

## Part 4. Bioenergy Cropping Systems Research

### The "Oilseed Based" Washington State Biofuels Cropping Systems (WBCS) Project

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First funded by the WA State Legislature in 2008 with support from WSDA, WA Dept. Commerce and the WSU Energy Program, the WBCS statewide project has supported more than 70 WSU and USDA ARS researchers, extension faculty and staff, and graduate students, addressing the wide variation of cropping conditions and systems of WA state. Current researchers are conducting new oilseed production research and technology development. Core state funding is leveraged with federal funding of PNW oilseed research from core USDA ARS, USDA NIFA (REACCH, Sun Grant), National Science Foundation (NSPIRE) and US Environmental Protection Agency (RACC).

The WBCS Extension leads, coordinates and links to growers, ag suppliers, grain storage and transporters, government policy makers, oilseed processors and end users are facilitating integrated expansion of feedstock production and end use for biodiesel, animal feed, and potentially future food grade oil and specialty chemicals in Washington State.

Over the past 5 years, WA oilseed production, WA processing facilities and WA biodiesel use have significantly increased over the past five years. A statewide oilseed crushing has increased to 350,000 T/y and processing capacity has grown to 109 MGY (<http://css.wsu.edu/biofuels/files/2013/02/Lang-WSU-Oilseed-Production-Workshop-Jan-2013.pdf>). Urban demand for state produced biodiesel is connecting western and eastern WA on numerous planes. For example, the Seattle/Islands Ferry system has aggressively set goals, tested and increased use of in-state biodiesel, resulting in a four-fold increase in biodiesel use over the past four years. Good for the ferry passenger health and the environment, while promoting WA businesses and supporting progressive farmers.

Oilseed feedstock production is specifically identified in Governor Inslee's 2013-2015 Strategic Budget Plan to "encourage the growth of oilseed farms" (<http://www.ofm.wa.gov/budget13inslee/presspacket.pdf>). The research and extension abstracts below represent the hard work and dedication of statewide faculty, staff and students towards this vision for oilseed diversification of our wheat-based cropping systems.

### Oilseed Extension and Outreach Activities and Outcomes

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The faculty and staff involved with the Extension and outreach portion of the Washington State Biofuels Cropping Systems Research and Extension Project (WBCS) and related dedicated to 1) the transfer of research results to farmers and industry to improve oilseed production practices, 2) bringing questions from new and experience oilseed producers to the researchers to answer through innovative research, and 3) creating and participating in events where oilseeds are featured. Field days, Extension publications, farm visits, the WBCS website (<http://css.wsu.edu/biofuels>), presentations at local and national meetings, and the annual WSU Oilseed Production and Marketing Conference are the primary means of education to reach these goals throughout the year.

Attendance at oilseed-related events surpassed 2000 people last year. Collaboration with industry resulted in presentations at several more industry field tours last year. The 2013 Oilseed Conference attracted over 200 attendees, with a significant increase in the number of speakers, sponsors, and financial support. Nearly all WBCS faculty were presenters at the event. Responses to onsite clicker surveys indicated 42% of participants attended a previous oilseed workshop, and 71% of those learned a principle or practice that helped them with oilseed production, and that increased to 93% of attendees of the 2013 conference. The survey also indicated 39% of oilseed growers in attendance experienced an 11-20% increase in wheat yield following an oilseed, while 14% of the growers saw a 14% increase in wheat yield.

We have developed separate email list serves for growers, industry, educators, and agency to send information as deemed necessary throughout the year, e.g. field day notices, oilseed insurance updates, oilseed delivery points in the PNW, and new publications. The WBCS website has a steadily increasing number of visits; in 2012 there were more than 2500 visits from 21 countries, 31 states, and 45 cities in Washington. Since last summer, Extension fact sheets