



AGRONOMY REPORT

MAY 2022

EARLY SEEDED SPRING WHEAT

As I'm writing this at the tail end of April, we are just days past our last significant snow event and have struggled through well below normal temperatures for much of April. This made me think that it might be a good idea to review a concept that has been around for a few years now; ultra-early seeded spring wheat. When I first heard of this concept back in 2015, it was a small plot study being conducted by a grad student from the University of Alberta named Graham Collier. He was seeding hard red spring wheat as early as March 29th in the Edmonton area and getting surprisingly good results on a consistent basis. Since then several farmers have successfully taken the concept to the field, so this spring seems like a good time to review the best management practices and address some of the most common questions I hear on the subject.

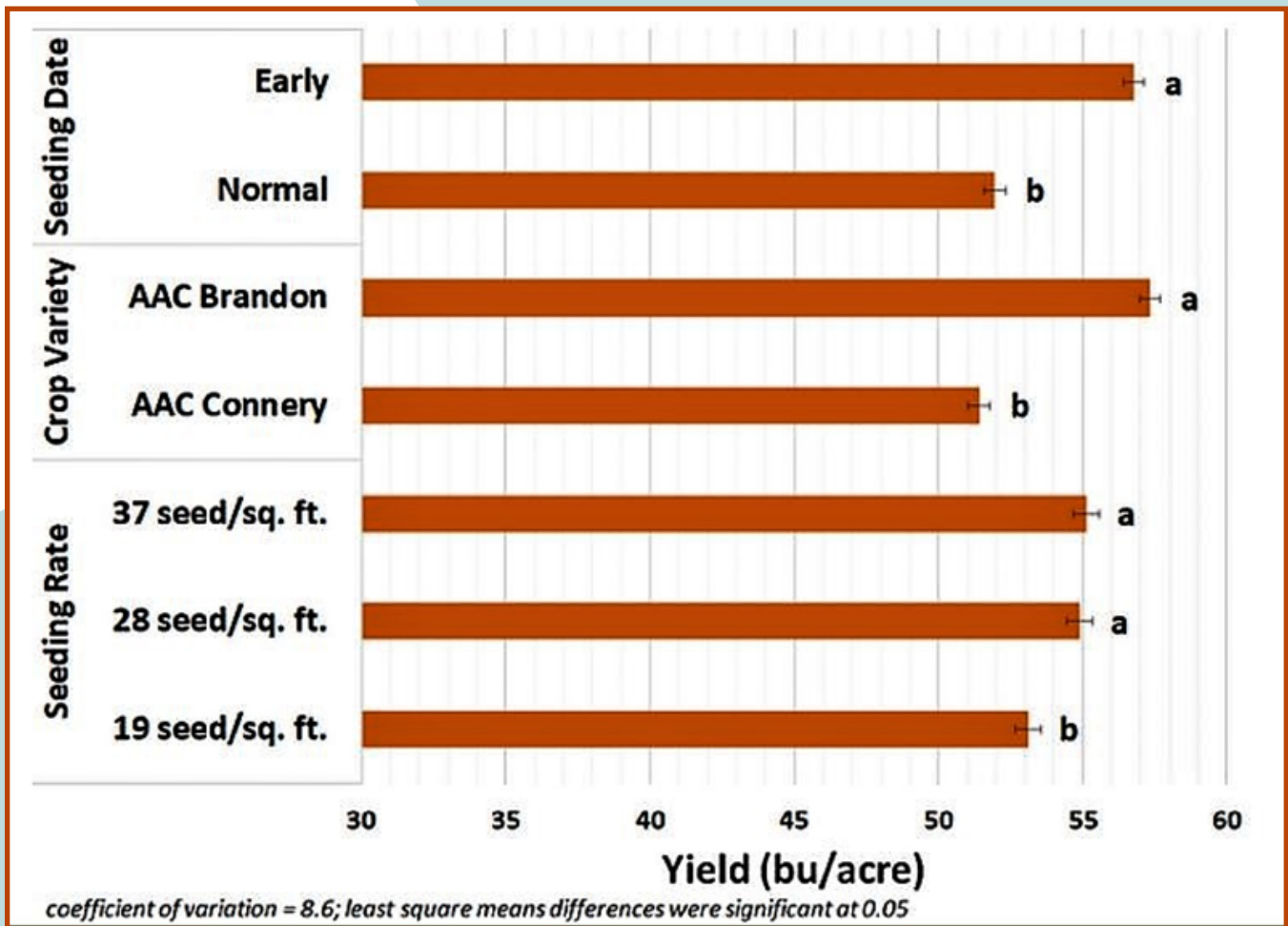


WHY SEED EARLY?

