



Conservation Tillage Update

University of Idaho
Oregon State University
Washington State University

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Inside this issue:

Verle Kaiser Slides and Photos Accessible on the Web—Roger Veseth Collection to Follow

Palouse River Basin Cooperative Study on the STEEP Web Site

Crop Residue and Tillage Survey Underway

Old Fashioned Erosion with Old Fashioned Results

PNW Direct Seed Association

2007 PNW Conservation Field Days

The Loss of Fiscal Year 2007 Special Research Grants Funding from USDA

Special research grants are congressional appropriations made to support focused research projects throughout the U.S. In the Pacific Northwest (PNW), these grants exist as a result of ongoing lobbying by growers and other stakeholder organizations. These vital funds support much of the applied agriculture research in the PNW states of Washington, Oregon and Idaho, including Solutions to Environmental and Economic Problems (STEEP), the Columbia Plateau PM10 Project (CP3), Grass Seed Cropping Systems for a Sustainable Agriculture (GSCSSA), Cool Season Food Legume (CSFL), Perennial Wheat, and the Jointed Goatgrass Initiative. Researchers with projects funded by these special grants owe the stakeholder organizations that lobby for them an enormous debt of gratitude for their support.

Congress elected not to fund special research grants in the fiscal year 2007 (October 2007 – September 2008) federal

budget. However, as a result of lobbying efforts from grower organizations, funds previously set aside for special grants were reallocated through the Hatch formula system. Hatch funds are distributed according to a national formula based in part on rural and farm populations in each state. The net effect of this reallocation is that the PNW region will receive significantly less total funding to support applied agriculture research than under the special research grant system. Washington was hit particularly hard by this reallocation and will receive less than 50% of the funding previously allocated through special grants. In addition to overall lower total funding in the region, Hatch funds can only be expended in the state in which they are allocated and they cannot be used to directly fund USDA special research grants.

Each state is handling the special grant funding situation differently. Some are

(Continued on page 2)

STEPP Impact Study Nearing Completion

A comprehensive overview of the STEEP program was conducted over the last several months with the help of some distinguished STEEP veterans. Retired ARS scientists Dr. Robert Papendick and Dr. Keith Saxton did an in depth review of the results of the STEEP program. In addition to literature review, they interviewed numerous farmers to verify the changes on farming practices that occurred since the STEEP program started in 1975. With the help of NRCS employees Ann Swannack and Dennis Roe, they also ran RUSLE computer simulations to estimate the difference in erosion in the Palouse in 1975, 1990, and 2005. Results of this study will be available soon, and appear in the next Conservation Tillage Update, and on the STEEP website.

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Loss of Fiscal Year 2007 Special Research Grants Funding (Continued from page 1)

committed to funding ongoing projects for which an interruption in funding would compromise the integrity and long-term value of the research; others are prioritizing funding for graduate students and salaried personnel. All PNW states will experience a reduction in the amount of funding for applied agriculture research.

The short-term implications of the loss of special research grant funding are clear. For STEEP, most of the 11 projects (see list below) recommended for funding by the STEEP Coordinating Committee in fiscal year 2007 will not be funded. The long-term impact of this funding loss remains to be seen. Some of the special research grants may return in the fiscal year 2008 federal budget.

The following is a list of those projects recommended for funding by the STEEP Coordinating Committee in their October 2006 and February 2007 meetings:

1. Decomposition of residue from cereal and oilseed cultivars in dryland ecosystems (WA project)
2. Outreach for PNW direct seed and conservation tillage systems technologies (WA/OR/ID joint project)
3. Improving decisions for wheat nutrition management through integration of ion

exchange resin technology and response forecasting (WA project)

4. Assessing the impact of long-term direct seeding and crop rotations on soil properties and erosion (WA/OR joint project)
5. Identify winter canola varieties and planting management practices for establishing winter canola in crop-fallow regions of the PNW (ID/OR joint project)
6. On-farm evaluation of slow-release nitrogen for winter wheat production in high precipitation areas of north central Idaho (ID project)
7. Root-lesion nematode tolerance in spring wheat and barley (OR project)
8. Developing tools for efficiently incorporating rhizoctonia root rot resistance into direct-seeded wheat varieties (WA project)
9. Viability of incorporating mustards into conservation tillage, dryland winter wheat annual cropping systems (ID project)
10. Ecology and management of prickly lettuce in direct-seeded dryland cropping systems (WA/OR/ID project)
11. Variety performance evaluation for the chemical fallow system (OR/WA project)

Conservation Tillage Update and PNW Conservation Tillage Handbook (in the mail & on the Web)

Funding for development, printing, and distribution of the *Conservation Tillage Update* and the *PNW Conservation Tillage Handbook* is provided by STEEP grants and additional support from UI Extension System, OSU Extension Service, and WSU Extension.

New issues of the *Update* and all of the *Handbook* are on the Web at <http://pnwsteep.wsu.edu>. For more information, or to add your name to the *Update* and *Handbook* electronic or hard copy mailing lists, please contact Hans Kok (see left).

Articles and publications included in the *Update* or *Handbook* may be reprinted providing credit is given.

Verle Kaiser Slides and Photos Accessible on the Web

Roger Veseth Collection to Follow

An estimated 1000 black and white images from the 1930's have been posted on the WSU Verle Kaiser website. Verle Kaiser was an agronomist for the USDA Soil Conservation Service in Washington from 1935 until he retired in 1982. He took more than 4000 photographs of the soils (especially erosion and control practices), crops, farm equipment and people in Washington, Oregon, and Idaho during that time. An endowment established by his friends and the WSU Foundation enabled a small grant to Cathy Perillo and Dennis Roe (both WSU faculty) to catalogue and digitize a selection of Kaiser's photos and post them to a searchable website, <http://vkaiser.wsu.edu/>, where they are more accessible to soils professionals and to the general public.

