

Winter triticale will be planted deep into NTF during the first week of September if seed-zone moisture is adequate. If moisture is not adequate, we will “dust in” the WT in mid- October. Winter triticale yields are much higher than those of winter wheat with late planting (see winter triticale article on page 60). Fertilizer for WT will be applied by stream jet in late fall.

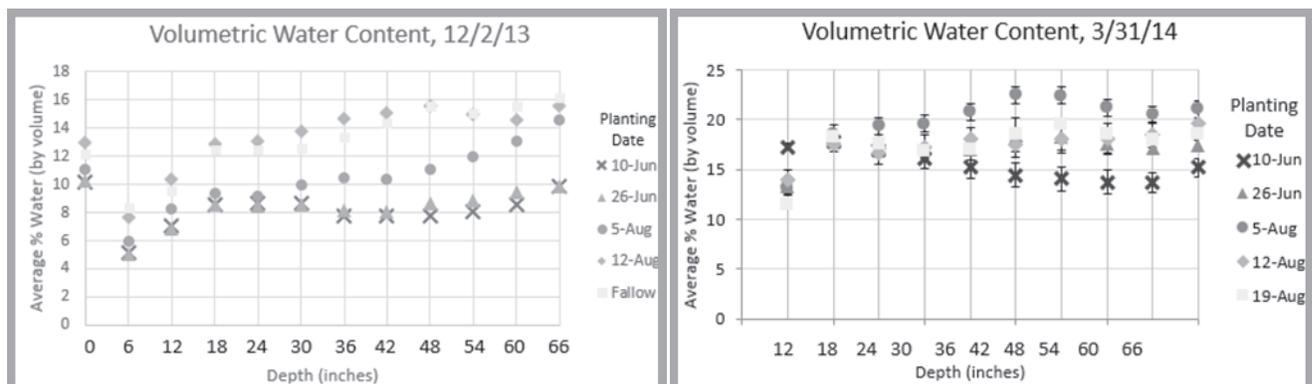
The 2-year WW-TF check treatment will be established using the non-soil-inversion undercutter method, where fertilizer is delivered with the primary-tillage undercutter operation in late spring followed one or two rodweedings during the summer to control Russian thistle and other weeds. Winter wheat will be planted with a deep-furrow drill during the first week of September.

Farmers and researchers in the low-precipitation region of east-central Washington have long been interested in testing no-till cropping systems that are economically competitive with WW-SF. Winter triticale, winter canola, and winter pea have all shown excellent yield potential in this dry environment. Thus, with the use of NTF, the two 4-year rotation sequences hold promise as possible stable, profitable, and ecologically-friendly crop rotations for the low-precipitation zone.

Winter Canola Planting Date Effects on Soil Water Use

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An on-farm winter canola seeding date trial was initiated in June of 2013 near Ritzville. Plots were established on June 10, June 26, August 5, and August 12, 2013, with four replications of each date. Soil available moisture and extraction depths were main focuses of this experiment, monitored down to six feet by neutron probe, gravimetrically-analyzed cores, and continuously-measuring Decagon sensors. There were clear differences in soil water content heading into winter, seen in the graph on the left with measurements taken early December. Soil recharge is also depicted from data in early spring (graph on the right).



However, this season's study has been terminated due to excessive winter-kill. Two sub-zero temperature events, combined with minimal snow cover, likely caused the high mortality. June 10 and June 26 planting dates had a 0% survival rate, while 31% of the August 5 plants survived. The August 12 planting also retained a good and commercially viable spring stand. One potential reason for this differential survival is crown height: the August 12 late planting had no stalks taller than one inch, while the June 10 and 26 plants had stalk heights averaging about four inches. The August 5 planting date was of intermediate height. Shorter crowns benefit more from the thermal storage and radiation of soil, avoid higher wind speeds, and may be more protected by snow.

A second year of this seeding date experiment will begin again this June. Russian thistle and insect ecology components will be examined next season, in addition to the soil moisture and yield data. The ultimate objective of this multi-year experiment is to identify an optimum winter canola planting window in Washington's low rainfall region by: (1) determining canola responses to variable temperature and moisture regimes, and – more specifically – (2) defining water and nitrogen use efficiencies.