

Partners

King of the Road

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**Alternative
Enterprise
Series**

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Featuring Jeff Deen
**Champion
of Conservation**

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ON THE COVER

Jeff Deen

Champion of Conservation

Economically and environmentally conscious, Jeff Deen and his family want everyone to know about the benefits of continuous no-till. "It's a poor man's irrigation system," he says.



Photos are courtesy of USDA-NRCS.



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Light at the End of the Tunnel

For most of my adult life, I have been devoted to conserving our natural resources. I started working in the field of water quality, primarily with the ag community, believing that I was going to make tremendous changes and have a positive impact on our environment. It wasn't long before I saw that the countless amounts of money put into water conservation programs yielded slow and unimpressive results. For the life of me, I couldn't figure out why change was not happening faster.

After pondering this for many years, I realized that we were not addressing the true problems. Rather, our time, money and energy were aimed at symptoms of the problem.

The true problem, I recognized, originates from the way we treat our soil resources. Farming, which relies on healthy, productive soil, has been done the same way in most regions of the world for the past 100 years or longer. Farmers like clean, tilled fields. Here in the United States only 55 million acres of the 282 million acres of planted cropland are planted using no-till conservation. And, estimates indicate that only about 5 to 8 percent of all U.S. cropland is in continuous no-till systems.

If we ignore our soil and refuse to recognize our responsibility to improve soil quality, we will lose our most precious and most productive resource. If, however, we can turn the tide and focus our efforts on improving, restoring and maintaining quality soil, we can also secure improvements to our air and water, cropland productivity, biodiversity and quality of life.

The first, and probably most important, step is taking personal responsibility for our actions and realizing that our actions, either positive or negative, will have far reaching effects on future generations. As you read this and every edition of *Partners*, you'll meet people that are taking personal responsibility and making changes in their ag operations. Our newest Champion of Conservation, Jeff Deen of Baxley, Ga., has declared his farm a no-plow zone. Also in this issue, we introduce the Starrh family of Shafter, Calif., and recognize their innovative use of conservation measures to reduce dust problems and increase profits in the San Joaquin Valley, an important agricultural region facing significant air quality challenges. More such farmers are featured in a special edition of *Partners*, *Growing Cleaner Air in the San Joaquin Valley*, published specifically to support Valley producers who positively impact air quality.

Farmers doing the right thing will finally receive the financial rewards they are due, thanks in part to a new Farm Bill program. The Conservation Security Program (CSP), when fully funded, will pay producers who have integrated conservation into their operation and made soil and water quality a priority.

Today, as I look into the world of conservation, I see a light at the end of the tunnel. People are taking personal responsibility for their actions. Responsible farmers are being recognized and rewarded for protecting our soil resources. And, we can guess that there are many, many more unsung heroes of conservation that are doing their best every day. We do have hope.



John A. Hassell, executive director.

Two New Initiatives

Through two new grants from the U.S. Environmental Protection Agency (EPA), CTIC is expanding its education and outreach efforts in two fundamental conservation areas.

Through the *Promoting the Power of Partnerships* grant, CTIC will conduct an intensive three-day training course designed for watershed coordinators wanting to address natural resources at the local level. This course will increase the leaders' knowledge about building alliances and improve their communication and facilitation skills. Graduates of the training will be prepared and inspired leaders ready to organize an alliance and begin acting in local watersheds to improve soil, water and air quality. CTIC is working with EPA representatives to select the location of the training.

Using a watershed approach with emphasis on building soil quality, CTIC will promote the protection of wetlands and riparian areas through the *Watershed/Soil Quality Approach to Wetlands Protection* grant. In addition to conference presentations on the topic of wetland restoration, CTIC will produce a publication titled *Wetlands: A More Profitable Alternative?* This document will include case studies about producers across the country realizing the financial benefits of restoring wetlands. Comparisons of financial inputs for crop production in areas that commonly flood to financial gains of restoring wetlands will also be included. If you know of a possible case study subject, please contact Dan Towery at E-mail: towery@ctic.purdue.edu or Tel: (765) 494-6952.

For more information about either grant, contact Karen Scanlon at E-mail: Scanlon@ctic.purdue.edu or Tel: (765) 494-2238.

A Treasure Trove of Data

Agricultural Resource Management Survey

By Tim Payne



The ARMS survey is the only national data source to support research on farmers' decisions to adopt new technologies.

United States Department of Agriculture's primary vehicle for collecting data about agricultural resource use, cost of production and farm financial conditions is the Agricultural Resource Management Survey (ARMS). Sponsored jointly by the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS), ARMS is a flexible data collection tool designed to meet multiple goals: 1) gather information about the relationships among agricultural production and resources; 2) estimate input use and the costs associated with producing various crop and livestock commodities; 3) estimate revenues, production expenses and net farm income and; 4) estimate the characteristics and financial situations of farm/ranch operators and their households, including information on management strategies, technology adoption and off-farm income.

Research and Analysis

The data from the ARMS fuels ERS research and analyses to answer key questions from United States Department of Agriculture (USDA), Congress, administration officials and other decision makers when weighing alternative policies and programs that affect the farm sector or farm families.

ARMS data is indirectly tied to potential environmental impacts. Questions in the ARMS look at the major agricultural factors that have an impact on environmental quality, such as nutrient and pesticide use, tillage practices, integrated pest management and water use (among others), and relate them to farm practices and profitability.

