4. Complete an economic assessment of the costs of various "agricultural management systems" that will provide an assessment of the real additional costs / savings farmers incur by making a shift to a "climate-friendly" practice.
5. Complete an analysis of a set of complimentary public policy incentives that are likely to spur adoption.
6. Submit a final report to the Climate Advisory Team.

Agronomic Management of Canola

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A handful of growers have produced winter canola (WC) in the non-irrigated low to intermediate rainfall zones of the Pacific Northwest with inconsistent yields but occasionally surpassing 2000 lbs/A. Stand establishment is often not uniform and requires replanting in the fall or spring. The optimum seeding date and rate of WC and their effects on seed, oil, and meal quality is unknown in this region. In addition, new planting methodologies need to be developed to improve stand establishment and seedling survival. In the fall of 2007, preliminary experiments were initiated at Ralston (11.5 in annual precipitation) and in the foothills of the Okanogan Highlands (10 to 14 in annual precipitation) to determine the optimal seeding date, rate, and planting method for WC to improve stand establishment, crop yield and quality, and profitability. Seeding dates were August 12, 19, and 26 at Ralston and August 21 and September 4 at Okanogan. Seeding rates were 2, 4, and 6 lbs/A. A modified John Deer HZ deep furrow drill was used at both locations. The modifications to the drill included a grass-seed box for accurate seeding rates, 13 to 15-in shovels to move dry soil, and 55-lb packer wheels to improve seed-to-soil contact. During the three seeding dates at Ralston and the first seeding date at Okanogan, three of the four rows were set at normal depth (½ to ¾ in into moisture) and the seed failed to emerge. However, the fourth row was set to plant shallower (less than ½ in into moisture). These seeds emerged, established, and the plants appeared to have sufficient size for overwintering. At the second seeding date at Okanogan, the shallower seeding depth was used for all rows and considerably more plants emerged and established. Plants were counted in rows/treatments where sufficient plants emerged. A spring follow-up count revealed that most of the plants survived the winter at both sites, including plants thought to be too small to over winter. Plots will be harvested in the fall and seed, oil, and meal (for feed) quality will be determined.

Early spring photo of winter canola planted (6 lbs/A) September 4, 2007 at Okanogan.

Close up of the prototype drill.