

Time To Rethink Winter Cereals

By [Dianne Finstad](#) | October 2020 | [Production](#)

Seeding next year's crop while in the midst of this year's harvest and hoping it survives the winter is a stretch for some.

But for those who grow, promote and research winter cereals, it's not as big a gamble as you might think, and the benefits are worth it.

Dr. Robert Graf, principal research scientist with Agriculture and Agri-Food Canada (AAFC) in Lethbridge, is the go-to guru of winter wheat in Canada. "Certainly, there is that fear factor; that farmers are going to put the work into adjusting their rotations, getting it planted in the fall, recognizing they are harvesting at the same time, and then it doesn't survive," he says. "That is, I think, a big stumbling block."

"Here in Western Canada we have a spring crop mentality," says Graf. "If somebody new to winter wheat tries it and it fails, chances are they probably won't try it again for many years, if at all. At the same time, if somebody was starting farming and put spring wheat in and had a crop failure, I think they'd probably plant spring wheat the following year."

For many, the fear factor Graf mentions is rooted in long-past experiences and outdated information. The reality is that there have been, and continues to be, great improvements in winter cereal variety development, agronomic strength, production knowledge and markets, so if it's been a while since you considered growing one or more varieties, following is some food for thought.

AGRONOMIC AND ECONOMIC GAINS



Peter "Wheat Pete" Johnson says over 25 years of data shows the massive yield benefit winter wheat brings to corn and soy rotations.

Peter Johnson, affectionately known as "Wheat Pete", is an agronomist who was Ontario's provincial wheat specialist for 30 years before going solo. Winter wheat in that province, primarily in the southwestern and

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central regions, consistently sits at around a million acres. Johnson has also seen increased interest from the Maritimes, in the crop.

“Mainly it’s a win because of the benefit in the rotation,” says Johnson. “You put wheat in the rotation and your soil health factors all improve and it gives an opportunity for a cover crop,” he explains. “Plus, when we grow corn after the wheat, we get a five per cent yield increase, and when we grow soybeans after the corn, we get an 11 per cent yield increase in the soybeans, two years AFTER the wheat.

“And you go, ‘Wow, how can that be?’ But it’s real. We have long term data since the early 1980s from multiple sites and multiple different treatments, and on average that’s the benefit we get.”

Brad White has been growing winter wheat since 2015 on the 3,500-acre family farm near Gull Lake, SK. “I also work as a consulting agrologist so I saw some of the benefits, mostly around wild oats management,” he says.

“We were getting quite a bit of Group 1 resistance around here,” says White. “If winter wheat has any amount of moisture in the spring, and was seeded at the right time in the fall, it’s so ultra-competitive you just don’t see wild oats at all, and that’s a big driver for me.”

Further north at Windy Poplars Farm near Wynyard, SK, John Burns and his family are all about diversification with 13 different crops seeded to 22,000 acres over four farms, and winter cereals are very much a part of their annual cropping strategy.

“I guess the first win is that we’re doing operations in an alternate season to our spring crops, which I think has underestimated value,” says Burns. He uses winter cereals to help manage disease, weeds, insects and even weather. “Harvesting into a warmer season and seeding into a less risky season gives us more flexibility.”

He also likes the sustainability aspect of having ground cover for a longer period of time when the soil is more sensitive to wind or water erosion.



Windy Poplars Farm (bottom) is a multi-generational, multi-family operation. Back row L to R: Kristi and Dustin Burns, Bonita and Doug Reeves, John Burns. Front row L to R: Janelle and Tyler Burns, Linda Burns.

THE STRATEGIC PLAN

For all the benefits they bring, winter cereals do require a bit more strategic thinking and preparedness than spring crops. “One of our biggest agronomic challenges is straight cut canola because it’s pushing back the harvest date on most farms,” says White, adding that the ideal seeding window for winter cereals is September 10 to 20, and the ideal stubble to seed into is canola.

Burns says purposeful pre-planning can help. On his farm, that can mean choosing a shorter-season canola variety, or taking a crop off as green feed to prep for fall seeding and having winter cereal seed on hand. “The key is time management in the fall and making that decision to be ready a year ahead of your actual planting date,” he says.

Burns has also added a DOT Power Platform to his equipment roster so it can be out autonomously seeding fall rye or winter wheat, while freeing up other equipment for harvest.

Like Burns, White is committed to making winter cereals a regular habit. “We have managed to find a way to get some in, even in some pretty challenging years,” he says. “As long as you’ve got some crop off — even in a wet fall — if you get a couple days when it’s too wet to harvest, you can probably go seed wheat. You’ve just got to be set up, have the extra truck ready with seed, and have the drill ready,” White adds. “The big thing is,

once you get into winter cereals and you get that earlier harvest going, you start opening up a window of time to get the crop in.”