Key technology adoption decisions being tracked with ARMS include bio-engineered seed selection, waste management practices by livestock producers, chemical and biological pest management alternatives, and the use of information management technologies.

Collecting Data

The survey consists of three phases. The first phase, performed in the summer, is a screening process to verify producers' operat-

ing status and to determine which commodity they produce. In the second phase, conducted in the fall and winter, farmers selected from the first phase for surveyed commodities are interviewed about their production practices and costs. The third phase, conducted the following spring, entails interviewing a national representative sample of farmers about their costs and returns from the survey year. Farmers from phase two that reported production practices for specific commodities are also contacted to obtain information on their costs and returns, including data needed to estimate the costs of production associated with their production practices.

Data from both surveys can be linked and used to represent the population of all producers of a specific commodity or all U.S. farms. In short, ARMS mirrors American agriculture.

Major commodities are surveyed on a rotating basis, usually every five to eight years. In 2003, data was collected on sorghum, barley for grain and cotton from 6,125 farm operations.

Obtaining Access to ARMS Data

Researchers and government agencies can access the ARMS data. All reports, publications and releases based on ARMS survey data, however, must pass strict nondisclosure and confidentiality reviews. To protect the producers who participate in the survey, entities and individuals outside USDA with access to confidential survey data are subject to the same federal statutes that apply to USDA and its employees. All individuals who access ARMS data are required to sign a confidentiality agreement prior to accessing any unpublished information.

For more information on ARMS or how to gain access, contact Bob Dubman at Tel: (202) 694-5506, or E-mail: bdubman@ers.usda.gov; or Tim Payne at Tel: (202) 694-5603, or E-mail: jpayne@ers.usda.gov. For access to summarized data, visit the ARMS Briefing Room at www.ers.usda.gov/Briefing/ARMS/.

Watershed Heroes Core 4 Conservation Conference and National EcoTeam Competition

June 21-23, 2004

Texas State Technical College

3801 Campus Drive

Waco, Texas 76705

Sponsored by: American Farm Bureau Federation, American Farm Bureau Foundation for Agriculture, Texas Farm Bureau Federation and Conservation Technology Information Center. Generous in-kind support from: Agro Distribution, Kelley Manufacturing Company, NFT Industries, Royster Clark, Sustainable Agricultural Technologies, Unity Fertilizer and USDA ARS National Soil Tilth Lab.

The conference vision statement says, "Within ten years, water in local, agriculturally impacted watersheds will be fishable and swimmable. Drinking water supplies will be safe. And, farmers who work to voluntarily solve water quality problems will be even more profitable, with increased production efficiency, both now and in the future."

For more information contact Jim Porterfield, director of research, American Farm Bureau Foundation for Agriculture, 225 Touhy Ave. Park Ridge, Ill., 60068 ; Tel: (847) 685-8782; Fax: (847) 685-8969; or E-mail: jimp@fb.org.

Rural Lands Stewardship Program

Rural land planning in fast growth areas took a major step forward April 30 when the Florida Legislature approved a bill making a market-driven pilot program a standard part of the state's land use planning tools and, further, declared that the program was to be used as a specifically encouraged designation on the future land use maps for all counties.

The Rural Lands Stewardship Program was first established in Florida law as a pilot program in 2001.

Agricultural landowner groups have been formed, representing rural landowners in five counties in Florida.

Details on the Rural Lands Stewardship Program and the latest action by the Florida Legislature can be found at <http://privatelands.org>. You may want to skip the introduction and go right to the main home page. Then click on the link after "latest news" at the top of the page.

You also can go directly to the opening page for all the information contained on the web site describing the Rural Lands Stewardship Program, <http://privatelands.org/rural/index.htm>.

Two Million-Mile Buffer Goal Progress

Nearly 28,000 acres of buffers were added during February through the continuous Conservation Reserve Program sign-up. Numbers in the other four program categories are through the end of fiscal year 2003 (Sept. 30, 2003).

* Prior to fiscal year 2001, a 20 percent credit was taken for acres under easement in the courthouse. Thereafter, actual buffer installations will be reported through the NRCS Performance Results Measurement System.

** Prior to fiscal year 2001, a 4 percent credit was taken for acres enrolled adjacent to water and producing significant environmental benefits. Thereafter, actual buffer installations will be reported through the Natural Resources Conservation Service (NRCS) Performance Results Measurement System.

For more information contact Max Schnepf, coordinator, USDA National Conservation Buffer Initiative and NRCS Public Affairs Liaison, Tel: (515) 289-2331, ext.15 or E-mail: max.schnepf@swcs.org.

Buffer Links

Buffer Strips: Common Sense Conservation: www.nrcs.usda.gov/feature/buffers/index.html

Note to Producers: Conservation Buffers Still Work Economically and Environmentally (full color version): www.nrcs.usda.gov/news/thisweek/images/bufferinsertcolor.pdf

Note to Producers: Conservation Buffers Still Work Economically and Environmentally (black-and-white version): www.nrcs.usda.gov/news/thisweek/images/bufferinsertbw.pdf

Program	Miles of Buffers	Acres of Buffers
Technical Assistance Only	216,467	779,280
Cost-share	193,263	695,746
Wetlands Reserve Program*	29,552	106,386
General CRP**	333,783	1,201,619
Continuous CRP/CREP	767,604	2,763,375
Totals	1,540,669	5,546,406



In 2001, 62 million Americans visited a farm, ranch or winery. Many found their destinations through the efforts of tourism bureaus and chambers of commerce.

