

"Helping People Help the Land"



California

SUMMER
2006

CURRENT DEVELOPMENTS

**'Partners in
Conservation' Feature:**

North! Central! South!

**Conservation Tillage
Setting Roots
in California**

Plus!

Up Front With Ed Burton

Area I-IV News

Community Stewardship Project Gets Rolling

Rixon Rafter Honored

So. Calif. Farm Bill Convergence

Jim Kimmel: "Thanks, Guys!"



with Ed Burton

State Conservationist

You've probably heard me say it before, but I'll say it again... conservation planning really pays off! I recently saw a great example of this in Modoc County that I'd like to share with you (*see the full story on page 3*).

A cattle rancher wanted to improve water efficiency on 170 acres where he had been using leaky, open irrigation ditches and a diesel pump to water his pastures. Forage production had been low, and

there has been no production on one of his fields for the last two years.

The landowner applied for EQIP cost-share assistance with the idea of installing a pivot sprinkler system. NRCS evaluated the site and inventoried the resources. After developing a conservation plan and discussing goals and various options with Soil Conservationist **Larry Flournoy** and Engineer **Tom Hill** from our Alturas office, the rancher decided to replace his ditch system with low head irrigation pipe instead.

Through the planning process, the rancher discovered that on his level, border-checked fields the low head pipeline has many advantages over the pivot sprinkler. Although the pivot system would have had roughly the same installation cost, maintenance costs over the long haul would have been considerably more. Parts wear

out. Energy costs for a high-pressure sprinkler system would have been much higher as well. Also, the low head system will be about 30 percent more water efficient than sprinklers in getting water to the root zone, and possibly more than that on a windy day.

The landowner estimates that by following his conservation plan, his income from these acres will increase by 30 to 40 percent. And with the increased water efficiency, he's even decided to grow some alfalfa, boosting his income even further.

I'm extremely proud of the integrity and expertise that our people bring to the planning process, helping landowners access their needs and goals and make the right choices. Planning is the cornerstone of good conservation. It's what we're good at! And it's one of the very important ways we are **Helping People Help the Land!**

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On the Cover

"Welcome to the Newest RCD/NRCS Office" (July 2006): State Conservationist **Ed Burton** (right) attended the new office open house in Fort Dick, Del Norte County, on July 13, along with **Andrea Souther** (center), the new District Conservationist at Fort Dick, and Del Norte RCD Chairman **Steven Westbrook**.

Photo: Dave Sanden | Design: Jim Cairns

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Community Stewardship Project Gets Rolling

This summer saw the first forest health and fuels-reduction activities take place within the Weaverville Community Forest under a cooperative stewardship agreement that is the first of its kind in the nation.

The 990-acre community forest developed from what began seven years ago as a citizens' protest against a proposed land exchange from U.S. Bureau of Land Management (BLM) management ownership to a large private timber company.

Concerned about protecting the Weaverville viewshed on the southwest side of town from the visual impact of logging, the Trinity County Board of Supervisors joined with the community in asking the Bureau of Land Management to delay the exchange while alternatives were developed.

In 2003, the Trinity County Resource Conservation District (TCRCD) Board of Directors, in partnership with the local NRCS office and the Trinity RC&D Council, explored ways to manage these federally held lands. In mid-2004, this collaborative approach with broad community support led to the use of a new federal tool, Stewardship Contracting, to manage the lands as a community forest.

The resulting 10-year stewardship contract between BLM and TCRCD calls for BLM to retain ownership of the land and for the RCD to manage it with a focus on maintaining and improving forest health and other environmental stewardship projects.

Although there are other stewardship agreements between big agencies like BLM and U.S. Forest Service, "this is the first cooperative arrangement between BLM and a teeny, little entity like us, and this is the only one that is community driven," said TCRCD's District Manager, **Pat Frost**.

The first management projects began this summer, including a forest health project on 200 acres adjacent to Weaverville that will produce 409,000 board feet of merchantable lumber. The timber will be sold to the local mill to help sustain local jobs and the community. Funds generated after project costs will pay for subsequent management projects that meet the objectives of the stewardship agreement and community goals.

"Although no forest is fire proof, the focus of phase 1 is to make the forest as fire safe as possible," said District Conservationist **Jim Spear**. "The Initial work is being done nearest to existing homes."



The Weaverville Community Forest Stewardship Project is a community based effort led by Trinity County RCD to manage federally held lands to promote forest health and sustained timber management, protect the community from a severe wildfire threat, protect viewsheds, protect and enhance wildlife habitat, eradicate invasive weeds, provide opportunities for education and recreation, and help an ailing local economy. Photos: Trinity County RCD

New RCD Has Ribbon Cutting Ceremony

Representatives from NRCS and Del Norte RCD joined hands, both physically and symbolically, during a ribbon cutting ceremony and open house for the new RCD on July 13 at the Lake Earl Grange Hall in Fort Dick.

The ceremony, which attracted many visitors, was a humble but solid beginning to the district's mission of *Helping People Help the Land* in Del Norte County.

The RCD shares space in the grange hall with the local Farm Bureau office and the new NRCS partnership office.

