

crop rotation have been documented. In the low-precipitation zone on Ron Jirava's farm near Ritzville, we are comparing the 2-year WW-SF rotation to a 4-year WC-SF-WW-SF rotation. In the intermediate precipitation zone on Hal Johnson's farm near Davenport, a 3-year WC-spring wheat (SW)-SF rotation is compared to WW-SW-SF. We will determine the effects of having winter canola in the rotation on soil microbial changes, water infiltration into frozen soils, plant health of the wheat crop following winter canola, winter wheat grain yield, and farm economics compared to checks (i.e., rotations without WC in the rotation). The scientists involved in this study are a research agronomist, soil microbiologist, plant pathologist, and agricultural economist. Three rotational years of data will be obtained from each site.

Camelina Agronomy Research in the Pacific Northwest

WILLIAM SCHILLINGER¹, SCOT HULBERT¹, STEPHEN GUY², DONALD WYSOCKI³, THOMAS CHASTAIN³, DARYL EHRENSING³, AND RUSS KAROW³

1. DEPARTMENT OF CROP AND SOIL SCIENCES, WSU
2. DEPARTMENT OF PLANT, SOIL, AND ENTOMOLOGICAL SCIENCES, UI
3. OSU EXTENSION

Passage of the renewable fuel standard for biodiesel in the State of Washington has heightened the need to significantly increase oilseed acreage in the region. Camelina (*Camelina sativa*) is a broadleaf crop in the mustard family that can be sown at low seeding rate, is competitive with weeds, and has a modest requirement for nitrogen and water. A 3-year experiment was initiated in 2007 at four sites in Washington, Idaho, and Oregon to evaluate camelina varieties, seeding rates, planting dates, planting methods, and nitrogen rates. The goal of the research is to develop agronomic practices to incorporate camelina into PNW crop production systems and assist the fledgling oilseed industry to understand and utilize this crop. We have selected representative areas in the PNW that include all the major cropping systems throughout the region. Sites are: (i) Lind, WA, (ii) Pendleton, OR, (iii) Moscow, ID, and (iv) Corvallis, OR, where average annual precipitation is 9.5, 16, 24, and 40 inches, respectively. These four sites represent all the major cropping zones in the PNW. Specific procedures and experimental designs are consistently used at all sites. Although preliminary studies show potential adaptability of camelina, there is not yet sufficient information to provide general crop production practices or indicate the geographic adaptability of the crop. Limited work in Montana and North Dakota suggests that camelina has potential in marginal production areas with low precipitation and shallow soils. This research project will be shown and discussed at the major university field days in 2008 at Lind, Pendleton, Moscow, and Corvallis.



Farmers, agricultural industry personnel, government officials, and the general public learn about camelina at the 2007 Lind Field Day.

Camelina Cropping Systems Research at Lind

WILLIAM SCHILLINGER, TIM SMITH, STEVE SCHOFSTOLL, AND BRUCE SAUER, DEPARTMENT OF CROP AND SOIL SCIENCES, WSU

A 6-year dryland cropping systems experiment was initiated at the WSU Dryland Research Station October 2007 to evaluate camelina in wheat-based systems. Camelina is a Brassica oilseed crop that has shown good potential in low-precipitation regions in the Northern Great Plains and (with limited testing) in the Pacific Northwest. The cropping systems experiment will test the feasibility of a 3-year winter wheat-camelina-summer fallow rotation versus the standard 2-year winter wheat-summer fallow rotation. Experimental design is a randomized complete