



Mission Statement
The Iowa Learning Farm promotes efficient agriculture production systems that result in agronomic, economic, and environmental improvements through increased awareness and adoption of conservation systems and ethics.

ILF 01 Volume 4 Issue 1 Winter 2008

Introducing ILF Conservationists

The Iowa Learning Farm is adding participants to the project to help build a Culture of Conservation.

Until now the ILF project has consisted of farmer cooperators who are demonstrating various conservation practices or conducting applied research on their farms, also agency partners, and ILF team members who are conducting scientific research, testing water quality, offering guidance, and finding what makes us tick.

This winter we add a group of spokespeople we call ILF Conservationists. Scattered across the state, these people are champions of the conservation cause.

Building a Culture of Conservation

They are community leaders and role models who practice, understand and promote a renewed commitment to a Culture of Conservation.

The ILF Conservationists will be involved with the project in different ways. They could be presenting a program at their local service organization meeting, writing editorials for local or regional newspapers, hosting a field day on their farm, or speaking to students at an FFA or 4H meeting—the possibilities are great.

A Culture of Conservation encourages us to more fully appreciate our environment and natural resources, not take them for granted. The goal of the Iowa Learning Farm project is to increase the understanding between individual farm-level decisions and the aggregate impact on the environment.

You can help the Iowa Learning Farm by asking these passionate people to speak at one of your meetings—or better yet, adopt one or more conservation practices on your land or property.

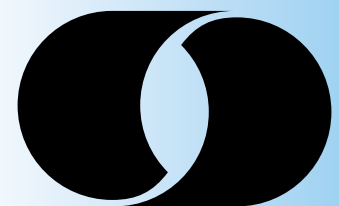
Initial ILF Conservationists:

Steve Berger, Wellman	Barry Kusel, Manning
Jon Gisleson, Floyd	Norm Lust, New Virginia
Bill Hammitt, Portsmouth	Dave Ruden, Dubuque
Mark Ingwersen, Spirit Lake	Dave Van Waus, Colo
Jody Kerns, Edgewood	



The new ILF Conservationists include (l to r): Dave Ruden, Bill Hammitt, Mark Ingwersen, Steve Berger, Jon Gisleson, and Norm Lust. Not pictured are Jody Kerns, Barry Kusel, and Dave Van Waus.

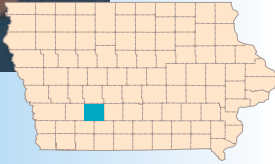
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Randy Caviness



Producer Profile

Iowa Learning Farm cooperater Randy Caviness farms 3,000 acres in rural Greenfield in Adair County. He's been farming for 30 years and no-tilling for almost 20. Farming is in his blood, going back many generations.

He is passionate about his profession and the soil he stands on. "When I was a kid, we would have some big gully washers and my dad hated to see it. We have lost two-thirds of our topsoil and we can't keep doing that. In another 100 years, the topsoil will be gone if we keep going in the current direction."

When the 1985 farm bill mandated conservation practices, Caviness purchased a planter for no-till, but didn't think it would work. After 10 years, tests showed that the organic matter in his soil was increasing, and is ongoing.

"Many people talk about building up their soil, but then they don't do anything about it. No-till actually does something about it. The more you leave the soil alone, the better it does," said Caviness. "Some people think that if they till every four or five years, they will get benefits of no-till. No-till should be called never-till."

Caviness also said that economically you don't give up anything to do no-till. "We want to show that you can be profitable and you can save

Moving to conservation tillage

Deciding to change to a conservation tillage system takes some planning and little equipment modification. Conservation tillage is defined as any tillage system that maintains at least 30 percent residue cover after planting. No-till is a system in which the soil is not disturbed between harvest and planting and planting to harvest except for planting seeds and surface application of nutrients.

According to ISU Extension Soil Management Specialist Mahdi Al-Kaisi, there are many factors to consider when converting to a conservation tillage system including equipment, nutrient management, seed selection, weather and soil conditions, and tillage timing.