Del Norte County first established the RCD in August 2005. The district is already active in critical areas of pasture enhancement, agricultural enhancement, river protection, management of Aleutian geese, water quality, control of noxious weeds, improvement of stream bed embankments, and technical assistance.



District Conservationist **Andrea Souther** and Del Norte RCD Chairman **Steven Westbrook** cut the ribbon to officially open the new partnership office in Fort Dick. Photos: Dave Sanden

Pipeline & Planning Save Rancher Plenty

Peter Carey, a Modoc County cattle rancher who wanted to increase irrigation efficiency on 170 acres used for pasture, applied for EQIP in 2005. His system of open ditches used for flood irrigation lost a lot of water through leakage because of the permeable soil, and his diesel pump was costing more than ever because of rising fuel prices. Also, it took a long time to get water on the fields.



Initially, Carey wanted to install one or two pivot sprinklers and an electric pump. This would have saved water and had some other benefits, but after NRCS evaluated the proposed site other aspects were discovered. Through the conservation planning process and after careful consideration of all of the possibilities, issues, benefits, and goals, Carey came to the conclusion that a low pressure pipeline flood system (with the electric pump) had much more to offer.

"The pipeline will improve water efficiency and improve water quality while having much lower operating and maintenance costs than a high-pressure pivot system," said Soil Conservationist **Larry Flournoy**. "Energy costs alone would be about \$160 per day to irrigate with a pivot sprinkler. With flood the cost is only \$15," he said. Pest control is another benefit. Ground squirrels (a major problem) tear up the ground and ruin forage plants and crops. "Flood irrigation will keep the squirrels out of the fields, saving \$6 to \$10 per acre in control measures," Flournoy said.

"It used to take eight hours just to get water to my fields," Carey said. "And it took over three weeks, pumping day and night, to irrigate," he added. "Now, I'll be able to get water on the fields in 15 minutes, and irrigation will take just seven days. "There will be savings on everything you can think of!"

Ed Burton Tours Area 2



Left to right: Area 2 ASTCFO Daniel Mountjoy, Jesus Castillo, Monica Barricarte of Cachuma RCD, Ed Burton, Dawn Afman NRCS, Adriana Morales, and Executive Director Tom Lockhart of Cachuma RCD. Photo: Jeff Raifsnider

During his tour of Area 2 through the week of June 5, 2006, NRCS State Conservationist **Ed Burton** accompanied local staff to several sites, including **Jesus Castillo's** strawberry operation (above). Burton's tour included visits with field staff, partners, farmers and ranchers throughout Area 2. NRCS DC **John Bechtold** of Santa Barbara County told Ed that he was the first State Conservationist to tour his service area, since he started working there in 1995. Bechtold said, "Ed's visit demonstrates his commitment to the field."

Area 2 Honors Volunteer Rixon Rafter



Left to right: Rixon Rafter, Daniel Mountjoy and Robert LaFleur. Photo: Jeff Raifsnider

Rixon Rafter is the Area 2 Earth Team Volunteer of the Year. Since retiring from NRCS with more than 40 years of service on January 3, 2003, Rixon has volunteered more than 3,363 hours as an Ag Engineer. Area 2 ASTCFO **Daniel Mountjoy** presented the award to Rixon and presented DC **Robert LaFleur** a certificate for 15 years service.



Left to right: Rixon Rafter, Ed Burton, and Cheryl Lambert of NRCS, Executive Director Mark Silberstein of the Elkhorn Slough Foundation, Daniel Mountjoy of NRCS, and ALBA Executive Director Brett Melone inspect a field trial plot for grasses at the Triple M Ranch managed by the Agriculture and Land Based Training Association (ALBA). Photo: Jeff Raifsnider

East Stanislaus RCD Workshop & Tour



Left to right: Diane Holcomb, Charles Davis, Daniel Mountjoy of NRCS, participant Ray Kablanow, Dr. Jeffrey McGarvey, ARS, and Walt Cheechov, NRCS. Photo: Jeff Raifsnider

East Stanislaus RCD cosponsored a workshop and tour of Phototrophic Dairy Lagoons with the California Dairy Campaign and Yosemite Farm Credit on June 13, 2006, in Stanislaus County. Dairy farmers and resource professionals heard presentations on the science of phototrophic lagoons before touring four local dairy farms. Speakers included Microbiologist Dr. **Alan DiSpirito**, Iowa State University; ARS Microbiologist Dr. **Jeffrey McGarvey**; Air Quality Specialist Dr. **Frank Mitloehner**, UC Davis; Soils and Water Specialist Dr. **Charlie Krauter**, Fresno State University; **Joe Mullinax**, Denele Labs in Turlock; and East Stanislaus RCD Chairman **Sherman Boone**.



Chop, strip-till, and plant within hours. Photo courtesy of Jeff Mitchell.

Since the 1930s, tillage management in California's annual cropping systems has changed relatively little. Following the harvest of one crop, soil is typically worked or prepared through a series of tillage operations before the planting of a subsequent crop. The success of these intensive tillage systems has contributed to California's high agricultural capacity during this time. Recently, however, a number of factors are converging that result in interest in production practices that minimize tillage operations. Rising fuel prices, farm labor shortages, and regulations targeting air and water quality and greenhouse gas emissions are among the major factors that have spawned interest in what are generally called "conservation tillage" systems.

