

Consider growing winter wheat!

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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 during August 25 to September 5/or 10) and the varieties grown are not only high yielding but are also tested and adapted to the NWO agro-climatic conditions. The following winter wheat varieties could be best for our area:

AAC Gateway is a hard red winter wheat variety (Canada Western Red Winter Wheat; CWRW) with top yields and an excellent disease package. It has a good winter survival, short straw (87 cm tall) of excellent strength (has best-in-class lodging resistance), high grain protein concentration, and resistant to intermediate responses to stem rust, leaf rust, stripe rust and fusarium head blight. Its End-use suitability analysis indicated improvements in protein concentration, amylograph viscosity, dough rheology, loaf volume, and lower protein loss on milling. Averaged over three years (2013-'15), AAC Gateway produced 6.57 MT grain and 9.15 MT straw yield/ha at Thunder Bay. Last year, its grain yield at LUARS was 6.54 MT/ha when seeded on August 23 and 7.82 MT/ha when seeded on September 13 (straw yield 9.79 MT/ha!). 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:

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). We obtained 7.28 MT/ha grain and 10.6 MT/ha straw yield from JDC78 last year at LUARS by seeding on September 13.

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 LUARS). 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 Head Blight*, 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. It recorded 6.94 MT/ha grain and 9.98 MT/ha straw yield at LUARS last year when seeded on September 13.

Moats: is eligible for Canada Western Red Winter (CWRW) wheat class. It has excellent stem and leaf rust resistance and it grew up to 99-103 cm tall at LUARS with grain yield of 8.52 MT/ha and straw yield of 9.99 MT/ha last year at LUARS.

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>). Its grain yield at LUARS last year was 5.31 MT/ha (lower than AAC Gateway!).

Gallus: is an Ontario winter wheat variety. It has high leaf disease and Fusarium Head Blight tolerance and excellent lodging resistance. It grew 97 cm tall at Thunder Bay and gave the highest grain yield (6.78 MT/ha) in 2016. Its straw yield was not the highest, though reasonably good (9.33 MT/ha)! However, in trials at LUARS it was winter killed in some years and it would therefore be risky to grow Gallus in our area.

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. To get a bumper crop of winter wheat, follow package of practices described at: https://www.lakeheadu.ca/sites/default/files/uploads/3470/Documents/Extension_Articles/bumperwinter.pdf. 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?