Making Connections

conservation pays better when you leverage your marketing dollar

By Steve Werblow

Editor's Note

Alternative, or value-added, enterprises are becoming increasingly vital to economic sustainability – and fortunately, environmentally sustainable conservation practices can help. Wildlife-friendly practices can yield opportunities to lease hunting rights or improve fishing opportunities; conservation-farming practices could add consumer appeal to harvested goods or processed food or fiber from the farm.

This year, *Partners* is exploring alternative enterprises that can help make conservation even more profitable. But profitable as they may be, alternative enterprises can demand consumer-sized marketing budgets – generally scarce on most farms. In this month's alternative enterprise feature, agribusiness consultant Jane Eckert shares insight on leveraging marketing savvy and a few dollars to leverage a real marketing campaign.

As the saying goes, conservation tillage pays by conserving soil, toil and oil. In addition to short-term returns on investment, it pays dividends far into the future by helping make farms more economically and ecologically sustainable. And linking conservation practices with value-added farm enterprises can boost both short- and long-term payoffs.

But like the term “conservation,” the phrase “value-added” can have a thousand meanings. Adding value to a farm's output can range from selling produce at a farm stand or farmers' market to capture its retail value. It could mean processing fruit into jams, juices or wine, adding a couple of acres of u-pick pumpkins to a row-crop operation, or leasing hunting rights on Wetland Reserve Program (WRP) land. Or it could be as intricate as making the farm a tourist destination, complete with entertainment, dining and lodging facilities.

Growers all along the value-added continuum can benefit from seeing themselves as part of the growing world of “agritourism” – the realm where agriculture and tourism meet. It's an obvious connection for farms that operate bed-and-breakfast accommodations, guide trail rides or host hunters. But farmers' markets fit the agritourism model, serving as a destination for visitors and locals alike. So do farm stands. And even jars of jam sold in local shops or through the mail benefit from tours, tourists and the images of wholesome local farms that are presented by tourism groups.

That's why it's vital to get involved in the agritourism industry, says Jane Eckert, a St. Louis-based agrimarketing consultant. Eckert grew up on a fruit operation in Belleville, Ill., which blossomed over seven generations into the nation's largest u-pick operation that anchors a set of family entertainment centers. After 17 years in corporate marketing, Eckert returned to her family's business and helped it grow. A past president of the North American Farmers Direct Marketing Association, she now lectures on marketing and agritourism across the

country, publishes books on the subject and consults to farms large and small.

Common Denominator

Whether you're marketing to neighbors in nearby towns or visitors from overseas, all farm-based businesses share a challenge, says Eckert. "No individual farmer has enough money to market and promote themselves adequately," she declares. "So why not join with organizations whose sole job it is to bring people to your area?"

There are thousands of organizations across the country with that mission. Leading the charge is often a local, area or state Convention and Visitors Bureau (CVB, which may go under a variety of names such as Convention and Travelers Association or Destination Management Organization, notes Eckert). Using high-end advertising agencies and marketing muscle, CVBs can provide expertise, attention and ad budgets well beyond the reach of most growers. They often combine member dollars with grants from state agencies, economic development organizations and other groups interested in promoting tourism.

As a result of that leverage, the payoffs can be great for farms that pony up the cost of participation in the CVB – which could be equivalent to the cost of a few years' worth of listings in the Yellow Pages. Eckert cites the example of one Canadian farm that spent \$150 to join its local CVB, signed onto a cooperative advertising program for another \$1,500, and ended up featured in Ottawa's \$2.5 million ad campaign.

Paying the membership dues is one thing, says Eckert, but the real key to success is getting involved. "It's not just joining, it's participating," she says. "They've got to know you're

there in order to promote you."

Eckert points to her own experience with the St. Louis Convention and Visitors Commission (CVC), through which she promoted Eckert's Country Store and Farms. "The biggest challenge from a farmer's perspective was making the meetings because they're not convenient," she admits. "But I showed up and got involved. I wanted the state people and the state's PR agency to know who I was." Listings in St. Louis CVC literature, guidebooks and web sites, releases on CVC letterhead, and other promotions helped build traffic through the Eckert's Country Store and Farms facilities to its current annual level of 500,000 visitors per year.

Local Chamber

Local Chambers of Commerce may also have tourism committees, Eckert adds. Many agritourism-focused groups have formed to generate traffic among member farms and food venues. Whether it's the Apple Hill Growers in the Sierras east of Sacramento, Calif., the Hood River Fruit Loop along the Columbia River in Oregon, or the Skylands of northwestern New Jersey, each group's goal is to add value to its members' farms.

For growers who lease hunting rights – a popular way to let Conservation Reserve Program (CRP), WRP and buffers pay extra dividends on conservation-oriented farms – Eckert recommends signing on with area hunting and outfitting organizations to extend networking opportunities. Farms that offer lodging to visiting hunters could also benefit from joining a local bed and breakfast association to expand listings and pick up some pointers on what overnight guests tend to expect from their experiences in the countryside, she says.

Government Funds

Cost-share money and government contracts such as CRP, WRP and Wildlife Habitat Incentives Program (WHIP) can help underwrite habitat-building efforts that could ultimately yield value-added opportunities such as hunting leases, fee fishing, trail riding, nature walks or bird watching.

