



Intensive Wheat Management – Should I do It?

Managing wheat production has come a long way in the last 10 years, and so the answer to the question above is YES you should do it if it fits your farming operation, your risk tolerance and is a profitable proposition. “Intensive wheat management” is just looking at the many different management areas within your control on the farm and determining whether changing any of those areas makes economic sense and how best to implement those changes.

There are four key pillars of wheat production that you can focus on.

- **Planning** - a solid crop plan could be the difference between an average result and a bumper crop
 - Yield and quality goals; CWRS varieties can achieve 100+ bushels per acre (BPA) and 13.5% protein whereas CPSR varieties can achieve 110+ BPA and 11.5% protein
 - Variety selection; newer CWRS varieties like AAC Brandon and AAC Viewfield have better yield potential with improved disease packages whereas brand new varieties like Jake and Parata are earlier maturing to help manage maturity risk without a yield penalty. On the other hand, CPSR varieties like AAC Penhold and AAC Crossfield rank near the top of that wheat class on disease and yield potential
 - Fertility plan; new research suggests that applying rates of actual nitrogen in excess of 130 lbs. per acre are showing a profitable yield and protein response. As yields go up, other nutrients like phosphorus, potassium and sulfur are being removed from fields at much higher rates and need to be replaced
 - Setting expectations; setting your plan and sticking to it throughout the growing season will give you a higher likelihood of achieving your goals
- **Establishment** - once you have the plan in place, the first and some say most important job is getting the crop established uniformly.
 - Ideal seeding rate; yield is calculated by multiplying stems/sq. ft. by head size (#florets/head.) by seed weight. Ideal stand (60 stems/sq. ft. x 12-15 florets/head x 3-4 large seeds/floret). Seeding rate- target 36 seeds/sq. ft.= ~30 plant/sq. ft. with 1 tiller per plant = 60 stems/sq. ft.
 - Ideal seeding date; new data suggests that when you start seeding wheat at a soil temp. of 2° C, you don't suffer any yield penalty and you maximize leaf area on June 20 (longest day of the year). Earlier seeding allows you to seed less seeds/ sq. ft. because plants tiller better in cooler temperatures helping meet your stems/ sq. ft. target
 - Ideal seeding depth; seeding into cooler soils dictates shallower seeding but always to moisture
- **Pest Management** - a well-executed pest management strategy helps keep your yield potential intact
 - Always use a seed treatment; seed and soil borne diseases impact seedling vigor, survivability and ultimately plant stand which impacts yield
 - Know your weed spectrum; weeds in general but especially hard to kill weeds and resistant weed populations will rob yield if not dealt with in a focused approach
 - Scout your fields; know potential pest problems (weeds, diseases and insects) before they impact yield. Ideal timing of treatment is critical
- **Crop Enhancement** - these are all the in-season strategies that enhance and protect yield potential
 - Nitrogen top dressing; the economics of top-dressing in Central Alberta are still unproven, but the improvement in wheat protein content has been well documented
 - Plant growth regulators (PGR); with the onset of higher nitrogen rates in wheat, a number of CWRS varieties have a higher likelihood of lodging which is where a PGR can really make a difference in standability
 - Fusarium head blight (FHB) assessment; the risk of a yield and quality robbing FHB infection is getting closer to reality in Central Alberta and needs to be assessed season by season based on risk of infection and underlying conditions like moisture levels and humidity
 - Preharvest and harvest management; making sure that the final stage of the wheat crop is managed to maintain quality and grade

Managing for improvement whether that be better yield, higher protein, improved quality, increased return on investment or being more profitable means a focused approach to implementing new strategies or fine-tuning existing strategies can help make wheat one of the most successful crops on your farm.

Submitted by Grant McCormick Agronomist, Central Alberta Co-op (Lacombe)

