

CPS WHEAT VARIETY TRIAL

These CPS wheat varieties were chosen for the 2024 trial by a survey completed by producers in the County of Northern Lights:

- CS Accelerate
- AAC Goodwin
- AAC Penhold
- AAC Foray
- AAC Rimbey
- AAC Westlock

Key Points:

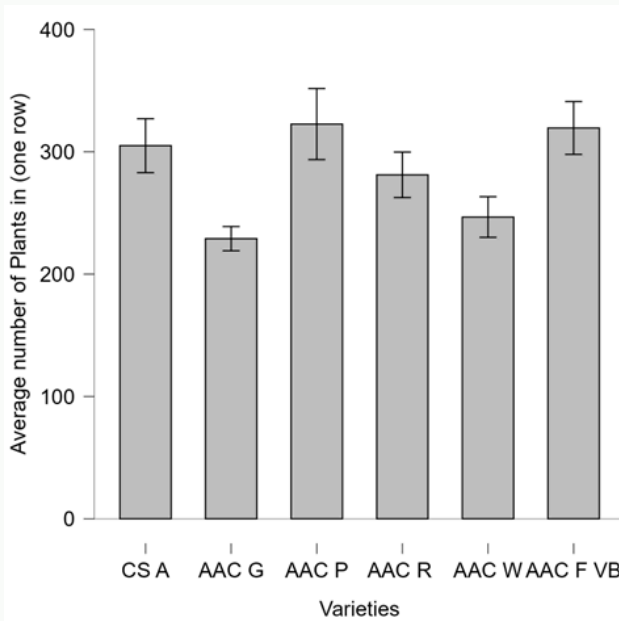
- AAC Penhold and AAC Foray had the highest emergence counts
- CS Accelerate and AAC Rimbey had the highest stand counts at maturity
- AAC Goodwin and AAC Westlock are the tallest varieties



Task	Timeline	Details
Seeding	May 24	108-166 lb/ac 1" depth
Maintenance	May 20 - June 20	Urea 100 lb/ac S15 80 lb/ac Glyphosate (pre-seed) 1 L/ac Fluroxypur 240 mL/ac Clopyralid 84 mL/ac MCPA Ester 281 mL/ac
Harvest	Sept. 20	Straight-cut

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Legend: CS A = CS Accelerate, AAC G = AAC Goodwin, AAC P = AAC Penhold, AAC R = AAC Rimbey VB, AAC W = AAC Westlock, AAC F = AAC Foray VB

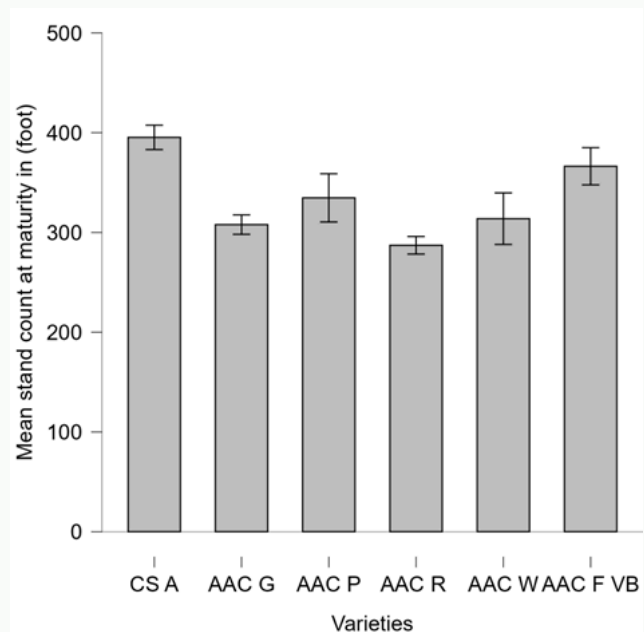


There is a significant difference among the Canada Prairie Spring (CPS) wheat varieties for emergence ($p = 0.011$). A Post Hoc Tukey test identifies AAC Penhold as having a significantly higher percentage emergence than AAC Goodwin ($p = 0.032$). AAC Foray VB has a significantly higher percentage emergence than AAC Goodwin ($p = 0.041$). No significant differences were observed for other pairwise comparisons. Therefore, AAC Penhold and AAC Foray VB outperform AAC Goodwin, making them preferable choices for the soil conditions of the Northern Peace Region.