RESEARCH TO DRIVE CHANGE

Johnson, White and Burns all point to the research being done by Graf and others as key to making winter cereals a more sellable idea to farmers. “As breeders, we don’t look at any one trait in isolation,” says Graf, explaining that a holistic approach to breeding is critical. “With winter wheat in my program, we look at three broad areas — agronomics, disease resistance and quality.

“On the agronomic side, yield is always king,” he says. “Farmers want to have yield as high as possible, so we target that. With winter wheat, good winter survival is paramount, so we’ve definitely concentrated on that, along with straw strength and height and lodging resistance,” Graf adds.

“Our varieties of winter wheat have definitely become shorter. It’s not our grandfather’s crop anymore, where it was four feet tall. We’ve moved pretty much exclusively to semi-dwarf varieties of medium to short height with excellent lodging resistance.”

Graf is by no means alone in the very active field of winter cereals research. Dr. Brian Beres, also at AAFC Lethbridge, is looking at winter cereal survivability in different crop rotations. At the University of Saskatchewan, Dr. Ravi Chibbar works on the genomics of cold tolerance in winter cereals and Dr. Gavin Humphries, at AAFC Ottawa, breeds winter wheat for Eastern Canada. And it’s not just winter wheat, either. Work is being done to develop better fall rye varieties, triticale and even a winter durum.

For John Burns, it’s all a good sign. “It’s a mindset and takes a while to develop how winter cereals will work on your farm,” he says. “But it’s an opportunity missed if you don’t try it.”

New winter cereal varieties you can buy now or soon

From the winter wheat breeding program at Agriculture and Agri-Food Canada in Lethbridge, helmed by Dr. Robert Graf, here are some new varieties you might want to check out:

- AAC Goldrush is in the marketplace for the first time this fall. Graf sees it replacing CDC Buteo on the eastern Prairies, with very good winter hardiness, along with good leaf and stem rust resistance.
- AAC Network is being multiplied now. Graf thinks this could be a potential replacement for AAC Gateway. It has slightly better winter hardiness, similar protein concentration, is definitely higher yielding with better disease resistance across the board and has good lodging resistance. Its

parentage revives some drought tolerance traits from the past and it could have a real following in southern Alberta.

- W583 is being recommended for registration this fall. It shows very good winter hardiness and Graf feels it's a possible higher-yielding replacement for Emerson, which was the first winter wheat variety in Canada rated resistant to fusarium head blight. For the past few years, Emerson has been the number one variety in Manitoba and Saskatchewan, but research trials show W583 is also a particularly good performer in parkland areas.
- W601 is still in the pipeline and one to watch. For the past two years, it has been the overall top-yielding line in registration trials with good lodging resistance, a nice disease resistance package and very good winter survival. Based on what Graf is seeing, it looks to have very broad adaptation in all areas of Western Canada.
- Fall rye FP Genetics, a Regina-based, largely farmer-owned seed company, has acquired germplasm for fall rye hybrids from a German company, and this is generating a lot of grower interest.

Developing markets for winter cereals

Demand drives desire so if winter cereals are to thrive, there needs to be strong end markets.

John Burns, a producer with Windy Poplars Farm near Wynyard, SK, thinks winter wheat is underrated for its bread-making capabilities. The families involved in the farm grind their own flour, and winter wheat is a favourite choice.

Robert Graf, a winter wheat breeder and researcher at Agriculture and Agri-Food Canada in Lethbridge, has also been looking at improving grain protein concentration and gluten strength to improve winter wheat's attractiveness to commercial bakers.

In the meantime, growers like Brad White from Gull Lake, SK, has found success with niche markets, like the nearby feed mill that is often looking for early-harvested wheat to replenish depleted supplies. He says flour mills also want winter wheat for blending purposes as it allows them to make a consistent quality product. And he has seen elevators ask for winter wheat because its high test weight makes it ideal for blending.

White says the winter wheat presents some good marketing opportunities as well. Since it is primarily considered a feed wheat and hitting precise protein targets isn't critical to grade, White says he's apt to do more hedging with his winter wheat. "Actually, two years running now, I've forward priced feed wheat at a price that's ended up higher than what I got for a lot of my milling wheat."

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Meanwhile Graf is involved in some interesting work with Cereals Canada, tackling the shortage in critical marketing mass of the three medium protein wheat classes. “One of the things being thought about is continuing to register varieties in these three classes but, from a marketing standpoint, allow a complete mingling of the classes, rather than having the requirement to bin them separately at the elevator,” he says.

While in the early days of data collection, Graf suggests the complete mingling of CPS Red and Red Winter would be possible with little or no impact on end-use quality. “That could be a really interesting development in terms of getting more of a critical mass of the medium protein wheat,” he says. “It’s a refreshing approach which could bode well for the industry.” — Dianne Finstad

Photo Credit: Tyler Burns