Conservation tillage (CT) has become an important management tool in sustainable crop production systems throughout the world. The term "conservation tillage" has been defined in a very wide variety of ways during the past 70 years of its use. Throughout much of the U.S., it designates crop production systems that maintain a minimum of 30 percent soil cover after planting, or a minimum of 1,120 kg ha⁻¹ of flat, small grain residue equivalents on the soil surface throughout the critical wind erosion period. A number of rather well documented and publicized benefits derive from CT production systems, including reduced soil loss due to water and/or wind erosion; increased water infiltration and soil water storage; reduced labor, fuel and equipment use; improved soil tilth; increased soil organic matter; and improved water and air quality.

The collective advantages of CT correspond to widespread adoption. Recent global estimates of 72-million ha were under no-till during 2001–2002. This estimate includes about 50 percent of the cropland in Brazil and Argentina, 45 percent in Australia, and 20 percent in the U.S. Tillage system surveys in the U.S.

WHY CONSERVATION TILLAGE? WHY CALIFORNIA? WHY NOW?

By Jeff Mitchell¹, Robert Fry², John Beyer³, Ron Harben⁴, Rita Bickel⁵, Rob Roy⁶

¹University of California, Davis; ²NRCS, Davis; ³NRCS, Fresno; ⁴California Association of Resource Conservation Districts; ⁵NRCS, Davis; ⁶NRCS, Madera

since 1900 indicate a general downward trend for conventional tillage and a steadily increasing trend for no-tillage (CTIC, 1990–2004).

Current estimates of CT adoption in California are far lower at about 2 percent in 2004, up from 0.5 percent in 2002. Reasons why adoption of CT practices have not occurred as quickly in California include the fact that erosion control has not been as much of a driver for CT here as in other regions, CT equipment has not been available locally—until very recently, and difficulties associated with surface irrigation in high residues that tend to accumulate in CT fields. In California, a broad and rather adaptable model or definition of CT has emerged across a broad range of crop production systems that reduce or eliminate primary, intercrop tillage operations of disking, plowing, ripping and chiseling, and that manage residues in ways to enable efficient and successful planting, pest management and harvesting.

California's University of California and NRCS Conservation Tillage Workgroup has tracked a steady and dramatic increase in interest in CT alternatives over the past 8 years. The Workgroup itself has grown from a handful of founding members to well over 600 affiliates today. In recent years, successful CT innovations have been documented in dairy forage, tomato/cover crop and cotton systems in the Central Valley, with the greatest and most widespread adoption activity currently underway in San Joaquin Valley dairies.

Up-to-date information on CT in California is available at the UC/NRCS CT Workgroup's Web site at <http://groups.ucanr.org/ucct/>.



Wheat into corn stubble. Photo courtesy of Jeff Mitchell.



AS GROWERS GAIN EXPERIENCE, CONFIDENCE IN CONSERVATION TILLAGE GROWS

By Ladi Asgill, Sustainable Conservation



Standard (left) vs. conservation tillage field operations. Photo courtesy of Sustainable Conservation.

The Giacomazzi Dairy located in Hanford, Calif., is now well into its third season of using conservation tillage (CT) methods to grow forage for its herd of 850 Holsteins.

They experimented with 20 acres under CT in 2005, while continuing to farm the rest of their 260 acres using standard tillage practices. Corn yield was 32 tons per acre from the standard tillage field, but an impressive 36 tons per acre from the CT field. Not only did the CT yields out perform the standard tillage yields, the CT crops cost less to produce. Giacomazzi reduced tractor passes on the CT field from 11 to three, saving money on labor, fuel and equipment maintenance.

Results from 2005 convinced manager Dino Giacomazzi to commit an additional 150 acres to CT this spring. The term “conservation tillage” encompasses a variety of reduced tillage techniques. Giacomazzi is using a technique called strip tillage, where only a narrow strip where the seed is planted is tilled, leaving the majority of the field undisturbed.

With this approach, the need for a ripper, disk, lister, cultivator, and planter used in standard tillage is significantly reduced. A strip tiller and planter can now accomplish most of those tasks.

Giacomazzi explains that much still needs to be learned in order to fine tune his farming

methods. However, Giacomazzi is getting a head start on the learning curve with this year’s crop.

He is partnering with Dr. Jeff Mitchell, a University of California crop specialist and head of the Conservation Tillage Workgroup, to conduct extensive CT trials on his dairy. Together, they are evaluating several different types of strip tillage equipment from Orthman, Case, and Bingham.

Giacomazzi is also evaluating the impact that equipment changes have on timing for farming operations, including issues such as weed management. With CT, it is critical to address weeds prior

to stand establishment.

Giacomazzi is now considering the purchase of a spray rig in order to better control herbicide application. With CT, a one-time spray application by a contractor tends to be less effective since weeds emerge at different times.

While CT has obvious advantages, Giacomazzi notes that growers will have to devote attention in learning how to integrate this system into their dairy operation.

For more information about CT, Sustainable Conservation’s activities and their recent accomplishments, visit their Web site at www.suscon.org.