Matt Helmers, ISU Extension water quality engineer, adds that you also need to know your fields' hills and valleys. "Residue cover effectiveness is closely linked to soil topography and slope," said Helmers. "Relatively flat fields can be protected with 30 percent residue. But fields that have steeper or longer slopes require a residue cover of at least 50 to 60 percent."

Residue cover can have a significant effect on soil temperature. "As a rule, the farther north, the slower the soil warms up to planting temperature," said Al-Kaisi. "Strip-tillage is an excellent option in areas where soil stays cold and wet like north-central Iowa. No-tillage will be less challenging in areas where soils are well drained."

Soil texture plays a significant role in crop performance, especially in dry conditions. Soil texture influences water-holding capacity and excess water drainage. Field drainage is an important factor when making site-specific tillage decisions. On about half of Iowa's cropland producers use subsurface drainage to lower the water table and improve growing conditions.

"Drainage of the soil profile between rainfall events can lead to greater water storage capacity for subsequent rainfall events so there is increased infiltration and less runoff," said Helmers. "However, subsurface drainage can transport contaminants downstream, specifically nitrate-nitrogen. This should be accounted for in a farm conservation plan."



Jensen

ILF cooperater Collin Jensen, West Union, has been no-tilling for more than 20 years. He confesses that he has made many mistakes and that there is a learning curve, but also noted that there are many ways to make it work. "I've learned that seedling vigor and early growth is a must. Also watch planting depth and seed-to-soil contact," said Jensen.

In addition to conservation tillage, producers can incorporate other practices that will reduce sediment and contaminants from leaving the field such as contour planting, installing grassed waterways, contour or edge-of-field buffers. A good conservation plan should incorporate multiple practices.

Let's talk equipment

The planter is fundamental for strip tillage and *the* key for no tillage; and chances are your existing planter is capable of handling the job, perhaps with a few modifications. ISU Extension Agricultural Engineer Mark Hanna says that there are some planter modifications to consider and several items to watch out for when planting into residue. Hanna stresses the importance of these issues as the planter is likely the only machinery that stirs the soil for seed placement.

"Suitable seed depth and seed-to-soil contact are keys to emergence when plant-

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ing through residue,” he said. “Undisturbed soil can be harder to penetrate, particularly if it is dry. To keep depth-gauge wheels on either side of the seed opener in consistent contact with the soil, down pressure springs on the parallel links of your planter need to be adequate. Consider replacing light springs with heavier ones or adding springs, but make sure not to go overboard with the pressure in wet or moist soils; maintaining depth wheel contact with the soil is the goal.



“Keep the seed opener discs in good condition. This will ensure a narrow soil-entry point, which limits the amount of down pressure required to penetrate the soil and prevents residue from entering the seed furrow. Also, watch the seed closing system. It should be aligned behind the opener and adjusted for adequate seed-to-soil contact without over-compaction of the soil.”

Hanna said that adding row cleaners ahead of the seed openers can be especially helpful in areas of the state where the soil is slow to warm or when planting corn into heavy residue. Row cleaners leave a residue-free band of soil at the planting point that helps corn emergence. Adjust the cleaners to ensure they are moving the residue and the least amount of soil. If further cutting of residue is required, a coulter may be added in front of the seed opener. Adjust the bottom edge of the coulter to operate slightly above seed depth; too deep may hinder seed-to-soil contact.

Strip tilling as an option

ILF cooperater Tom Vaske, Masonville, switched from conventional tillage to strip-tilling in 2000 because of a contract stipulation with his landlord. To save money, he made a strip-till bar from an old planter. He believes that you don't have to purchase the best or latest equipment to get the job done.



Vaske

“A lot of small to mid-size farmers turn away from strip-tilling because of equipment prices,” he said. “You don't need to spend a lot of money on large equipment to make things work.” Vaske already has retrofitted another more efficient strip-tiller.

The benefits of changing to a reduced or no-tillage system are numerous. Specific equipment needs are minimal, and in some cases, entire field passes with equipment are eliminated. Labor costs are reduced and there is less soil compaction when field passes are decreased. Organic matter also builds in the soil over time.

