Dryland small grain is the principal agriculture production system in Columbia County, Washington. This county, located in the southeast corner of the state, has approximately 200,000 tillable acres, primarily composed of silt loam soils. Very pronounced changes in elevation and rainfall occur across the county, ranging from 700 feet and 10 inches annual precipitation at the northern border to 3500 feet and 30 inches moisture in the Blue Mountain foothills. Due to the steepness of the terrain virtually all of the agricultural lands are classed as highly erodible by the Natural Resources Conservation Service.

Driven by economic pressure and a strong ethic for conservation of natural resources, Columbia County producers have developed and adopted various permutations of direct seeding systems. If direct seed is defined as: “The absence of deep tillage and some of the previous crop plants yet undisturbed following the seeding operation,” we estimate that nearly 85% of the current crop is produced in either a one- or two-pass direct seed system.

With the diversity of field conditions and management style of individual producers, there is no one “cookie cutter” template that can be described. Virtually each field is unique, yet the following areas must be considered in constructing a management plan.

Rotational Crops – As Columbia County producers have moved from historic to direct seed production, there has been a major shift from winter wheat—fallow to annual cropping with nearly half the acreage in spring crops. Further understanding of how to produce crops other than winter wheat at a profit is a universal request.

Residue management – Management of the previous crop residue must start with the harvest operation. Postharvest operations vary with the rotational crop, available seeding equipment and level of risk accepted by the grower. Although thermal residue management is the least desired alternative, the use of field burning has been pivotal in allowing the implementation of this approach in the county.

Herbicide Management – Early efforts in implementing direct seed failed because of weed control problems. Shifts in levels of various weeds are occurring, as well as some unanticipated extension of persistence of certain products that impacts crop rotation plans. Wild oat, rattail fescue and Canada thistle are but a few examples of species of major concern. In the lower rainfall zones where fallow is prescribed as part of a rotation, the implementation of full season vegetation suppression is less than ideal.

Seeding Equipment – A wide variety of seeding implements is utilized in both one- or two-pass systems. Most farms have a significant scrap iron stock as continued adaptation opener design continues. Under Columbia County conditions hoe type openers have not provided acceptable stand establishment.

Does it Work? Growers indicate that yields in a direct-seed system parallel historic intense tillage systems. Reported changes in production costs such as a 40% drop in fuel use, doubling of pesticide expenditure, and the expense of retooling equipment again make calculation of profitability difficult. Examples of major improvement in resource protection have been demonstrated.
The following is suggested as a description of Columbia County producers.

---

**CREED OF COLUMBIA COUNTY GROWERS**

SET BY EXAMPLE THE HIGHEST STANDARD OF RESOURCE MANAGEMENT

VIEW DIRECT SEEDING AS THE CHALLENGE OF A LIFETIME

THINK GLOBALLY, BUT ACT LOCALLY

BE INFORMED AND INFORM OUR COMMUNITY

NO WHINING!!!