*ECONOMICS OF WIND EROSION CONTROL CROPPING SYSTEMS AT THE RALSTON PROJECT

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These experimental trials were initiated in August 1995 on a farm near Ralston in an 11.5-inch annual rainfall zone. The main trials at the site evaluated four tillage/crop rotation systems: a) conventional/minimum tillage SWWW/fallow; b) no-till soft white spring wheat (SWSW)/chemical fallow; c) continuous no-till HRSW; and d) no-till HRSW/no-till spring barley (SB).

No-till continuous spring grain rotations are clearly an environmental success. Research has shown that these systems can reduce predicted dust emissions by 94% during severe wind events compared to conventional wheat-fallow. But seven years experimental results at Ralston have shown that the continuous no-till spring grain systems tested have not been economically competitive with a minimum tillage winter wheat/fallow system. The 1996-2000 average disadvantage of $42/acre/year for continuous HRSW versus SWWW/fallow grew to a $53/acre/year average disadvantage over 1996-2002. Furthermore, the spring cropping systems exhibited significantly more economic risk in dry years. Of course, more yield enhancing research and public support for these soil and air quality conserving spring cropping systems, possibly using different wheat classes, might make them more competitive. Researchers should also investigate other soil conserving systems. Minimum tillage SWWW-fallow systems tested at Lind and at Ralston employed substantially less tillage during the fallow operation than was typical on most area farms. These “minimum tillage” SWWW-fallow systems, which are predicted to cut dust emissions in severe events by 54 percent relative to conventional systems, might provide a cost effective intermediate cropping system for the region.

Results from farmer surveys and Cooperative Extension farmer panels have indicated that farmers may be able to trim the cost of production for HRSW. If possible, this would improve their competitiveness with winter wheat-fallow. Other research has shown significant public valuation for higher levels of air quality which are provided by soil conserving cropping systems.

*ECONOMICS OF ALTERNATIVE CONTROL PRACTICES FOR JOINTED GOATGRASS IN WINTER WHEAT IN THE PACIFIC NORTHWEST

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Jointed goatgrass control field experiments were established in 1996-2002 near LaCrosse, WA in a 14-inch annual rainfall zone. Main plot treatments included stubble burn and stubble no burn. Subplots included three crop rotations: a) WW/fallow; b) SW/fallow/WW/fallow; c) WW/SB/fallow. Subsubplots included growers’ “conventional” practices for fertilizing and planting winter wheat versus “integrated” practices for fertilizing and planting winter wheat. Integrated practice included larger seed size, higher planting density, deep banded fertilizer at