

USDA-ARS

# Land Management and Water Conservation Research Unit

## Greetings!

As part of our commitment to inform research partners and stakeholders about advancements in research pertinent to dryland agriculture throughout the Columbia Plateau, the Land Management and Water Conservation Unit (LMWCRU) begins a semiannual update that highlights our research and personnel. We hope that by so doing our partners and stakeholders will become further acquainted with our research program. This update spotlight's recent activities of the LMWCRU and research of one of our scientists. We invite your comments regarding our research program.

## Program Visioning Workshop

A Program Visioning Workshop was held October 27, 2009 to identify constraints to the future of agriculture in the inland Pacific Northwest and those constraints that could be engaged by the LMWCRU. About 55 partners and stakeholders attended the Workshop. A writing team captured the exchange of information and provided recommendations to the LMWCRU for future research. Based upon the constraints identified



by our partners and stakeholders and the research priorities of the USDA, the vision for the LMWCRU is to develop cropping systems that will ensure an adequate supply of food and resource sustainability under a changing climate in the inland Pacific Northwest. The 28 page report from the Workshop is available at no charge upon request.

## Spotlight on Research

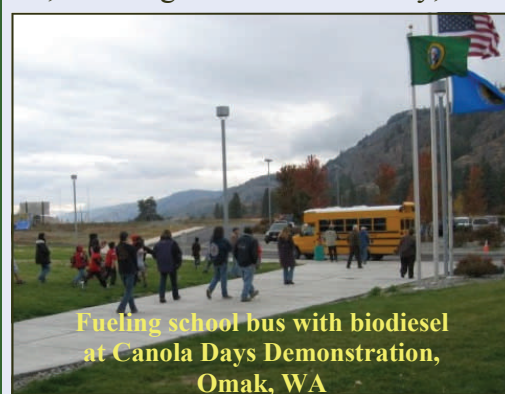
**Frank Young**, agronomist, has been developing agronomic practices such as planting date to successfully establish canola in the Okanogan region of Washington.

Results to date would indicate higher yield for winter canola planted in mid-to-late August rather than in early September.

He is also determining if shovels are needed on canola drills to remove hot, dry soil (detrimental to emerging seedlings) from the seed row. Although plant populations were more uniform with shovels, which provides better competition against weeds, shovels had little influence on yield. Young partnered with local growers, Washington State University, Washington State



Larry McGrew and Frank Young at Canola Days Demonstration, Omak, WA



Fueling school bus with biodiesel at Canola Days Demonstration, Omak, WA

Department of Agriculture, and the Confederated Tribes of Colville Reservation to grow canola that is processed and used to

fuel school buses on the Colville Reservation. This research promotes crop diversification in a predominantly wheat-fallow region as well as sustainability of rural communities.

## Upcoming Activities

**February 2010** – **Dave Huggins** will be speaking at the Harvesting Clean Energy Conference. **Don McCool** and **Jeff Smith** will serve as panelists for merit review of USDA-ARS scientists.

**June 2010** – LMWCRU will host a field day at the Palouse Conservation Field Station.

**August 2010** – **Brenton Sharratt** will serve as a panelist for merit review of USDA-ARS scientists.

## Awards

**Dave Huggins** received the USDA National Institute of Food and Agriculture Partnership Award for the Climate Friendly Farming Project.

**Brenton Sharratt** received funding to identify the threshold wind velocity at which fine particulate matter is emitted from soil.

**Frank Young** received funding to improve stand establishment of winter canola in the wheat-fallow region of the Pacific Northwest.

We're on the web!

<http://ars.usda.gov/pwa/pullman/lmwcru>

## Recent Publications

- Schillinger W.L., Young, D.L., **Kennedy, A.C.**, Paulitz, T.C. 2010. Diverse no-till irrigated crop rotations instead of burning and plowing continuous wheat. *Field Crops Research* 115: 39–49.
- Stubbs, T.L., **Kennedy, A.C.** and Fortuna, A.-M. 2010. Using NIRS to predict fiber and nutrient content of dryland cereal cultivars. *J. Agric. Food Chem.* 58:398-403.
- Ibekwe, A.M., **Kennedy, A.C.** and Stubbs, T.L. 2009. Characteristics of mutants of *Pseudomonas fluorescens* strain D7 suppressive to downy brome. *International Journal of Environmental Technology and Management.* 12:27-46.
- Feng, G., **B. Sharratt**, J. Vaughan, and B. Lamb. 2009. A multiscale database of soil properties for regional environmental quality modeling in the western United States. *J. Soil Water Conserv.* 64:363-373.
- Hagen, L., S. van Pelt and **B. Sharratt**. 2010. Estimating the saltation and suspension components from field wind erosion. *Aeolian Research* 1:147-153.

### LMWCRU Scientists

**Brenton Sharratt**,  
Research Leader,  
Particulate Emissions

**David Huggins**  
Nutrient Cycling

**Ann Kennedy**  
Soil Quality

**Don McCool**  
Water Erosion

**Jeff Smith**  
Greenhouse Gas Emissions

**Frank Young**  
Cropping Systems

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