Established agritourism sites such as farm stands can benefit from public money. Eckert points to



Steve Werblow

Agribusiness consultant Jane Eckert says that networking adds value to value-added farm businesses.

a New York State farm store that received a \$30,000 state grant to build new restrooms for visitors and another \$15,000 to produce and air commercials – both part of a \$1 million investment in Empire State agritourism. The first step toward landing a boost from the government, says Eckert, is making sure your state legislators and ag department officials are on your distribution lists for press releases and product catalogs.

A vital government agency for any agribusiness is the Department of Transportation. According to an American Express survey, 77 percent of vacationers plan to drive during at least part of their vacation. "Those people need to be able to find us," says Eckert. In many cases, the key link between your farm and your customer is highway signage – and that is a realm of rules and regulations that any agrimarketer needs to master.

Adding value to your farm, and to your conservation efforts, takes plenty of effort. You're not just reaching out to neighbors, or to future generations – you're reaching out to new markets that may be down the road, across a few state lines or across the ocean. Reaching those markets requires creativity and time. It also requires leverage – and that's where a world of alliances and opportunities can help.

Steve Werblow is a free-lance writer based in Ashland, Ore.

For More Information

Agritourism expert Jane Eckert, a national speaker and author, is principal of Eckert Agrimarketing (www.eckertagrimarketing.com) in St. Louis, Mo. She can be reached at Tel: (314) 862-6288 or E-mail: jane@eckertagrimarketing.com.



Jeff Deen, a cotton producer in Baxley, Ga., has declared his farm a no-plow zone.

By Angie Fletcher

Growing up in Baxley, Ga., Jeff Deen learned farming from his parents. All his life, he knew one day he would take over the family business.

In 1980, after the death of his father, Deen assumed full responsibility of the 650-acre farm (300 cultivated acres) in Appling County, which is 90 miles west of Savannah and 200 miles south of Atlanta.

Conventional farming was all Deen knew 20 years ago. In recent years, however, Deen began listening to a group of farmers in Coffee County, Ga. “The one farmer that had the most influence on me was Max Carter,” says Deen. “I saw what he was doing with conservation tillage and the results he was getting, so I made the decision to try no-till.”

Deen’s motives for making the change were simple: he wanted to cut back on the cost of farming to save money and remain profitable. “No-till allowed me to make fewer trips across the field, which meant less money and time,” he explains.

No-Plow Zone

Deen has been no-tilling cotton, with a rye cover crop, for more than four years. This spring, for the first time, he is planting no-till peanuts. Along with no-till, Deen uses nutrient and pest management as key components in his conservation system.

Deen tests the soil each year and creates a nutrient management plan so that he applies only the commercial fertilizer needed. By sampling, Deen has determined that less fertilizer inputs are required because of what the rye naturally puts back into the soil. Rye straw also reduces thrip damage (tiny insects with piercing mouth parts that can do damage to most any plant) which leads to the reduction of insecticides.

“It’s a different concept now, and no-till and management plans are part of that,” says Deen. “The old way of just slinging it out is gone,” he says, “all farming has to be precision farming.”

Deanna Deen-Reynolds, Deen’s adult daughter and the person responsible for his nomination as a Champion of Conservation, is extremely proud of her father. “Many farmers in our area have gone out of business because of the drought,” says Deanna. “But, this was his daddy’s

farm, and he isn't going to let that happen," she adds. "Farming and the land are his passions."

Deen's initial investment was minimal. From a friend of Carter's, Deen bought a used no-till planting rig "that had been in the bushes for 20 years." After a few adjustments, he was off and running with no-till. And he hasn't looked back since.

According to James Dean, state conservation agronomist with the USDA Natural Resources Conservation Service, Deen is one of the first farmers in his area to adopt conservation tillage. "He has been growing no-till cotton for a number of years, and he is hopeful more producers will follow," says Dean.

Orson Adams, president of the Coffee County Conservation Tillage Association, has known Deen for more than eight years and says, "Not only is Jeff a champion, but his wife, Michelle, is also. They participate in many conservation projects with our alliance, spreading the word about the benefits of no-till."

Shaping the Soil

Dean also praises Deen and his wife for the steps they are taking "to improve the quality of the soil by increasing the soil organic matter." Building soil organic matter helps improve the soil tilth, which can lead to increased yields and improved water infiltration (decreasing runoff).

According to Deen, it doesn't matter which way he turns the rows, the fields hold all the water. "The infiltration rate is a lot greater with no-till."

The soil improvements Deen has realized by building organic matter get better every year. "I'm told that after this year, my fifth year of continuous no-till, I will see the biggest difference," says Deen. But he is quick to point out that the last four have been pretty impressive. "Some people say they experience a yield drop, but I never did," says Deen.

"Jeff does everything he can to improve soil quality by increasing the soil organic matter," says Dean. But he doesn't keep that to himself. He is very interested in helping others make the change. According to Adams, Deen has presented at a three-day conservation tillage school in Douglas, Ga., for four years. He is an active, outspoken member of the Georgia Conservation Tillage Alliance, Inc. and the Coffee County Conservation Tillage Alliance.

Environmentally and Economically Aware

Deen is dedicated to the environmental and economical facets of farming. "He is an exceptional grower and implements all of the programs that are expected of a Champion of Conservation on his farm," says Adams.

Wildlife is an interest to Deen, as he likes to see more wildlife returning to his farm. "He is very interested in increasing the bobwhite quail population on his farm," says Dean.