By Rebecca Challender
Water Quality Specialist/Davis

Conservation tillage refers

to a number of strategies and techniques for establishing crops in the previous crop’s residues. These residues are purposely left on the field to reduce soil erosion, improve soil tilth, and increase water conservation.

While taking advantage of these benefits, there is also the potential for saving energy and reducing fuel costs. An

estimated 3.5 gallons of diesel fuel per acre could be saved by switching from conventional tillage to no-till.

Doubling no-till acreages from 62 to 124 million acres nationwide could save 217 million gallons of diesel fuel.

The Natural Resources Conservation Service (NRCS) has developed an Energy Estimator that can give farmers and ranchers a fast idea how much money they can save on energy costs by using conservation tillage.

The Estimator compares the potential energy savings between conventional tillage and alternative tillage systems.

Producers enter their zip codes to receive a sampling of predominant crops grown in their area. These crops were identified as having the greatest harvested crop acreage in the area identified by the zip code.

They may not be the most common crops in the immediate neighborhood, but are the most significant crops grown in the area shown by the map that will appear.

After entering the number of acres grown for a crop(s), or the crop listed that is closest in

production to that crop, the tool estimates fuel consumption. The fuel use estimates are based on per acre uses found for typical cropping systems in the area.

These estimates are based on average conditions for field, equipment, applications, and crop yield.

The last step is to estimate fuel costs potential savings by entering a fuel cost per gallon. Using \$3/gallon, a table is generated estimating potential fuel savings using different tillage practices:

The Energy Estimator Tool for Tillage can be found on the Web at <http://ecat.sc.gov.usda.gov/>.



CONSERVATION TILLAGE (CROP RESIDUE MANAGEMENT): USDA-NRCS EXPERIENCES IN YOLO COUNTY

By Phil Hogan, District Conservationist/Woodland

With low profit margins, higher input costs, closing processing plants, increasing market pressures and competition for land from urban development, growers in Yolo County are facing a difficult time staying in business. In fact, during crop years 2005 and 2006, hundreds of acres of row crop ground have been converted into almond and walnut orchards in Yolo County. The remaining growers that are farming row crops are working hard to remain successful by adopting innovative practices to increase their efficiencies. Conservation Tillage (CT) is just one of those practices, and holds large potential to help keep input costs low and meeting environmental regulations as far as water quality runoff and air quality improvement. However, CT cannot be looked at as a separate practice, but must be planned into an overall conservation system (Resource Management System) for the farm. Anticipated problems with CT can thus be avoided, and unanticipated problems that arise can be mitigated for with as little adverse impacts to the farming operation as possible.

One of the investments that many growers are making is in CT. For the past four or five years in Yolo County, casual observances indicate that many more fields are having crop residues left on top of the soil surface after summer and fall harvests. These growers have said that they can no longer afford the diesel fuel and maintenance costs of the tillage equipment after incorporation of crop residues and seedbed preparation for next spring. The conservation benefits are incidental in many cases, but real. More rainfall is able to be absorbed into the soil, resulting in less runoff.

Crop Residue Management is currently a cost-shared practice in Yolo County through the Environmental Quality Incentives Program (EQIP). More growers are starting to look at this practice to incorporate into their conservation plan and EQIP contract as they realize there is substantial risk when switching from a conventional tillage system to a reduced tillage system.

For growers that are looking for that one “silver bullet” to lower costs and improve the natural resources on their farm, there really is none. The use of CT as a stand-alone practice will contribute greatly to solving problems in some cases and in some locations, but not in all. The incorporation of this practice into the overall farming system will be much more effective if done at, what NRCS terms, a “Resource Management System” (RMS) level.

Up until the last few years, there has been the perception that very little specialized equipment is available for growers in California to use for CT. Our state’s wide variety in soils, crops and climate have made it difficult for companies to justify development costs for limited market areas for their products. However, that is beginning to change, and along with the innovation that California growers are known for, standard tillage equipment is increasingly being adapted for farm-specific conditions.



Figure 1: More growers are leaving crop residues on the field instead of total incorporation into the soil.



Figure 2: Clean-tilled fields that are bedded up in the fall result in more runoff during the winter and increased costs for the grower.



Figure 3: Damage buried drip.



Figure 4: High crop residue levels left with Conservation Tillage (on left), as compared to conventional tillage (center).

All photos courtesy of Phil Hogan.

One grower with a newly installed buried drip on a heavy clay soil has recently reported of damage to the drip system from mice. In a crop rotation where a crop like corn or wheat leaves a lot of crop residue, it has been found that the heavy clay soils, upon drying out and cracking, have mice entering the cracks in the soil and chewing on the drip line. This grower had been showing a great example of how CT was integrated with other conservation practices on the farm within a RMS framework. However, with the combination of the heavy clay soil, buried drip, and a crop within the rotation that leaves large amounts of surface residue, this grower will have to re-think the crops in his rotation, and spend more money on pest control.

