



“Selection of annual forage wheat lines for yield and quality”

BREEDING FORAGE WHEAT

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Background: Wheat is grown on almost all soil types in Alberta and produces about 7.6 million tonnes annually, making Alberta Canada’s second largest wheat producer behind Saskatchewan.

Until very recently, regulatory requirements did not allow for the registration and release of forage wheat varieties. Crops like barley, oats, and triticale were not subject to those same requirements, and have had some forage-specific varieties released over the years, but there are no forage-specific varieties of wheat in Canada. In Montana and other northern states, winter varieties of forage wheat such as Willow Creek are popular; partly due to the very high yield potential and feeding value.

Starting a breeding program from scratch is an expensive and time consuming process, as it can take 8-10 years to get a new variety to the marketplace. However, the U of S Crop Development Centre began this process with forage wheat several years ago, despite the regulatory restrictions. Those efforts have resulted in advanced lines of forage wheat that, when scored visually, have a high amount of biomass. These populations need to be evaluated, under field conditions, for forage yield and quality before new varieties can be registered and released under the relaxed regulations.

Objectives: The objectives of this study are to:

1. Evaluate advanced forage wheat lines for forage yield and quality at the early dough stage of maturity
2. Identify promising higher-yielding lines as potential forage wheat varieties

Implications of the Research: This will be the first project in Canada actively working towards developing forage wheat varieties that will be commercially available, and will serve as benchmark information for future forage wheat breeding efforts.

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