

News Column

Stacy Campbell

Cottonwood Extension District, Hays

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Is spring-planted wheat a viable option for northwest Kansas?

Spring wheat is a cool-season grain crop that in adapted areas of production (typically the Northern Great Plains) usually produces a higher protein and higher quality grain for milling and baking purposes. Spring wheat can be produced in northwest Kansas and adjoining areas. Yields will be lower than summer fallow winter wheat. Grain quality will be an important component of marketability. The long-term ability to produce quality spring wheat in northwest Kansas, and its economic viability, has yet to be demonstrated.

Management

Traditionally, spring wheat has not been a recommended crop in northwest Kansas. However, if spring wheat is planted, the K-State recommendation is to plant from February 25 through March 15. Particular emphasis should be given to the ending date relative to the starting date for minimizing heat stress, which will be the yield limiting factor in most years. In research plots at Colby, dormant seeded spring wheat in December has shown to be viable in stand establishment. Seeding rates significantly higher than those typically used in winter wheat will be necessary due to the reduced window for initiating productive tillers. In addition, heat stress will be exceptionally detrimental to tillers of spring wheat as compared to winter wheat, making the density of main stems even more important to achieving yield potential.

K-State does not have any current data regarding appropriate seeding rates for spring wheat but limited experience would suggest 1.3 to 1.8 million seeds per acre to be an appropriate range. With respect to nitrogen management, growers should consult the recommendations offered by North Dakota State University in the publication SF712, [“Fertilizing Hard Red Spring Wheat and Durum”](#). Spring wheat will reach physiological maturity and be harvested slightly later than winter wheat in our region.

Experimental data on spring wheat yields

Spring wheat has been evaluated at several points in time in northwest Kansas. From a historical context, during a 35-year study at Colby (1915-1950), spring wheat grown on fallow averaged slightly less than ½ of winter wheat grown (also on fallow). Additional research in the 1970's demonstrated a similar relationship. More modern research was conducted in 2001 through 2005 in which spring wheat averaged 49% of winter wheat

In response to producers' questions regarding spring wheat, a spring wheat variety trial was conducted in northwest KS in 2019. Sixteen spring wheat varieties from four companies were

evaluated and yields ranged from 56 to 37 bu/ac. These yields were 36 to 55% of winter wheat grown adjacent to the study. Grain samples from this trial are currently being evaluated for milling and baking quality. This trial is set to continue in 2020.

This data would show a significant reduction in yield potential for spring wheat relative to winter wheat when both are grown on fallow. It is important to note however, yield alone is not the determining factor for the viability of the practice. Differences in cost structure and revenue could very well make spring wheat an economically feasible alternative, provided that quality grain can be raised and marketed at a premium to winter wheat.

Marketing

Producers should be aware that hard red and hard white spring wheats are different market classes than hard red or hard white winter wheats. While small quantities are likely being blended off without notice, any concentration greater than 2% would be considered a mixing of classes that could result in the rejection of shipments. No local delivery points have been established at this time. A producer's greatest chance of successfully marketing spring wheat will involve the use of on-farm storage to allow proper segregation, time to perform necessary testing of grain quality, and then direct marketing to a mill. If it is shown that spring wheat of sufficient quality can be grown in the region, it is possible that delivery points would be established. However, it is more likely that this niche market will function mostly on the use of identity preservation practices, on-farm storage, and direct marketing.

Take home message

Spring wheat can be produced in this region. Producers should have marketing plans in place prior to production and manage the crop to ensure quality. However, there are still many unknowns regarding the production of spring wheat and its long term viability in northwest Kansas and adjacent areas.

Stacy Campbell is an Agriculture and Natural Resources agent in the Cottonwood District. You can contact him by e-mail at scampbel@ksu.edu or calling 785-628-9430.

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