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CROPWATCH

Figure 1. In these research trials in western Nebraska winter triticale was found to offer several advantages over winter barley as a cover crop.

Triticale: A Useful Component of a Cover Crop

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This is one of several briefs on NU cover crop research (http://cropwatch.unl.edu/2016/unl-cropwatch-december-9-2016) featured in this week's CropWatch.

Background

Triticale (2n=2N=6X, AABBRR) is a cross between durum wheat (2n=2N=4X, AABB) and rye (2n=2N=2X, RR). It is genetically stable and does not break down into wheat and rye. If rye is found in a triticale field, it is usually due to seed mixtures as triticale and rye seed are often conditioned at the same seed conditioners.

For over 50 years, the University of Nebraska has had a winter triticale breeding program to complement its winter wheat and winter barley breeding efforts. The winter triticale breeding effort began as a way to provide locally adapted feed grains for small grains producers in western Nebraska, historically an area where not enough grain is produced locally to feed area livestock. Feed wheat was not an option because it could be co-mingled with food grade wheat to the detriment of Nebraska's reputation for high quality wheat production. Similarly, winter barley was considered a risky crop as it has lower winter survival than winter triticale. Winter triticale is less winter hardy than winter wheat. Winter rye is the most winter hardy annual winter cereal. Over time, it was discovered that winter triticale has additional uses as a forage or hay crop. It produces more biomass than winter wheat or barley. We have rarely compared winter triticale to winter rye because winter rye has a much greater potential to produce volunteer plants the next year.

Study Description

Why should cover crop producers consider winter triticale in their cover crop blends?

Applied Questions

Figure 2. Winter triticale being grown in western Nebraska as part of a cover crop study.

Is winter triticale in a cover crop better than winter wheat and winter barley?

The advantage of winter triticale when compared to winter wheat and barley in a cover crop are that winter triticale has:

1. Much better resistance or tolerance than winter wheat to wheat streak mosaic virus and other common viruses native to Nebraska. Hence as cover crops are planted earlier than commercial wheat fields, the cover crop using triticale will have less potential to be part of the "green bridge" that is a reservoir for viruses to infect the later planted winter wheat fields. This is especially relevant in western Nebraska where wheat streak mosaic is an issue.

2. The biomass production of winter triticale is higher than winter wheat and barley which is beneficial for higher forage potential, weed suppression, or as a green manure.

3. The winter hardiness of winter triticale is sufficiently good that it can be grown throughout Nebraska wherever winter wheat can be grown. Winter triticale is more winter hardy than winter barley, hence is a consistent component of a cover crop than winter barley.

Is winter triticale better than winter rye?

Rye and triticale are similarly resistant to wheat and barley viruses and can be planted early with less concern about being a green bridge. Both have good winter hardiness and biomass production potential.