SOW COLD

Ultra-early wheat seeding system on its way

By Megan Hall
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Graham Collier takes notes in his ultra-early seeded field near Lethbridge.

Should growers in Western Canada plan to seed at sub-optimal soil temperatures?

Ultra-early seeding has become a hot topic at conferences and field days throughout the province. Meteorological data collection has established that an earlier frost-free period throughout Western Canada may allow farmers to examine the option of seeding as much as two weeks earlier than normal.

Two experiments conducted by Agriculture and Agri-Food Canada research scientist Brian Beres in 2015 produced good indications that farmers can expect to move toward ultra-early seeding. Dean Spaner and Graham Collier of the University of Alberta joined forces with Beres and added three additional experiments that further assess the practicality of early seeding, with the ultimate goal of providing farmers with a complete agronomic management package that supports this option.

The package will include recommendations on varieties that could perform well in these conditions, along with suggested seeding rates, seeding depths, fertility sources, ideal soil temperature ranges and comprehensive weed management strategies. Collier, Beres and Spaner plan to have the full management package available to farmers in 2020.

At the recent Cereals Innovation Symposium, held by the Alberta Wheat Commission and Alberta Barley in Red Deer, Collier noted that the optimal soil temperature range is anywhere between 2°C and 6°C, based on preliminary research results.

"Once we have the agronomic package fully developed, producers should be able to implement the ultra-early seeding system with minimal changes to their farm plan and minimal additional cost," said Collier.

He suggested that farmers start by switching a couple of fields to an ultra-early system once the management package is distributed. This way, they can evaluate if it's a fit for their operation. "Some fields will be better suited than others on the farm—ones that drain well, are easily accessible and that can be prepared for seeding in the fall."

The potential benefits of ultra-early seeding are attractive. The ability to capture early-season snowmelt and rainfall is a clear advantage, encouraging a healthy crop and good yield.

Another major benefit to this system is the spreading out of labour and equipment resources during the busy spring seeding season. With many producers growing more than one crop, putting their wheat in the ground earlier than other crops may

help create better work-life balance on the farm.

Collier also remarked on the early canopy closure developed with ultra-early seeding. Once the crop is established, it can help supress weed emergence in the spring and capture additional early-season growing-degree days. "More leaf area out earlier in the year can make better use of our long days in June, adding to yield potential," he said.

"Currently, these results are all preliminary. But, with the first two projects' data collection completed and the third, fourth and fifth projects with one year of data collection remaining, we are optimistic about how ultra-early seeding can benefit western Canadian farmers," Collier said.

PROJECT PROGRESS

- *The initial ultra-early seeding projects evaluated differences between conventional spring-type cultivars and cold-tolerant, spring-type cultivars at a range of seeding dates and soil temperatures. As well, they determined the response of cold-tolerant wheat lines to manipulations in agronomic management at a range of seeding dates and temperatures.*

- *The final three projects investigating ultra-early seeding will evaluate fall-applied residual herbicides for early-season weed management; nitrogen sources and application timings; and identification of conventional varieties suited to an ultra-early wheat seeding system.*

WINNING WHEAT

During the 2017 growing season, the Alberta Wheat Commission (AWC) held its first-ever Wheat Yield Challenge. The contest featured two categories: irrigated and dryland. Up for grabs was the title of most productive wheat grower in the province. Each winner received a FarmTech pass and one full year of bragging rights.

IRRIGATED LAND

MATTHEW STANFORD
Magrath, AB

VARIETY:
AAC Gateway

YIELD:
113 bu/ac

"Planning is critical to success. This year, I was confident my 'planned' recipe would show results even before the yield challenge was announced in June," said Stanford.

DRYLAND

ALFRED VANDELIGHT
Eaglesham, AB

VARIETY:
AC Settler

YIELD:
100 bu/ac

"Balanced nutrition is a key to success; the rate of fertilizer doesn't matter if you don't know what is in your soil. Soil testing is vitally important to producing a good crop and no field is the same," said Vandelight.

Early Seeding Varieties

Alberta Wheat COMMISSION

CDC Titanium

Maturity Rating: E Early

CWRS Highlights
- High yield and excellent protein potential
- Moderate resistance to fusarium head blight (FHB)
- Recommended for high midge forecast areas in Western Canada

Resistance to:
Lodging: Good
Sprouting: Poor

Disease Tolerance:
- Stripe Rust: Resistant
- Leaf Spot: Moderately susceptible
- FHB: Moderately resistant

AAC Connery

Maturity Rating: E Early

CWRS Highlights
- Shorter stature and good grade retention
- Improved FHB rating
- Suitable for intensive management

Resistance to:
Lodging: Very Good
Sprouting: Good

Disease Tolerance:
- Stripe Rust: Resistant
- Leaf Spot: Intermediate
- FHB: Moderately resistant

Go Early

Maturity Rating: V Very Early

CWRS Highlights
- Large kernel size
- Good resistance to diseases
- Early maturity

Resistance to:
Lodging: Good
Sprouting: Poor

Disease Tolerance:
- Stripe Rust: Intermediate
- Leaf Spot: Susceptible
- FHB: Intermediate

5604 CL

Maturity Rating: E Early

CWRS Highlights
- High yield potential with early maturing and top grades
- Short stature
- Great standability
- Excellent resistance to diseases

Resistance to:
Lodging: Good
Sprouting: Good

Disease Tolerance:
- Stripe Rust: Insufficient data
- Leaf Spot: Moderately susceptible
- FHB: Intermediate

Thorsby

Maturity Rating: E Early

CWRS Highlights
- Broad geographic fit
- Resistant to strip rust
- Awnless

Resistance to:
Lodging: Good
Sprouting: Fair

Disease Tolerance:
- Stripe Rust: Resistant
- Leaf Spot: Moderately susceptible
- FHB: Intermediate