So why would a producer consider seeding so early in the year, when the crop possibly won't come up for weeks? Well, if the climate models are correct, the long term trend will lead to seeing less consistent precipitation during the growing season. Not necessarily less rain, but it will tend to come more infrequently and in more violent cloudbursts; the day long "soaker" will become a rare event. Also the bulk of the precipitation is expected to come earlier in the season. Meanwhile, July and August may become even hotter and drier. Moving the seeding date ahead should help the crop take advantage of better soil moisture conditions. The crop will also be more advanced when the hot, dry weather hits, leaving the wheat less vulnerable to blasts of heat that can cause florets to abort and tillers to drop. Finally, getting the wheat in early can leave more time to be more precise in timing the seeding for those other crops such as canola, that are not able to withstand the kind of adverse weather that the wheat seems to be able to.

If you are interested in learning more about the best way to go about ultra-early wheat seeding, here are a few of the most common questions people want answered;

- 1) **Should I seed treat?** The answer is an emphatic yes! This seed will be sitting in cold and generally wet soil for an extended period and will benefit from the protection from soil borne pathogens
- 2) **What variety of wheat works best?** In his trials, Collier tested 13 different varieties of wheat that included representatives from every class of Spring Wheat we grow in Alberta. There was no statistically significant difference between any of them. Whatever you are using now should work just fine.
- 3) **When is the best time to seed?** When seeding early, the key is the soil temperature, not the calendar. Wheat seeded when the soil temperature was between 2 C and 6 C consistently yielded as well or better than wheat seeded later. Seeding into soils colder than this could still end up with a good result, but not with the consistency the researchers were hoping to see. And the issue with seeding into temperatures greater than 6 C wasn't an increased risk but a loss of the advantages that the researchers were looking for.
- 4) **What's the best way to determine the soil temperature?** Check several places in the field to get an idea of the average temperature. If testing over several days, make sure you always test at the same time of day for consistency of results. And finally, make sure you are putting the soil temperature probe into the ground to the same depth every time. Collier recommends about 5 cm to avoid the impact of surface warming on sunny days.
- 5) **Should I increase my seeding rate?** The short answer is likely. It kind of depends where your seeding rate is now. In general, increasing the seeding rate seems to increase the stability of the results. This may be because there can be higher seedling mortality than you would see when seeding into higher soil temperatures. Collier did his trials using 20 seeds per ft² vs 40 seeds, and saw much more consistent results at 40 seeds. In 2020 the North Peace Applied Research Association (NPARA) did a 7 site trial where they looked at seeding rates of 19, 27 and 38 seeds/ft². They saw no real difference between the 2 higher rates, but the 19 seeds/ft² lagged in yield. A 1 year trial doesn't answer any questions about how stable the results are seeding at 27 seeds/ft², but it looks encouraging. I have questions about how well a drill with a narrow opener and 12" spacings will support the plant population you may get from 40 seeds/ft², so I hope the association is planning further trials.



THE WHOLE TREND IS A DIRECT RESPONSE...

This whole trend in early seeding is a direct response to researchers and growers looking for ways to adjust farming practices as we deal with climate change. If you would like see how the climate has changed in the last 70 years on your farm, I suggest you try out this excellent website *Alberta Climate Records* <http://albertaclimaterecords.com/>. There is a wealth of information on this website and if you are not quite sure how to tackle it, AlbertaFarmer provides a good tutorial to help you navigate the site. <https://www.albertafarmexpress.ca/news/drill-deep-into-the-weather-history-of-your-farm/>



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