Editor's Note

Champions of Conservation are producers who are true stewards of the land. CTIC recognizes producers who practice ongoing conservation stewardship to maintain and enhance natural resources and economic viability.

For more information about the Champion of Conservation award, or to nominate a producer, visit the CTIC web site at www.ctic.purdue.edu/ConservationChampion.

Deen enlisted the help of John Crane, senior forester with U.S. Forest Service, to implement a forest stewardship plan to further preserve wildlife in the wooded acres of his farm.

"Since I began conservation tillage, everything is better," says Deen, "wild turkeys, deer and especially the bobwhite quail." Once absent from his land, the bobwhite quail are back in abundance.

One of the greatest rewards Deen has realized with no-till farming is that it takes less money to produce a crop. "A no-till system could be called a poor man's irrigation," says Deen. A little water goes a long way.

A strong advocate for "doing it the right way," Deen says he is eager to share what he knows with others. "I want them to see my equipment and what I've done, and ask me questions," says Deen. "That's how I learned, and I wouldn't go back to conventional farming."

His commitment to the environment is why Deen says if he were forced to go back to the old way of farming, he'd get out of the farming business. "I'm doing good things for the wildlife, the environment and the future of our children. I'm not stirring up any dust, I'm using fewer chemicals, fertilizer and pesticides, and I like the fact that less input is good for the environment," boasts Deen.

For more information about Deen's operation, contact Deen at Tel: (912) 367-6432.

Conservation Tillage Field Demonstration

More than 52 people attended the first Appling County Conservation Tillage Field Demonstration on May 6, which was held on the farm of Jeff Deen of Baxley, Ga.

Three farmers, along with Kelley Manufacturing Co. (KMC), demonstrated conservation tillage equipment. Five speakers presented information about conservation, including Bradley Crapps, an 11-year-old boy. Bradley displayed his 4-H project – a rainfall simulator – and gave an informative presentation entitled Soil Erosion – The Silent Thief.



USDA NRCS



King of the Road

The Starrhs have hauled orchard prunings to biomass plants, but are planning to chip and spread them in the future.

By Steve Werblow

Editor's Note

This summer, thousands of farmers in California's San Joaquin Valley will formally adopt Conservation Management Practices (CMPs) to help improve air quality by reducing emissions of particulate matter smaller than 10 microns (PM10). A special San Joaquin Valley issue of *Partners* – which is available through the CTIC office – explores the outstanding collaboration among agriculture, regulators and other industries to develop practical, science-based approaches to improving air quality.

The special issue features articles on leading California growers who have already put CMPs to work on their operations – like this one, on Fred Starrh and his family.

The road to reduced dust emissions isn't always a smooth one – but on Starrh and Starrh Ranches, it's paved.

The Starrh family – Fred Starrh and two sons, two daughters and a son-in-law – grow cotton, tomatoes, almonds, pistachios and alfalfa near Shafter, Calif., on an operation that was recognized early in 2004 by the Western Farm Press and the Cotton Foundation with the High Cotton award, lauding the family's commitment to conservation. Strong proponents of road paving, the Starrhs are also on the leading edge of conservation technology such as drip irrigation in cotton, conservation tillage and chipping orchard prunings.

Put simply, dust is bad for business, says Fred Starrh. "You like to keep your crops doing their thing as best you can," he says. "Dust doesn't help with that."

Paving the Way

The Starrhs have spent more than a decade – and hundreds of thousands of dollars – spreading truckloads of a sand/oil mix from nearby oil wells to surface 33 miles of roads. "It's a long-term project, a few miles at a time," Starrh notes. "We were into the concept – reducing vehicle maintenance, reducing crop damage from dust – and we were committed to getting this process in place."

The family has invested heavily in its roads; Starrh estimates costs of the initial paving at about \$3,000 per mile, followed by \$300 to \$500 per mile in maintenance in the form of a thin follow-up coat a few years after the first. But after trying options from water to liquid dust suppressants, he believes paving pays off.

"Watering roads is a constant process," he explains of what appears to be the lowest-cost alternative, which turned out to tap his labor supply when he needed it most. "You have to have a person involved to spray it constantly because it dissipates." He says paving is "head and shoulders above" other suppressants.

A mile of unpaved road can yield a ton of PM10 in a single year. Oiling a road like the Starrhs do can reduce those emissions by 80 percent, according to John Beyer, state air quality coordinator with the USDA's Natural Resources Conservation Service in Fresno, Calif. That compares quite favorably to the use of hygroscopic dust suppressants (also called road salts), which cut emissions roughly in half for a period of three to four months, or diligent watering, which can reduce dust by well over 50 percent, he says.

Pest Control Contributions

Dust control provides a powerful boost to pest control efforts on the Starrh operation across its array of crops. Insect management, always a complicated affair in any crop, is confounded further in dusty conditions. Starrh points out that dust encourages mite populations to take hold. It also reduces the efficacy of treatment by coating plant tissue and interfering with the uptake or function of crop protection products. And insecticide applications themselves can eliminate predators that often keep mites in check naturally.

"When you have to spray for mites, you go in and disrupt the predators in the field," Starrh notes. "There are all sorts of interrelated activities that take place that create problems."

On the other hand, new weed control options in cotton have helped the Starrhs to reduce tillage, cutting dust emissions, tractor exhaust and costs. For instance, new Acala varieties with Roundup Ready traits have helped the Starrhs replace several passes with a cultivator with just one or two herbicide applications.