To discuss questions or concerns about planting in a no-till or reduced tillage system, contact your local ISU Extension field agronomist or ag engineer. Also check the Iowa Learning Farm website for conservation tillage resources at www.extension.iastate/ilf.

Future agronomist?

We welcome Elise Abigail Benning, daughter of ILF Agronomy Research Associate Jamie Benning and husband, Travis.

Elise was born January 4, 2008, weighing 7 lbs. 9 oz. and 20 1/4 inches. All are doing well.

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the soil. Quality soil has got to be the bottom line.”

On his research plot for ILF, Caviness has been comparing no-tillage, disk, and no-till with cover crops.

“People need to think about their soil and do a better job for future generations. You can't just think or say that you are doing a better job, you need to actually *do* a better job.”

ILF cooperators honored at CDI

ILF cooperater Rick Juchems, Butler County, was elected board president of Conservation Districts of Iowa for 2008 at their annual conference held in Ames, Nov. 27-29.

Juchems has served as an assistant commissioner and commissioner for Butler County SWCD; district vice chair and district chair. He joined the CDI Board as Region 3 Director in 2004, and has served as Vice President since 2005.

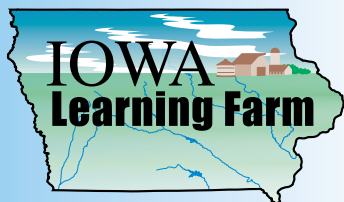
Campbell honored

ILF cooperater Doug Campbell, Ringgold County, was presented with “Outstanding Soil and Water Conservation District Commissioner” at the CDI conference.

As quoted in the program, “Doug is a concerned and sincere commissioner and a steward of soil, water and air quality... He works with Iowa Learning Farms on a project to convert Brome grass CRP to warm season natives as well as converting CRP to row crops using no-till. Doug also hosts field days on his farm where he can promote several conservation practices: terraces, grassed waterways, filter strips, ponds, grade stab structures and livestock exclusion for ponds and streams. Doug is also involved in many community service organizations.”

Congratulations to both of you.

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Iowa Learning Farm Newsletter is published by Iowa State University Extension, funded by the Iowa Department of Agriculture and Land Stewardship through the Integrated Farm and Livestock Demonstration Program, in collaboration with Iowa Department of Natural Resources, Natural Resources Conservation Service, Conservation Districts of Iowa, and Iowa Farm Bureau Federation. To subscribe or change the address of a current subscription, write to Carol L. Brown, 2104 Agronomy Hall, Iowa State University, Ames, Iowa, 50011-1010, phone 515-294-8912, fax 515-294-9985 or email: ilf@iastate.edu. Please indicate you are inquiring about the Iowa Learning Farm Newsletter and which format you prefer, electronic or print copy. Newsletter coordinators are John Lundvall, ILF Field Coordinator, & Jerry DeWitt, ILF Coordinator; the editor/production designer is Carol L. Brown.

www.extension.iastate.edu/ilf

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ILF Winter Activities

Winter doesn't mean the Iowa Learning Farm takes a rest. Team members are very busy with indoor activities throughout the season.

This winter Iowa Learning Farm has been represented at the Conservation Districts of Iowa annual conference and the Iowa State University Integrated Crop Management conference in November, Iowa Farm Bureau Federation annual meeting in December, Practical Farmers of Iowa annual conference, and the Beginning Farmers Conference, in January.

ILF hosted several meetings throughout the winter including an ILF cooperator workshop, a tillage meeting in Adair County, and water quality discussion meetings are scheduled for February in Delta, West Union, Fort Dodge, Page County, and LeMars.

The annual legislative day, hosted by Conservation Districts of Iowa, was held January 24 in the Capitol Rotunda, Des Moines. The theme for the day was Building A Culture of Conservation, expanded from the goals of the Iowa Learning Farm project. Legislators hear concerns and successes from various groups and agencies at this event.



Jackie Comito discusses conservation with attendees at the ILF booth as part of the Iowa Farm Bureau Annual Meeting, December 7, in Des Moines. Photo courtesy Jean Simmet, AgriNews