For 17 years Roger Veseth, former WSU/UI conservation tillage specialist, documented erosion and soil conservation in the Pacific Northwest. He took more than 4,000 35mm slides revealing the effects of conservation practices. In order to preserve these slides, the STEEP program intends make them available on the web, just like the Verle Kaiser collection. The slides document an important era in Palouse farming—the transition from full width conventional tillage to the adoption of direct seed systems.

Palouse River Basin Cooperative Study on the STEEP Web Site

In the late 1970's a very comprehensive resource inventory of the Palouse River Basin was conducted and published. The Palouse Cooperative River Basin Study was extensively used by resource planners, University faculty and students, and a multi-state search found that copies are no longer available. With the help of STEEP funding, we were able to electronically scan one of the remaining copies. This material is being reviewed for accuracy and will be placed on the STEEP website shortly in a searchable format.

Crop Residue and Tillage Survey Underway

For most of the USA, we have fairly accurate estimates on the adoption of no-till and the number of acres under mulch tillage (high residue farming). However, for the Northwest we do not have these numbers. We know that direct seeded acres are much lower than in other parts of the country, and the rest of the world, but we don't know

how much lower. In an effort to quantify the tillage distribution in the Inland Northwest, the STEEP program, with the help of the PNDSA and NRCS) is conducting a residue survey pilot program. Transects were established throughout Whitman county, and a random sample of fields were examined for crop type, and tillage system. The data show that we have less than 10 percent of the acres in central and eastern Whitman County under direct seed systems.

All data points were referenced with a global positioning system, so they can be re-sampled in future years. The GPS coordinates also will allow the ground observations to be linked to remote sensing data (satellite and aerial photographs). Both WSU, and the Conservation Technology Information Center at Purdue University, are conducting research programs to determine tillage systems using remote sensing technology. Our field observations will be used for 'ground-truthing' some of this research.

Old Fashioned Erosion with Old Fashioned Results

In January 2007, the Inland Pacific Northwest experienced a rain-on-frozen soil event. It had been several years for such a weather occurrence, but the results were as expected. Most fields in the region (both cropland and grassland) had large quantities of runoff, as the water could not infiltrate the soil. However, serious erosion occurred on winter wheat ground that had been tilled. Soil slips were also evident throughout the region, as topsoil slid off (old) plow layers. Most direct seeded fields had little erosion, with just clear water running off. Even now, in mid-May the erosion is evident in the winter wheat, hillside rills are barren as are low laying areas where sediment buried the crop. The county road departments in the area spend countless hours (and tax payer dollars) cleaning roadways and digging out road ditches near conventionally tilled fields.

PNW Direct Seed Association

About one year ago, the PNDSA hired Russ and Pat Evans as their Executive Director team. Russ and Pat organized the well attended Pacific Northwest Direct Seed Conference last January. They have been busy with carbon sequestration contracts, an updated PNDSA website, and membership drive. If you have not met Russ and Pat, visit them at the US Dry Pea and Lentil Office in Moscow. You can reach them at (208) 882-3645, or e-mail PNDSA@directseed.org. The PNDSA website is <http://www.directseed.org/>

2007 PNW Conservation Field Days

- 22 May Kentucky Bluegrass Tour, Chris Ramsey Farm, Worley, ID—8:00am, contact Donn Thill (208)885-6214
- 22 May Columbia Co. Conservation Tour, Dayton, WA—9:00am, contact Paul Carter (509)382-4741
- 5 June Western Whitman Co. Research Tour, Lacrosse, WA—7:00 am, contact Steve Van Vleet (509)397-6290
- 5 June Kentucky Bluegrass Tour, Hatter Creek Ranch, Potlatch, ID—8:00, contact Donn Thill (208)885-6214
- 12 June Pendleton Ag Research Center Field Day, Pendleton, OR—8:00 am, contact Don Wysocki (541)278-4396
- 13 June Organic Dryland Cropping Systems Field Day, Palouse Conservation Farm, Pullman, WA—6:00pm, contact Pat Fuerst (509)335-7850
- 13 June Sherman Station Field Day, Moro, OR—8:00am, contact Steve Petrie (541)278-4396
- 14 June UI Weed Science Tour, Best Western University Inn, Moscow, ID—7:30am, contact Donn Thill (208)885-6214
- 14 June Lind Field Day, Lind, WA—8:30 am (noon lunch), contact (509)659-3214
- 18-20 June Western Society of Crop Science meeting and tour, Las Cruces, NM, contact Stephen Guy (208)885-6744
- 20 June 31st Annual Union Co. Crops and Conservation Tour, La Grande, OR, 7:30am—contact Darrin Walenta (541)963-1010
- 21 June Northern Lincoln Co. Field Tour, Wilbur, WA, 8:00am—contact Aaron Esser (509)659-3210
- 28 June Precision Farming and Direct Seed Field Day and Farm Dedication at Cook Agronomy Farm, 7:30am, contact Scot Hulbert (509)335-3722
- 20-21 June Western Wheat Workers, WSU Campus, contact Kim Campbell (509)335-0582, or visit <http://westernwheatworkers.wsu.edu> to register and get detailed information
- 25 June Prairie Area Crops and Conservation Tour, Nezperce, ID, 7:00am, contact Ken Hart (208)937-2311.
- 26 June UI Parker Farm (PREEC) and PSES Field Day, Moscow, ID—8:00 am, contact Stephen Guy (208)885-6744

Please check the PNW Steep website, Coming Events calendar for additions or updates, <http://pnwsteep.wsu.edu>.

A complete listing of PNW variety testing and crop tours is available at <http://variety.wsu.edu>.



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