"The Mid-South has gone to minimum-till cotton; the closer we can get to that, the better off we'll be," says Starrh. "We're doing less disking and fewer trips across the field. And with Roundup Ready cotton, we've cut two to three cultivation passes."

Irrigation Leaders

In addition to a heavy investment in paved roads, the Starrhs have made a major commitment to drip irrigation. This year, 700 acres of their cotton and 300 acres of tomatoes are watered with subsurface drip tape.

At a cost of about \$1,000 an acre, getting into drip is not to be taken lightly. But Starrh says the outstanding efficiency of drip systems and the cost differential between well water and surface water has cut the family's annual water costs by \$150 per acre on drip acres. And because drip systems require lower pressure than sprinklers – 40 pounds per square inch (psi) versus 80 to 90 psi – the Starrhs can reduce fuel consumption and exhaust when

pumping water for their drip systems.

To further reduce the impact of the irrigation pumps that keep their farm alive, the Starrhs have replaced 60 diesel engines with the help of the state's Carl Moyer Program, which can cover the difference between conventional engine technology and low-emission models.



The Starrhs have replaced 60 diesel irrigation pump engines with cleaner-burning models like this one, reducing emissions of PM10 and nitrogen oxides.

Fine-Tuning Fine Chips

To reduce the emissions of microscopic particles smaller than 10 microns in diameter (PM10) that are associated with post-harvest burning of pruned branches in their almond orchards, the Starrhs also participated in a state program that subsidized the use of chipped orchard material in biomass-to-energy plants.

However, Fred Starrh says they're also looking at chippers and flayers that could render prunings small enough to decompose in the orchard before the next harvest. That would minimize the chance of sweeping up wood chips that contaminate the almonds, rendering hulls unsaleable as cattle feed and taking the value out of an important by-product of the hulling process.

Starrh says he would prefer to spread his wood chips rather than haul them, if possible. He explains that although incentives for biomass succeeded at least in part in reducing the costs associated with shipping wood chips off to energy plants, the biomass effort creates a fragile balance. "To me, there's a tradeoff in energy," he says. "By the time you've put the energy into chipping it, loading it into a truck, and hauling it 60 miles, you've lost the benefit."

As is true with all of the PM10-reducing efforts, says Starrh, "we have to make this thing work as an environmental enhancer and have it make sense economically."

For more information on air quality issues in the San Joaquin Valley and the innovative steps Valley producers are taking to clear the air, visit www.valleyair.org.

Steve Werblow is a free-lance writer based in Ashland, Ore.

Feature Member

The *Corn and Soybean Digest* is a publication for the corn and soybean markets that supplies useful information for producers to maximize production and marketing for profit.

Ron Sorensen, publisher of *The Corn and Soybean Digest*, has been involved with CTIC since 1994. He has participated in several committees, served on the board of directors and was recently elected as the secretary of the board. He shares with *Partners* his perspective on CTIC membership and agricultural conservation.

How long has *Corn and Soybean Digest* been a member of CTIC?

The Corn and Soybean Digest has been a member of CTIC for more than 12 years.

What past trends have you seen in the agricultural industry?

The major trends are increased average acreage size of farms, increased ownership of farmland by non-farmers, with more farmers renting, and the increased adoption of Global Positioning System technology and guidance systems.

What future trends do you see in ag conservation?

Future trends will include increased adoption of no-till, especially in soybeans, and slowing of the adoption rate of no-till in corn.

How can CTIC best fit into the picture?

CTIC can best help the adoption of good conservation techniques by knowing and reporting on adoption rates for conservation technology procedures and being an advocate for these. It must be the resource for answers to questions decision makers have about conservation.

For information about *Corn and Soybean Digest*, visit Web: www.cornandsoybeandigest.com; Tel: (952) 851-9329; or Fax: (952) 851-4601.



All Expenses Paid

Know Your Watershed Scholarship Available

The Conservation Technology Information Center's Know Your Watershed program is offering a scholarship to a two-week watershed partnerships training seminar titled, "Collaboration for Environmental Decision Making." The course, presented by the Federal Executive Institute and Management Development Centers, emphasizes community-based partnership building and decision making in a watershed framework. Through classroom instruction, small group exercises and hands-on experiences, the course covers leadership, communication and problem solving skills; technical information; group dynamics and regulatory program information.

Bringing together a diverse mix of professionals from varying backgrounds, organizations and geographic areas provides excellent opportunities for networking and relationship building.

The Know Your Watershed scholarship will cover the \$3,900 tuition fee, which includes lodging and meals, as well as all travel expenses. The training will be held in Denver, Colo., on Nov. 8-19.

More information on the course is available at www.leadership.opm.gov/content.cfm?cat=WP. The scholarship application is available on the Know Your Watershed web site at www.ctic.purdue.edu/kyw and must be submitted by Aug. 31.



Healthy Water, Healthy People

Project WET and Hoosier Riverwatch announce advanced training featuring "Healthy Water, Healthy People." This program uses innovative, interactive activities and materials to demonstrate critical water quality topics. Participants will receive the HWHP Educators Guide and Water Monitoring Test Kit Manual, valued at \$40. Workshops are free of charge, but are limited to 30 participants.

For more information, contact Susan Schultz, Project WET Coordinator, E-mail: nrec@dnr.state.in.us or Tel: (317) 562-1338.

