercialize the program in the future."

Both the farmers and the crop consultants who partnered with Agren liked the warranty program. In one case, a crop protection dealer in Illinois noted that CRW counts were far below threshold in some of his customers' fields. He worried, however, that if these farmers didn't use insecticide and the system failed, this would ruin his business. As it turned out, there were no significant yield losses or payments in these fields, but the dealer still praised the program because it took his risk away.

To learn more about this warranty program, contact Stan Buman at 712-792-6248 or stan@agren-inc.com.

## Agren Creates Customized Solutions for Monsanto

Why has farmers' adoption of conservation tillage for corn and soybeans stagnated during the past several years, despite evidence of the benefits for erosion control and soil health?

That's what Monsanto wanted to know when they approached Agren to help them study the profit, yield, and soil quality effects of tillage systems in corn-soybean rotations. Monsanto offers products that are environmentally sound in reduced-till and no-till systems, and they were looking for a new way to reinforce the benefits of these reduced-tillage systems.

Agren helped track field-scale studies at Monsanto's Centers of Excellence (COE) sites from 1997 to 2004. The research studied strip tillage, no-till and conventional tillage corn production, along with narrow- and wide-row, no-till and conventional tillage soybean production. "We gathered field data on three sites, while private contractors and Monsanto staff collected data at the other sites," said Bob Buman with Agren. "As part of our service we wrote protocols and standard operating procedures, which proved to be a big plus for Monsanto."

### Crunching the numbers

Agren also developed a spreadsheet for data input, making it much easier to analyze the economics. This was critical to Monsanto, because early in the project they were losing about two-thirds of their data. The various private contractors and Monsanto staff were using fill-in-the-blank Word documents to record data. The data didn't get transferred consistently to a spreadsheet, and people weren't doing things the same way.

Agren's data collection spreadsheet included production costs, soil data, crop residue, crop stands, water infiltration, soil compaction, soil moisture, local



Bob Buman sets up hobo meters to measure soil temperatures.

weather, and soil temperatures, Buman said. "I handled the statistical analysis, calculating standard deviations and looking at profitability. I also compiled reports that detailed each COE, discussed different tillage systems, described the crop rotation, listed the dif-

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*"It has been an honor and a pleasure to work with Agren on ag conservation issues. Agren runs a very professional organization, and I know they will continue to be successful in the future."*

**Bruno Alesii, retired Monsanto researcher**

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ferent inputs that were used, included charts explaining percent emergence in various corn tillage systems, quantified the yields, and calculated profitability."

Buman then compiled a summary of the side-by-side comparisons of tillage systems at all of Monsanto's sites for the year. Now

## **Demand for Prescribed Burning Sparks Idea for New Liability Product**

When catastrophic wildfires roar through neighborhoods in California and other states, it's hard to forget the television images of landscapes and homes being burned.

"A prolonged effort to control wildfires, along with the lack of prescribed fire, has greatly increased the natural fuel loads on many of the nation's private and public forestlands, posing a dangerous problem," said Tom Buman with Agren. "While prescribed burning is a well-accepted way to curb forest fires, its application is being limited by liability concerns."

Risk and liability concerns have decreased the number of consultants and private contractors who are willing to recommend and implement prescribed fire, Buman said.

To reduce these risks, Agren is partnering with the Iowa Department of Natural Resources' Bureau of Forestry (IBF) to develop a new risk management tool for private contractors and non-government organizations. This tool can be incorporated into the national strategy to reduce wildland fire threats and restore forest ecosystem health by reducing fuel loads and using prescribed burns on both private and public lands.

### **Gathering input from the experts**

In January of 2003, Agren brought together nationally recognized fire experts from the U.S. Forest Service, Bureau of Land Management, and National Park Service, along with state foresters (from Texas, Florida and Iowa) and private con-

Monsanto had the data to counter farmers' concerns that no-till and strip till equated with lower yields and lower profits. Monsanto also could show farmers how to make these reduced-tillage systems work.

Agren helped Monsanto publish this research so it could benefit as many people as possible, Buman noted. "After the National Soil Tilth Laboratory at Iowa State University worked with us to analyze some of the soil factors, we published the results in the November/December 2004 edition of the 'Journal of Soil and Water Conservation.'"

### **Designing solutions to fit your needs**

Agren can custom-design solutions for a variety of projects, just like it did for Monsanto. "We sign confidentiality agreements for these projects and can also help you publish papers on the research," Buman added.

To learn more, contact Bob Buman at 712-792-6248 or [bob@agren-inc.com](mailto:bob@agren-inc.com).

### **Preparing for Phase II**

Phase II of this project, which was submitted for funding in 2004, will help define some of the market issues associated with the policy. "We know each state has different legislation regarding prescribed fire, and we want to find out how this may affect insurance premiums," Buman said.


Agren also wants to determine how different prescribed fire certification programs found across the U.S. affect insurance premiums. Finally, the company wants to assess contractors' and non-government organizations' willingness to pay for the insurance. "We'll track how much the market for prescribed fire insurance is growing and how providing insurance to contractors may impact the number of prescribed burns that occur," Buman said.

To learn more about the prescribed fire liability insurance policy, call Tom Buman at 712-792-6248, or e-mail him at [tom@agren-inc.com](mailto:tom@agren-inc.com).

tractors (from Florida, Texas, Wyoming and Montana). These experts, along with insurance industry representatives, met in Nebraska for three days to study the barriers and potential solutions to developing a prescribed fire liability insurance policy.

Agren is currently gathering actuarial data to rate a liability insurance policy by means of written and telephone surveys delivered to private contractors and non-government organizations in Florida, Iowa, Minnesota, Missouri, Texas, Oklahoma, Oregon and Wisconsin. "The survey asks about the contractors' training and certification, how long they've been managing prescribed fires, how many acres they burn, the equipment they use and a list of any fire escapes they've experienced," Buman explained.

Agren will conduct follow up telephone surveys with respondents who reported escaped fires. "We'll analyze the frequency and severity of the escapes, which will give us the information we need to rate an insurance policy," Buman said. "In the end, the aggregate data will be turned over to insurance companies to see if they are interested in offering this type of policy." Agren will also provide the information to private contractors so they can encourage insurance companies to offer a prescribed fire liability insurance policy.



**Chad Graeve of Pottawottamie County Conservation in Iowa monitoring a prescribed fire.**

## Farm Background Nurtures Lifelong Interest in Agronomy



Food production is one of America's most important industries, and it's an area where Bob Buman feels he can make a difference. In his role as research director for Agren, Bob enjoys helping farmers and landowners preserve the land so it remains productive.

"When I was a kid growing up on our farm west of Harlan, Iowa, I always liked working with plants," Bob said. This interest eventually led him to Washington State University, where he

earned his Ph.D. in agronomy with a specialization in weed science.

Before joining Agren in 1997, Bob worked with USDA's Agricultural Research Service Northern Grains Insect Research Lab in Brookings, S.D., where he studied corn rootworms. During his years as an agronomy specialist in Wisconsin for AgResources, Inc., Bob ran pesticide good laboratory practices (GLP) and efficacy studies that included insecticide, herbicide and fungicide compounds. These are the processes that must be completed to get a crop protection chemical labeled.

### Rural ties remain strong

At Agren, Bob conducts data analysis for a variety of projects. "I work with crop protection companies on efficacy studies to test new chemicals and existing chemicals with a new formula to determine how well they control pests," he said.

When Bob has some time off from work, he enjoys woodworking and managing his side business "Scenic Photos and More," which he runs from his home in Breda, Iowa.



Photo samples from Bob Buman.

