

LONG-TERM DRYLAND CROPPING SYSTEMS RESEARCH AT LIND: THE NEXT SIX YEARS

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Annual cropping systems research using direct seeding has been ongoing at the Lind Dryland Research Station since 1998 (see the article entitled "Dryland direct-seed annual cropping systems research at Lind: the first four years" in this publication). Annual spring cropping was not economically competitive with winter wheat – summer fallow at Lind from 1998 to 2001.

A committee of growers and researchers met at the Lind Station in February 2002 to discuss and design the next phase of the experiment. The recommendation of the committee was to keep continuous annual soft white spring wheat (the most competitive annual spring rotation) and add several new treatments. Beginning in 2002, the crop rotations for the next six years are the following.

1. Continuous annual soft white spring wheat.
2. Continuous annual hard red spring wheat.
3. Continuous annual hard white spring wheat.
4. Winter wheat – summer fallow (tillage).
5. Winter wheat – spring wheat – spring wheat.
6. Winter wheat – spring wheat – chemical summer fallow.
7. Winter wheat – spring wheat – summer fallow (tillage).

Each phase of all treatments will appear every year. The experimental design is a randomized complete block with four replications, thus a total of 56 plots. Individual plots in the original experiment were 45 ft X 500 ft, whereas plot length in the second phase is 225 ft with a 50-ft alley in the middle. All no-till plots are 15 ft wide, and tillage plots are 30 ft wide. Thus, all seven of the new treatments fit within the area of the original experiment. Grain harvest will be with a plot combine, then the entire experiment area will be "blanket harvested" with a commercial-scale combine to uniformly spread straw and chaff. Tillage (in treatments 4 and 7 above) will be with a wide-blade undercutter sweep, both to control Russian thistle after harvest (if needed) and for primary spring tillage, followed by two rodweedings (i.e., minimum tillage). All other treatments will be direct seeded and fertilized in one pass with a Cross-slot drill.

We are excited about this new experiment and hope that it will provide comprehensive information to growers in low-precipitation regions of the inland Pacific Northwest. This project will be shown and discussed at future Lind Field Days.

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