Tomatoes do not leave a high volume of crop residue like wheat or corn. Following harvest, even a few secondary tillage operations leave practically little or no crop residues. A grower near Woodland has been successful in using tillage implement called a Wilcox Performer. It is evident when comparing the residue remaining on the field (Figure 4) and the residue level with a conventional operation how this implement helps to achieve desired crop residue levels. The Wilcox Performer does not invert the crop residue and bury it. Crop residue levels after harvesting processing tomatoes have reached 45 percent field cover after one pass with a flail mower and one pass with the Performer. Investing in this equipment is a risk that the grower takes when switching to a conservation tillage system. NRCS’s EQIP program helps to take some risk away from the grower through the incentive payment. As the cost of both environmental regulations and fuel increase, this practice will be increasingly used to help growers use the land sustainably.



FOUR FARMERS HELPING TO SPREAD CONSERVATION TILLAGE STATEWIDE

By Anita Brown
Public Affairs Director/Davis

Four farmers who are pioneering conservation tillage techniques in California joined UC Researcher Jeff Mitchell for a public forum and discussion on August 8, in Sacramento. Tom Barcellos, Andy Zylkstra, Jim Couto and Dino Giacomazzi told an audience of the *International Conference on the Future of Agriculture: Science, Stewardship and Sustainability* about their experiences, motivations, trials and successes relative to decreasing tillage in their row crop settings.

Each producer talked about their unique set of management, rotations and equipment that are working for them in their particular set of circumstances.

Each story was different and seemed to draw from the unique combination of necessity and homegrown innovation peculiar to that farm and farmer.

While Barcellos has made a significant investment in a GIS-driven planter, Zylstra is still using Jeff Mitchell's university equipment; while Barcellos says the learning curve was relatively painless, Couto says he "didn't leave the ranch for two years" while working out the kinks, such as getting irrigation water to flow evenly through the field (which he has now worked out successfully). Mitchell says such differences are normal and simply points out that each grower needs to find the system that works for them.

There are, however, commonalities. For instance, all

say that the savings in fuel, labor, and equipment are significant. "The savings are huge," says Couto—who estimates saving \$130/acre using conservation tillage (CT). All agree that the savings are almost certainly going to grow as costs continue to climb. They also noted benefits in air and soil quality.

Barcellos, Giacomazzi and Zylstra are all dairy farmers and raise silage and winter grains, a system that Mitchell says is especially well suited to CT. All three practice triple cropping which is made more doable with CT shortening the time between harvest and planting.

Giacomazzi says he is working on a nutrient management plan for his dairy and that CT and triple cropping are part of a system that allows him to completely forgo commercial fertilizer while safely using the lagoon water from his dairy.

All four have participated in the NRCS Environmental Quality Incentives Program (EQIP). Zylstra says that the \$30/acre incentive payment for CT offered in his county equates to giving him a three ton per acre buffer to keep risks reasonable while getting his system performing at its best.

Finally, all four seem to be naturally given to innovation—from experiments with a new double row stalk placement by Giacomazzi to hydrogen power engines by Couto. No doubt that was part of what made them give CT a chance. Now they are providing examples of how CT can work in California and encouraging others to give it a chance.



Dino Giacomazzi, Hanford, Calif.



Tom Barcellos, Tipton, Calif.



Jim Couto, Kerman, Calif.



Andy Zylstra, Turlock, Calif.

CONSERVATION TILLAGE BENEFITS IMPROVED SOIL HEALTH

By Glenn Stanisewski, SSURGO Coordinator/Davis

Conservation tillage helps improve the physical, chemical, and biological health of a soil, referred to as Soil Quality. Soil Quality is defined as "the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation" (Karlen et al, 1997).

The soil properties that are directly influenced by conservation tillage include, soil structure; soil organic matter content; infiltration rate; plant available water; rooting depth; soil nutrient storage and cycling; and soil organism biodiversity and abundance. These soil properties can be useful indicators of soil health when either planning to implement, or evaluating the success of conservation tillage (CT).

CT improves soil structure by maintaining large, water stable soil aggregates. These large soil peds improve air and water movement throughout the soil, which maintains soil productivity and soil biodiversity. CT also helps maintain and improve soil organic matter content by reducing soil erosion and by reducing the exposure of soil organic matter to microbial breakdown and oxidation by exposure to the atmosphere.



CONSERVATION TILLAGE IN THE UPPER KLAMATH BASIN

By Dave Sanden
Public Affairs Specialist/Red Bluff

After the devastating Klamath Basin water shutoff in 2001, the future seemed bleak for Basin farmers who rely on irrigation water to keep their operations going in this high-desert environment. Even after the water was restored, endangered species issues and prolonged drought left the dependability of the irrigation water supply uncertain.

The Natural Resources Conservation Service, local conservation districts, and other agencies stepped up to provide assistance and work towards long-term solutions. Many ideas and conservation practices were discussed, and one idea that seemed promising was conservation tillage.

More commonly used for soil-crop management in the Great Plains, no-till and reduce-till (conservation tillage) systems protect soil from erosion, increase soil-organic matter, improve water-storage

efficiency, increase biological yield, provide fuel and tractor-life savings of 25 to 50 percent, and increase the number of crop options for dryland rotations.

In 2002, the Klamath Soil and Water Conservation District (KSWCD) purchased a no-till drill with grants from seven agencies, and many growers took advantage of the low rental rates offered by the district to test the concept of zero to minimum tillage on their farms.