Purdue University Offers New Conservation Tool

Land managers can gain insights about improving and fine tuning their farming operations by taking 30 minutes to complete a self-guided quick check of agricultural field practices. The quick check assessment is part of a new publication from Purdue University, "Field Assessment for Water Resource Protection," and is available at www.ecn.purdue.edu/safewater/field or by calling 1-888-EXT-INFO. Topics covered include Nutrient Management, Pest Management, Soil Conservation, Drainage and Irrigation Management, and Areas Adjacent to Fields.

Supporting materials include a farmer-tested monitoring method, "On-Farm Soil Monitoring for Water Resource Protection." This publication and video covers five soil quality indicators that affect field productivity and environmental quality. This type of monitoring can take as little as 20 minutes per field site on an annual basis, yet provides instant and valuable feedback on how field practice changes are affecting soil and water quality.

For multiple copies to use in projects and at meetings, contact Brent Ladd, water quality specialist, Agricultural and Biological Engineering Department, Purdue University, 225 S. University Street, West Lafayette, Ind. 47907; Tel: (765) 496-6331.



USDA-NRCS

PNDSA Hosts CTIC Summer Board Meeting

The Pacific Northwest Direct Seed Association is hosting the CTIC Board of Directors summer 2004 meeting June 8-10 in Lewiston, Idaho. Thank you, PNDSA.

The three-day event begins June 8 in Spokane, Wash. Attendees will begin a tour of the area on June 9, which will lead to Lewiston, Idaho, where the board meeting will take place. Once final board discussions wrap up on June 10, participants will finish the tour and arrive in Spokane in the late afternoon.

Contact CTIC with questions at Tel: (765) 494-9555 or ctic@ctic.purdue.edu.

Partners Survey

Partners Magazine just keeps getting better. *Partners* is now available in two forms: printed or electronic, attached to an E-mail message.

Which do you prefer? Printed _____ Electronic (print current E-mail address) _____

In order to continue to provide useful information **to** you, we request information **about** you.

1. What is the name of your organization? _____
2. What is your primary job function? _____
3. Have you visited the CTIC web site (www.ctic.purdue.edu)? _____
4. Which topics covered in *Partners* interest you most? _____
5. What topics would you like to see addressed in the future? _____
6. Is the information you read useful? _____
7. Do you share *Partners* with other people? If so, how many? who? _____
8. Do you know someone who should be a member of CTIC? Please tell us how to contact them. _____

Submit the completed questionnaire to Karen Scanlon, communications director, Fax: (765) 494-5969; or E-mail: scanlon@ctic.purdue.edu or visit www.ctic.purdue.edu/survey to complete the survey.

ALLIANCE HIGHLIGHTS

Agriculture for a Clean Environment (A.C.E.) is a non-profit group of local farmers in the Stillwater River Watershed in Ohio. The mission of A.C.E. is to promote environmentally sound practices in the production of a safe, stable and economic food supply for present and future generations.

The alliance received a \$1,200 Core 4 Conservation Alliance grant to host Fetters Test Plots and Field Day Sept. 1 at Fetters Farms, located outside of Laura, Ohio. The event is an opportunity for producers to compare no-till and conventionally tilled plots and to learn various techniques and benefits of no-till practices. The intent of the test plots and field day is to provide land-owners and operators the opportunity to see the environmental benefits of no-till and learn how to implement no-till farming on their land. A free pork chop dinner will be available as well as a guest speaker who will talk about conservation practices in the Stillwater River watershed.

A.C.E. is also helping sponsor the 5th Annual Stillwater River Trash Clean Up scheduled for June 18. The clean up takes place on the Stillwater River from Pleasant Hill, Ohio to

Agriculture for a Clean Environment



Martin Shipitalo, earthworm expert with the Ohio Natural Resources Conservation Service, lectures to more than 50 participants at the North Appalachian Experimental Watershed (NAEW) in Coshocton, Ohio.

Aullwood Nature Center located in Englewood, Ohio.

The current officers of A.C.E. are Jeff Wuebker, President; Tim Rhoades, vice president; and Tim Warner, secretary/treasurer.

For more information about the alliance, contact Nicole Reese, E-mail: nreese@myvine.com.

DELTA CONSERVATION DEMONSTRATION CENTER

With the Core 4 Conservation Alliance grant received last year, the Delta Conservation Demonstration Center has been active in conservation outreach efforts, including: educating civic clubs and agricultural groups about conservation; participating in the Master Farmer Program, which was highlighted in the November-December 2003 issue of *Partners*; touring with economists from experiment and research stations from Arkansas, Louisiana and Mississippi; conducting Natural Resources Conservation Service training sessions for new employees from 11 states; and training the Mississippi Soil Conservationists.

The DCDC promotes *Better Soils, Cleaner Water, Greater Profit* and a *Brighter Future* for agriculture at every opportunity. Sam Newsom, chairman of DCDC, says, "God did not make muddy water, Man did." DCDC representatives use this statement with their message of no-till, conservation tillage and stewardship in all meetings they attend.

For more information about DCDC activities, contact Hiram Boone, E-mail: hboone@dcdcfarm.org; or Tel: (662) 332-8616 Ext. 3.

BLACKLAND CONSERVATION TECHNOLOGY ALLIANCE

The Blackland Conservation Technology Alliance is creating a video that features conservation tillage equipment used in the Texas Blacklands and farmer testimonials of how conservation tillage is working for them.