Emergence (plants per row) of six CPS wheat varieties 14 days after seeding.

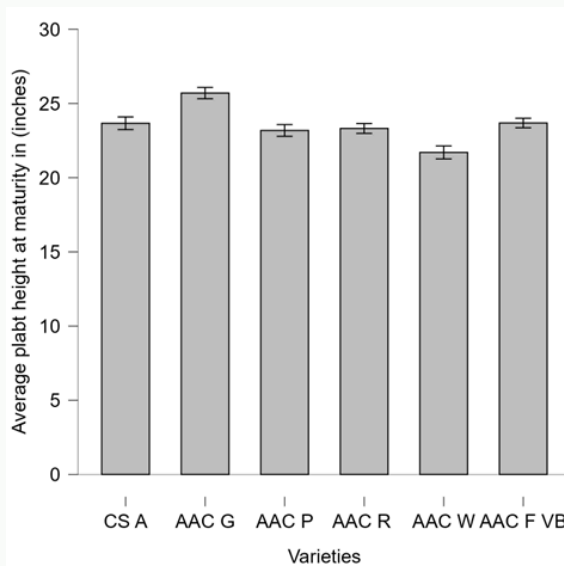
Stand count analysis of CPS wheat varieties at maturity indicates a statistically significant difference for the varieties being compared (p -value = 0.002). CS Accelerate has a significantly higher stand count at maturity than AAC Goodwin ($p = 0.019$), as well as a much higher stand count compared to AAC Rimbey VB ($p = 0.002$). CS Accelerate also outperforms AAC Westlock ($p = 0.033$). Therefore, CS Accelerate emerges as the most robust variety for the growing conditions, followed by AAC Rimbey VB. These varieties are recommended for maximizing plant establishment and final stand density.

Stand count (plants per row) of six CPS wheat varieties 40 days after seeding.

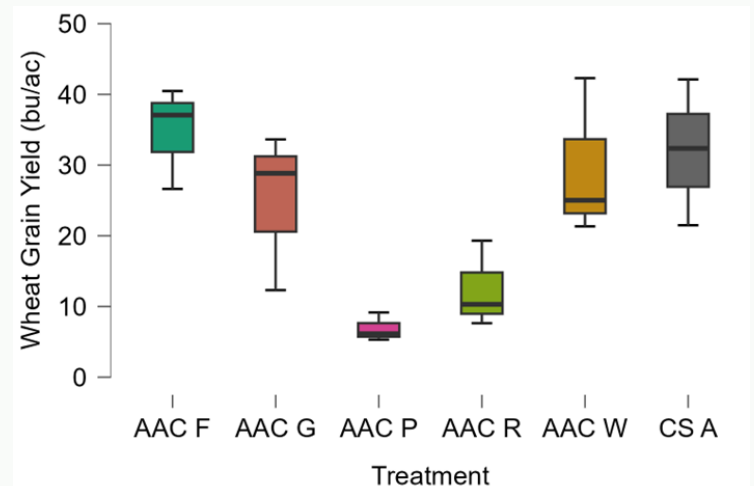


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Legend: CS A = CS Accelerate, AAC G = AAC Goodwin, AAC P = AAC Penhold, AAC R = AAC Rimbey VB, AAC W = AAC Westlock, AAC F = AAC Foray VB



Plant height (inches) of six CPS wheat varieties 40 days after seeding.



Grain yield (bu/ac) of six CPS wheat varieties at harvest.

There are significant differences in plant heights among the CPS wheat varieties (p -value is <0.001). A Post Hoc Tukey test indicates that AAC Goodwin is significantly taller than CS Accelerate (p -value: 0.003) and AAC Westlock is significantly taller than CS Accelerate (p -value = 0.005). As the tallest varieties, AAC Goodwin and AAC Westlock are potentially better suited for environments where plant height contributes to better yield or shading effects. There are no statistically significant differences in lodging ratings among the CPS wheat varieties ($p = 0.45$).

There are statistically significant differences in yield ($p = 0.01$) among the six CPS wheat varieties. A Post Hoc Tukey test indicates that AAC Foray VB and CS Accelerate have significantly higher yields respectively ($p = 0.019$ and $p = 0.036$), compared to the other varieties. Therefore, CS Accelerate and AAC Foray VB are the top-performing varieties, with the highest median yields. There are no statistically significant differences in protein content among the six varieties tested ($p = 0.51$).