In a field trial in which the no-till drill was compared with conventional planting techniques, one grower reported a yield about 20 percent higher for his wheat crop where the drill was used. The increased yield and fewer passes with the tractor gave the grower a much higher return and have helped the farm's cash flow.

Other advantages of no-till practices are lower fertilizer application rates, healthier root stock and plants, decreased erosion and better tilth.



Sid Staunton of Staunton Farms near Tulelake, Calif., operating a no-till drill on some of his acreage. Photo: Dave Sanden.



Because of their successful experience, farmers who used the no-till drill last year are using it again this year. Most had a better crop and yield. Photo: Dave Sanden.



Conservation Tillage tomato field planted with barley residue. Photo: Ron Harben.

By Johnnie Siliznoff
Air Quality Specialist/Fresno
and John Beyer
State Air Quality Coordinator/Fresno

Conservation tillage in the San Joaquin Valley is not a new concept; however its adoption in California is quite revolutionary.

Typically, the practice of conservation tillage (CT) provides for residue to be left on the soil surface to provide protection from wind and water erosion. It also provides

BREATHING EASIER IN THE CENTRAL SAN JOAQUIN VALLEY

benefits from reduced fuel and labor to improved soil structure.

The Valley air quality, which suffers from the distinction of being in non-attainment of the Clean Air Act, is affected by the many agricultural operations occurring in the area. UC Davis research has established a level of Particulate Matter (PM) associated with each tillage operation and as tillage decreases so does Valley PM, thereby improving air quality.

NRCS along with many cooperating conservation tillage partners including UC Davis, Cooperative Extension and many innovative growers have been successful in bringing to the Valley a modified version of CT. This "Valley Version" of CT utilizes practices that use new and modified equipment to combine operations and reduce passes over the field. This results in a documented reduction in particulate matter.

NRCS is currently providing cost share assistance through the Environmental Quality Incentives Program (EQIP) to qualified landowners—mainly in the San Joaquin and Imperial Valley—who are willing to implement CT on their operations. Since the inception of this option in California, NRCS has seen acres of cropland enrolled in the CT-EQIP program grow from 2,000 acres in 2003 to over 82,000 acres in 2006! On average the 4-6 year contracts result in a 50 percent reduction in field passes—equating to a savings of nearly 1,400 tons of particulate matter.

While this CT program has provided benefits to landowners in the form of improved soil tilth, reduced fuel usage and fewer field passes, it has also helped the Air District in their efforts to meet PM-10 reductions—and that helps us all breathe a little easier.



Madera Soil Conservationist Rob Roy briefs dairy producers about how NRCS can assist them. *Photo: Brian Ziegler*

Dairy Futures

What can dairy producers do right now to prepare for any new water and air quality requirements the state may impose?

“Start evaluating your facility and start talking to your crop management permit people,” says **Denise Mullinax** of the California Dairy Quality Assurance Program (CDQAP).

“You’re going to need someone who can look at your manure and advise you on how to proceed.”

Mullinax and others from NRCS, Western United Dairymen, San Joaquin Valley Regional Water Quality Control Board, and San Joaquin Valley Air Pollution

Control District offered their advice to producers at a series of meetings sponsored by resource conservation districts in Bakersfield, Tulare, Chowchilla, and other locations throughout the state.

“We wanted to bring dairies into the know with regards to permits and regulations in a non-threatening manner,” says **Jeannie Habben**, watershed coordinator with the Chowchilla-Red Top RCD.

Madera Soil Conservationist **Rob Roy** told producers meeting in Chowchilla, “It takes time to develop conservation plans, so the sooner you start the better.”

Any changes imposed by the state will mean more permits, but Mullinax adds, “I’m going to fight to get as many discounts as I can.” The workshops were funded by the California Association of Resource Conservation Districts.



Photo: Brian Ziegler

Merced Soil Conservationist Jennifer Foster guest lectures to soil science students at Merced College. One tidbit gleaned from her talk: In general, it takes about 500 years for one inch of top soil to develop.

Innovative Farmers

Lincoln, California High School operates a 280-acre farm designed to give students practical experience in agriculture. The Propane Education and Research Council, using money provided by an **NRCS Conservation Innovation Grant**, helped the Placer County school purchase a propane-fueled sprayer that uses hot steam to organically control weeds and pests. The funds were also used to buy a new propane engine meeting state emissions standards to pump irrigation water.



Lincoln High's hot steam sprayer. *Photo: Greg Gilbert*

Thanks, Guys

“I am always amazed and proud of the quantity of useable information that people obtained with no immediate cost,” **JIM KIMMEL** says of folks who got help from the NRCS.



Jim Kimmel

“I was a l w a y s pleased to tell them they paid on April 15th.”

Kimmel, a district conservationist in Placerville, along with Mariposa DC Jerry Progner, both retired from the NRCS earlier this year.

Among Kimmel’s most memorable accomplishments was a xeriscape garden project at the Placerville library that is still being used to show people water-saving ways to landscape their homes.

At one point Kimmel trained a young **JERRY PROGNER**, who later, as district conservationist in Mariposa, obtained over



Jerry Progner

a million dollars in grants for forest fuel and sediment reduction in rural residential areas.