The annual Stiles Farm Foundation Field Day is scheduled for June 15 in Thrall, Texas, hub of the Blackland Conservation Technology Alliance. There will be demonstrations of strip-till rigs and crops that were planted with them. There will also be discussions on biotechnology, fertilizer placement, and insect and weed control.

For more information about the BCTA, contact Charles Wade, NRCS, at Tel: (254) 697-3692 or E-mail: charles.wade@tx.usda.gov.

For assistance in starting an alliance in your area, contact Karen Scanlon, CTIC, E-mail: scanlon@ctic.purdue.edu; or Tel: (765) 494-9555.

CONSERVATION AGRICULTURE

North Dakota's Conservation Agriculture alliance conducted on-farm meetings this spring. Special attention was directed toward the interpretation of soil tests and how to cut fertilizer costs.

One of the demonstration farmers secured a Sustainable Agriculture Research and Education (SARE) grant to perform field tests on three cover crops. The first cover crop, hairy vetch, will be flown onto one test plot immediately after the last spray application, and seed will be planted on the other two test plots immediately after harvest. The goal of the research is to find a cover crop that best takes up excess moisture and puts down the most nitrogen, while providing additional cover and organic matter.

Several demonstration farmers are contemplating using seeding equipment to put fertilizer down in the fall in order to get nutrients in place without disturbing fields more or buying additional equipment. It is all a question of conservation of residue and input expense.

Conservation Agriculture has published an interim report of the findings of the project data gathered over the past three years. The report has important information about a new or revised system of delivering and compensating farmers for conservation practices, which provide environmental benefits to achieve the three characteristics of sustainability: economic, social and environmental factors.

To receive a copy of the report contact Sharon Clancy, E-mail: Sharon.clancy@nd.nacdnet.net; or Tel: (701) 662-4088 ext.123.

UPPER SUWANNEE CONSERVATION TILLAGE

More than 40 people participated in a field day on April 27 on the farm of Bob Rawlins in Rebecca, Ga. The field day was co-sponsored by the Upper Suwannee Conservation Tillage Alliance. Topics discussed included conservation tillage as a system approach, organic production, soil structure, soil health, past experiences with vegetable production, legume cover crops in vegetable production, in-field viewing of current watermelon production and new innovative equipment used in conservation tillage vegetable production.

The Upper Suwannee Conservation Tillage Alliance (USCTA) is a farmer group organized in 2000. USCTA promotes and provides education to farmers in their efforts toward conservation tillage. Conservation tillage is environmentally friendly in that it results in less soil erosion, less fertilizer and pesticide runoff, and lower input expenses. The USCTA provides educational programs, and materials, such as this tri-fold brochure about the benefits of conservation tillage, as well as assistance for farmers working to improve their efforts toward reducing tillage.

For more information about the Upper Suwannee Conservation Tillage Alliance, contact Scott Utley, E-mail: siutley@uga.edu.



KANSAS ALLIANCE FOR WETLANDS AND STREAMS (KAWS)

The Kansas Alliance for Wetlands and Streams, Inc. (KAWS), a non-profit organization formed in 1996 to promote the value of wetlands and streams, held its annual meeting May 26 at the First Baptist Church, corner of Lincoln and Washington Streets, Lindsborg.

Presentations included: private land wetland developments in the Cheney Lake area that were installed to improve water quality and wildlife habitat; an innovative pilot conservation easement program designed to compliment USDA's buffer programs, as well as a description of a series of alternative water supply and fencing projects to improving livestock performance and protect water quality; and an overview of a proposed project for Frazier Park in Ulysses, which uses treated city waste water to circulate through the city park system making an abundant water supply available for aesthetics and recreation in an arid area.

The group also heard from the U.S. Army Corps of Engineers, Kansas City District, about funding opportunities for stream and wetland restoration along the Smoky Hill River and other river basins. In addition, they toured a stream restoration site along the Smoky Hill River, along with sites in need of repair.

For more information, contact KAWS at Tel: (620) 241.3636 or visit www.kswetlands.org.



Photos courtesy of KAWS

This steeply eroded bank, which contributed hundred of tons of sediment and high nutrient loads to the Smoky Hill River near Marquette, has been treated with rock vanes and weirs to curb bank erosion. The site is stabilized, and sediment and nutrient loading is reduced to near zero.

SUPPORT CTIC

Conservation Technology Information Center (CTIC) is a nonprofit, public-private partnership, established in 1982 under the charter of the National Association of Conservation Districts. CTIC is independently funded by memberships, government agencies, foundations, product sales and subscriptions.

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DID YOU KNOW?

1996 - the first biotech crop was introduced*

167 million - number of acres, in 18 countries, planted with biotech crops in 2003*

46% - of all corn acres in U.S. will be planted with biotech in 2004

86% - of all soybeans in U.S. will be planted with biotech in 2004

76% - of all cotton in U.S. will be planted with biotech in 2004

2003 - first biotech rootworm introduced

28% - yield increase realized with biotech rootworm resistant corn over traditional varieties in areas with typical rootworm infestations

\$75/acre - savings when biotech rootworm-resistant corn planted instead of traditional varieties

*International Service for the Acquisition of Agri-biotech Applications (ISAAA). All other statistics from NASS - 2004- NASS Cropping Intentions (<http://usda.mannlib.cornell.edu/reports/nassr/field/pcp-bbp/pspl0304.pdf>)