**Should I grow winter wheat?**

*Dr. Tarlok Singh Sahota CCA*

Why not? Cultivation of winter wheat has several advantages; such as acting as cover crop, control of tough weeds such as wild oats, disease control or escape (*Fusarium Head Blight*), use of residual fertilizer nutrients from the spring crops and preventing nutrient losses, high straw yield and spreading farm operations. In order to get maximum economic yield from winter wheat it is important that it is seeded in time (ideally within August 25 to September 5/or 10) and the varieties grown are not only high yielding but are also tested and adopted to the NWO agro-climatic conditions. The following winter wheat varieties could be best for our area:

**AAC Gateway** is a relatively new hard red winter wheat variety (Canada Western Red Winter Wheat; CWRW) with top yields and protein, and an excellent disease package. AAC Gateway has best-in-class lodging resistance with very short (87 cm tall), strong and uniform straw. It is well adapted throughout Western Canada. Averaged over three years (2013-‘15), AAC Gateway produced 6.57 MT grain and 9.15 MT straw yield/ha at TBARS (now LUARS) Thunder Bay. One of our area producers got ~2 MT grain yield/acre from AAC Gateway in the recent past. Among the winter wheat varieties grown in Manitoba, AAC Gateway has the largest acreage. Other winter wheat varieties worth considering are:

**AAC Wildfire** is a hard red winter wheat cultivar eligible for grades of Canada Western Red Winter (CWRW) wheat. It was evaluated across western Canada for four years in the Western Winter Wheat Cooperative registration trials, where it yielded significantly more grain than all of the checks (Radiant, CDC Buteo, Flourish, Moats; that were tested at TBARS too) and expressed very good winter survival, relatively late maturity, medium height straw with very good lodging resistance, large kernels, and acceptable end-use quality. AAC Wildfire was resistant to the prevalent races of stripe rust, moderately resistant to *Fusarium Head Blight* and common bunt, showed improved leaf spot reaction, and tolerance to the original biotype of Russian wheat aphid. However, it is susceptible to stem rust (http://www.nrcresearchpress.com/doi/pdf/10.1139/cjps-2016-0155) due to susceptibility.

**AAC Goldrush** is a hard red winter wheat cultivar eligible for grades of Canada Western Red Winter wheat. AAC Goldrush was tested in replicated trials across western Canada for 6 years. Based on 41 station–years of registration trial data, AAC Goldrush yielded significantly more grain than CDC Buteo and was similar to Flourish, Moats, and AAC Elevate (tested at TBARS). AAC Goldrush expressed very good winter survival, intermediate maturity, medium height straw with good lodging resistance, and average size kernels. It has been resistant to the prevalent races of leaf rust, moderately resistant to stem rust, intermediate in resistance to stripe rust and *Fusarium* *H*ead *B*light, and susceptible to common bunt. Leaf spot reactions were similar to the best check. The grain yield, agronomic characteristics, and disease resistance attributes of AAC Goldrush (http://www.nrcresearchpress.com/doi/abs/10.1139/cjps-2017-0167#.W09Y2\_ZFy70) make it particularly well-suited to the eastern Prairie region of western Canada where CDC Buteo has been popular.

**JDC78** is a small-seeded hard red winter wheat well suited to eastern Canada, is mid late to mature and has excellent yields. In previous testing south of London, it has proved one of the top-yielding options out of all classes of wheat; not just the hard red class. JDC78 is named after the “C” in C&M Seeds and J. D. Cameron who fought tirelessly to get the hard red class of wheat started in Ontario. Among its top features, JDC78 is a short variety with upright leaf structure, good leaf disease tolerance and protein levels and excellent standability. It also performs well in high-management scenarios (http://redwheat.com/products-we-offer/hrww/; Country Guide August 24, 2017). Averaged over two years’ trials in Ontario, it gave a little higher grain yield than Princeton (http://www.gocereals.ca/) that was tested at TBARS Thunder Bay.

All these varieties can be seen in our trials at LUARS. Fields vacated by alfalfa could be put to best use by seeding winter wheat! The crop can also be grown after spring barley, which might lead to infestation by volunteer barley, especially if the conditions are wet after seeding. However, winter wheat will overcome competition from volunteer barley, which will eventually be frost/or winter killed. A short season annual forage crop such as barley or oat (to be harvested/or pastured at boot stage) or barley/or oat + peas mixture could be grown after harvesting winter wheat. Alternatively, winter rye could be grown as a cover crop that could be killed in spring with Roundup spray before seeding a spring crop; preferably canola or soybean. Why not grow winter wheat then?

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