Merced DC **Malia Hildebrandt** calls Progner a model of what an NRCS employee should be. “A great leader, mentor, and friend who had a heart for people and the land.”

Photos: Brian Ziegler

Where One Survey Ends, Another Begins

The manuscript for the Channel Islands Soil Survey was submitted this past Spring, wrapping up six years of work on five different Islands. With over 124,000 acres surveyed, soil survey crews, including **Daniel Johnson, Luis Alberte, Al Wasner,** and most recently **Matthew Ballmer,** had unfettered access to some of southern California's most pristine beaches, flora and fauna.

Ballmer was fascinated with the distinctive characteristics that each island exhibited. "The islands are not closely related to each other... few soils were found on all or multiple islands," Ballmer said.

The Channel Islands National Park is comprised of five in a chain of eight islands and holds over 2,000 species of plants and animals. One hundred and forty-five of these species are unique to the islands and found nowhere else in the world.

"These islands behold the soils and other natural resources of a California jewel," said Ballmer who felt proud that NRCS was able to document this and help ensure that the island continues to be protected. NRCS worked with the National Park Service who provided survey support

with office space and housing.

Ballmer is currently working a new survey for the National Park Service on Santa Catalina Island before he begins the Los Angeles County Soil Survey in spring of 2007.

Employee Updates

Walking into the Riverside Area Office, you wouldn't suspect that **Marilyn Bravo** was new to NRCS. Filling the Administrative Assistant position left vacant by Carroll Rabner, Bravo joins the Riverside AO after 19 years with the Department of Defense.



Marilyn Bravo

"Everything is excellent," says Bravo, when asked what she likes best about NRCS, particularly admiring her new co-workers who work hard protecting our natural resources.

Congratulations to **Cydean Gillespie** (El Centro) and **Cori Calvert** (Escondido) for being selected as new District Conservationists.

Gillespie is native to El Centro, growing up on her grandfather's farm. "He would have been so proud to know that I was

helping producers increase output while conserving resources," said Gillespie. Before joining NRCS 17 years ago, Gillespie worked for the USDA Agricultural Research Station and the family farm.

Calvert, a former Soil Conservationist from Livermore, received her degree from CSU Fresno in Ag Science with an emphasis in Plant Science. Having grown up on a Riverside farm that raised sheep, cattle, and horses, and grew oranges, Calvert understands the challenges of agriculture in southern California: "I'm passionate about water conservation and the need to protect agricultural lands, and to be part of a team that is actively working on these issues is very exciting."

Starting out as a SCEP in 1999, **Pedro Torres** recently re-joined NRCS as Area 4 Tribal Liaison. Torres completed his undergraduate degree in 2000, and decided to take on the challenge of starting an organic farming operation. He continued his advocacy for conservation at farmer's markets, while working part time for South Coast RC&D. "Representing the agency as tribal liaison gives me an opportunity to work on a broad range of projects from range management to preservation of cultural resources, and to share information about environmental issues that are of great importance to tribal communities." Torres still farms.

Southern California Farm Bill Convergence

By **Evan Davis, STEP,** and
David Stephens, STEP

Secretary **A.G. Kawamura** of the California Department of Food and Agriculture (CDFA) and several officials from the state of California and Los Angeles County held a listening session for the 2007 USDA Farm Bill on July 12, 2006 at the Los Angeles County Department of Agricultural Weights and Measures.

"We all need to work together. Parallel lines never meet; we need to converge," said Kawamura, in reference to the organizations and agencies affected by the multi-faceted Farm Bill. The bill consists of several titles including nutrition, conservation, and crop payments.

High land values and an expanding population have increased pressure for the sale and conversion of prime farmland into urban and suburban areas, said San

Diego Farm Bureau President **Eric Larson.** Larson called for consistent funding levels for the Environmental Quality Incentives Program, increased funding for the Farm and Ranch Lands Protection Program, and more support for specialty crops in California, which, despite high value, can have low net profits because of expensive land and water.

Environmental Defense spokeswoman **Kathryn Phillips** promoted the successful Collaborative Conservation Initiative between Environmental Defense and agricultural producers. She urged nutritionists to join the coalition as she reminded everyone that healthy food cannot be produced without a healthy environment.

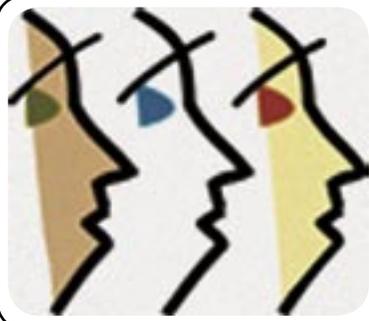
Invasive species cause an estimated \$3B of damage to the \$41B agricultural industry of California. To minimize such damage L.A. County Deputy Agriculture Commissioner, **Robert Atkins,** solicited support for the Early Pest Detection and



"The 2007 farm Bill is an investment in our agricultural infrastructure- it is not a cost," said Secretary Kawamura, "This investment will help ensure national food security through conservation and domestic assistance programs."

