



Late-planted winter triticale in the dry region

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Triticale is a cross of wheat and rye that is used as a feed grain. Although it has been produced on a small scale for several years, triticale has not been widely grown in eastern WA due to the historically low market price of feed grains compared to wheat. Feed grain prices have increased in recent years.

IMPACT

Farmers and scientists have tried for decades to find a niche for no-till fallow as an alternative to tillage-based fallow in WA's dry wheat production zone. Our research has shown that late-planted (mid-October) winter triticale produces a grain yield equal to that of early-planted (first week of September) winter wheat. Early-planted winter triticale produces an average 18% greater grain yield compared to early-planted winter wheat.

Beginning in the fall of 2010, winter triticale was incorporated into the long-term cropping systems experiment on the Ron Jirava farm near Ritzville, WA. We had discovered through previous experimentation that winter triticale does considerably better than winter wheat in late (mid-October

or later) planting and thought that triticale might be a good fit for no-till summer fallow. Early planting into no-till fallow in late August to early September is generally not feasible in the low-precipitation zone due to a lack of seed-zone moisture. We planted winter triticale at the Jirava study into no-till fallow. Late-planted winter triticale goes into the winter months in the two- to three-leaf stage (Figure 1) but grows rapidly in the spring (Figure 2).

Heavy regionwide rain events exceeding 1 inch occurred during July or August of 2010, 2011, 2012, and 2013. Due to these abundant summer rains, there was adequate seed-zone soil moisture for early planting in no-till fallow. We therefore planted half of each triticale (variety 'Trimark 099') plot early (first week of September) and the other half late (mid-October). Winter wheat

Figure 1. Late-planted winter triticale (left) goes through the winter months in the two- to three-leaf stage, whereas early-planted winter triticale (right) is much further developed. Photo was taken on March 14. However, unlike late-planted winter wheat, late-planted winter triticale grows quickly in the spring and produces ample grain and straw biomass (see Figure 2). Photo by Bill Schillinger.



(variety 'Xerpha') was planted into tilled summer fallow during the first week of September on the same date as the early-planted winter triticale. Fertilizer and herbicide inputs were the same for all treatments. The seeding rate for early-planted winter triticale and winter wheat was 40 pounds per acre and for late-planted winter triticale was 60 pounds per acre.

Over the four crop years, the late-planted winter triticale grain yield averaged 3,798 pounds per acre and early-planted winter wheat 67 bushels (4,020 pounds per acre), these yields being statistically equal (Figure 3). Early-planted winter triticale grain yield averaged 4,901 pounds per acre, which significantly exceeded the average yield of early-planted winter wheat (Figure 3).

The price a grower would receive for triticale today (October 9, 2014) in Wilbur, WA, is \$136 per ton versus \$5.82 per bushel for soft white wheat. Therefore, the average 67 bushels of soft white wheat from our study is worth \$390 per acre and the average early- and late-planted winter triticale is worth \$333 and \$258 per acre, respectively. In several recent years, growers could sell triticale for more than \$200 per ton.

Our long-term research in the low-precipitation wheat-fallow zone of eastern WA has conclusively documented that late-planted winter wheat produces, on average, 36% less grain yield compared to early-planted winter wheat. Our research shows that late-planted winter triticale produces a yield equal to that of early-planted winter wheat. Additionally, early-planted winter triticale produces a significantly greater grain yield than winter wheat planted on the same date (Figure 3).

In addition to its high grain yield, winter triticale can be grown in the same manner and with the same inputs and equipment used for winter wheat. In-crop grass weed herbicides such as Maverick™ and Olympus™ can be used on triticale. Winter triticale grows taller and produces more residue than winter wheat (Figure 2), and thus it is a good choice for soils prone to wind erosion.



Figure 2. Early-planted (right side) and late-planted (left side) winter triticale in early July near Ritzville, WA. Photo by Bill Schillinger.

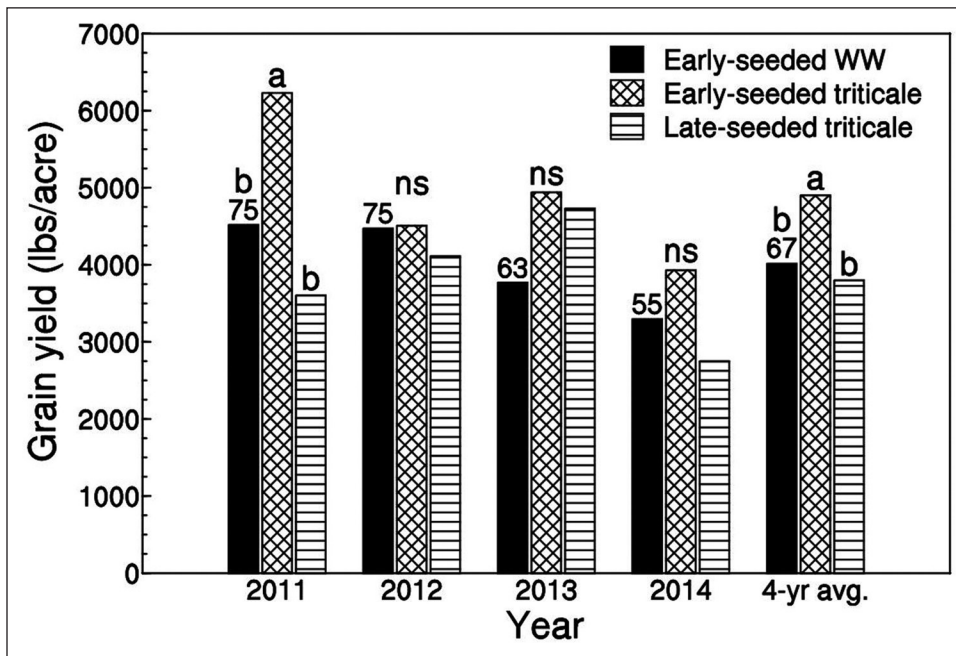


Figure 3. Grain yield of both early- and late-planted 'TriMark 099' winter triticale planted into no-till summer fallow versus early-planted 'Xerpha' soft white winter wheat (WW) in a long-term cropping systems experiment near Ritzville, WA. Within-year grain yields followed by a different letter are significantly different at the 5% probability level. Numbers over the wheat yield bars indicate bushels per acre.