Surveillance Improvement Act (H.R. 4049), which would reduce the probability of costly quarantines.

Participants also spoke on the issues of nutrition, domestic assistance programs, food availability for low-income families, and simplifying the food stamp application.



CIVIL RIGHTS CORNER

By David Rose
California Civil Rights
Committee Member

During the week of August 21-25, the National Civil Rights Division conducted a review in California. The team began in the Davis State Office, then visit selected Area and Field Offices. The purpose of the review was to assess our application of laws, policies, rules and regulations related to Program Delivery (Title VI of the Civil Rights Act of 1964) and Equal Employment Opportunity (Title VII of the CRA 1964). These reviews are typically conducted on a three-year rotation. The Civil Rights Advisory Committee is confident that this review will show tremendous progress and performance in California.

It is USDA policy to ensure that no person is subjected to prohibited discrimination in USDA-conducted programs and activities based on race, color, national origin, sex, religion, age, disability, marital status, family status, parental status, sexual orientation, or because all or a part of an individual's income is derived from any public assistance program.

Additionally, positions on the Civil Rights Advisory Committee become vacant annually. Due to reorganization, the committee will now include all seven Special Emphasis Program Managers (SEPM). Recently, there were vacancies advertised statewide for members of the committee.

Hopefully, some of you will express an interest in serving on the committee. Your participation benefits the agency and your fellow employees, allowing you to have a voice in issues that affect us all. Anyone interested in participating on the committee as a general member or a SEPM should contact a committee member for further information. Additional information and a list of contacts is available on our Intranet Web site at www.ca.nrcs.usda.gov/intranet/equalopp/crac.html.

'Round the State



Juicy, Grade A Strawberries: During State Conservationist Ed Burton's (right) tour of Area 2 with ASTCFO Daniel Mountjoy (left) in June, Jesus Castillo and wife proudly display their crop of strawberries, rescued from over-fertilization through agronomic assistance provided by the Santa Maria Service Center. New Mariposa DC Dawn Afman trained the Castillos in soil testing to prevent over fertilization while working in Santa Maria. Photo: Jeff Raifsnider

HR Personnel Actions

| Name | Position | Action | Grade | Location | Date |
|-----------------------|----------------|--------------------|-------|-------------|----------|
| Alison Tokunaga | Range Consvst | Conv to CC | GS-9 | Victorville | 06/25/06 |
| Daniel Wright | Soil Consvst | Conv to CC | GS-7 | Oroville | 06/25/06 |
| R. "Eric" Kennedy | Soil Consvst | Conv to TERM | GS-9 | Santa Rosa | 07/09/06 |
| D. Ahsford-Kornburger | Res Consvst | Conv to TERM | GS-11 | Salinas | 07/23/06 |
| Kara Heckert | Soil Consvst | Conv to TERM | GS-9 | Santa Rosa | 07/23/06 |
| Jake Sneider | Soil Scnstst | Conv to CC | GS-9 | Victorville | 08/06/06 |
| Roney Guitierrez | Res Consvst | Reinstate | GS-12 | Davis | 05/13/06 |
| Richd. Cernansky | Ag Engr | Promo to Fresno | GS-12 | Chino | 06/11/06 |
| Melissa Graves | Soil Consvst | Promo | GS-9 | Redding | 06/11/06 |
| Noelia Velazquez | Soil Consvst | Promo to Escondido | GS-9 | El Centro | 06/25/06 |
| Elizabeth Hilkert | Ag Engr | Promo | GS-9 | Petaluma | 07/09/06 |
| Paul Lake | Res Consvst | Promo | GS-12 | Davis-RTS | 07/09/06 |
| Dawn Afman | Dist Consvst | Promo to Mariposa | GS-11 | Santa Maria | 07/23/06 |
| Michael Liga | Ag Engr | Promo | GS-11 | Salinas | 07/23/06 |
| Desi Ramirez | Ag Engr | Promo | GS-11 | Salinas | 07/23/06 |
| Eric Ross | Range Consvst | Promo | GS-9 | Red Bluff | 07/23/06 |
| Bri Schmidt | Soil Scnst | Reassign | GS-9 | Hanford | 05/28/06 |
| Bob Fry | Agronomist | Reassign to Davis | GS-12 | Hanford | 06/25/06 |
| Phil Giles | RC&D Coord | Reassign | GS-12 | N. Bay | 07/09/06 |
| Mike McElhiney | Res Consvst | Reassign to Fresno | GS-12 | Modesto | 07/23/06 |
| Phyllis Wells | Adm Asst | Retire | GS-7 | Davis | 05/31/06 |
| Vernon Finney | Geologist | Retire | GS-12 | Davis | 06/03/06 |
| Al Wasner | Soil Scntst | Retire | GS-11 | Ventura | 06/16/06 |
| Brian Hallet | Adm Serv Supvr | Retire | GS-12 | Davis | 07/03/06 |
| Jim Kimmel | Dist Consvst | Retire | GS-12 | Placerville | 07/03/06 |
| John Lowry | Res Consvst | Retire | GS-12 | CALFED | 07/03/06 |
| Sai Syhaphom | Civil Engr | Trans to BLM | GS-11 | Chino | 06/24/06 |