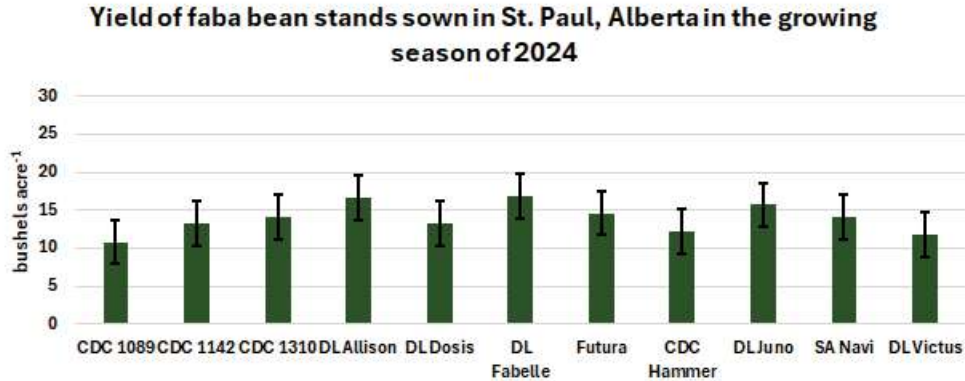


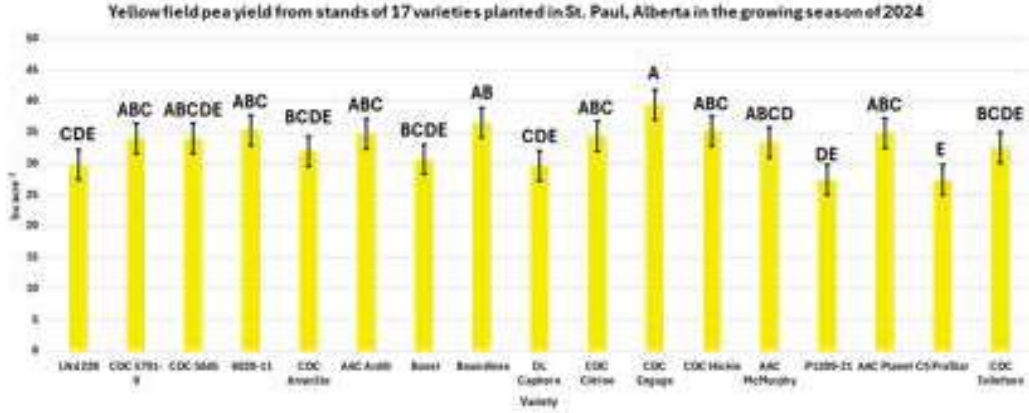
Pulse Variety Trials

Faba Bean



Eleven faba bean varieties were trialed in 2024 as part of the pulse RVT program. Statistical analysis revealed that there were no significant differences for emergence ($P=0.0947$), plant height ($P=0.4200$), yield ($P=0.9095$), test weight ($P=0.5272$) and thousand kernel weight ($P=0.1624$). The lack of differences between varieties was not unexpected as the Lakeland region experienced a severe heat wave in early July, followed by extended drought conditions into August. Faba beans are known to be sensitive to drought conditions. Crop yields were below average for the region. These results are in line with AFSC crop reports that suggest that the snowbird variety yielded an average of 22 bu/ac in 2021 (Risk Area 15, Lakeland Region), which was also a dry year. In comparison with 2018, 2019, and 2020, where average Faba Bean yield was 51, 40, and 47 bu/ac, respectively (Risk Area 15, Lakeland Region). More information is available on: <https://albertapulse.com/growing-pulses/how-we-help/>

Yellow Field Pea



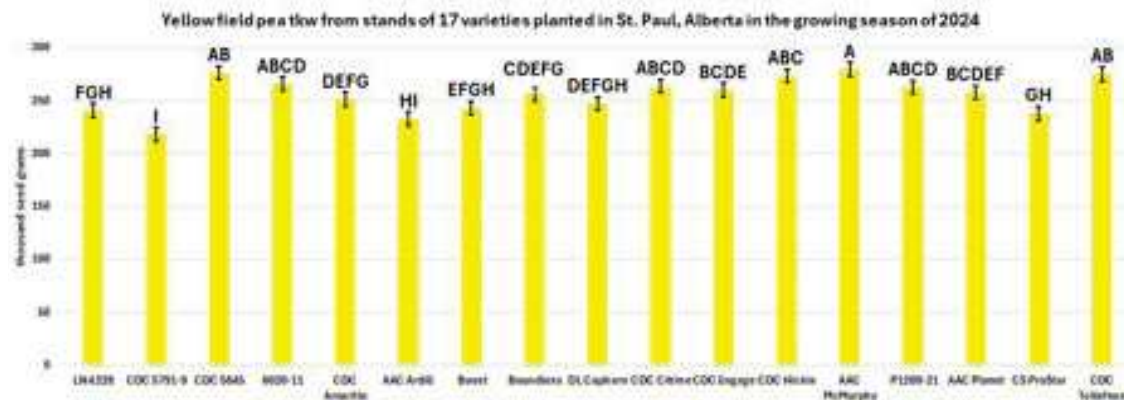
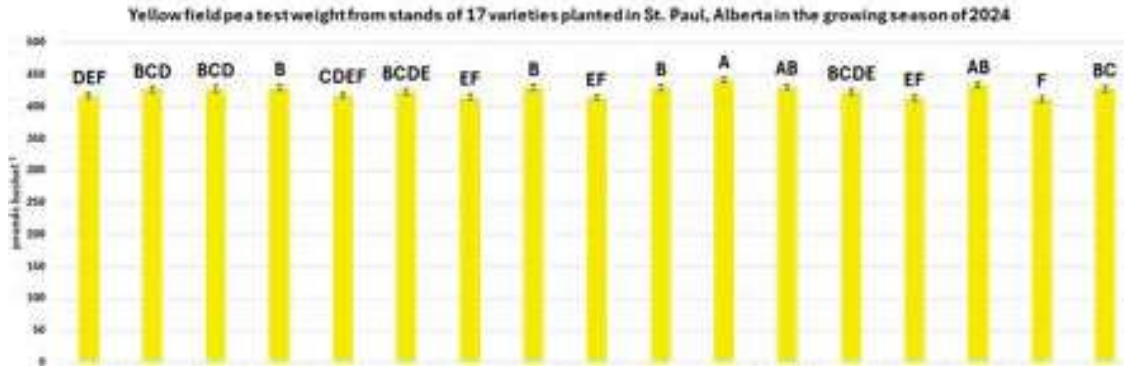
Seventeen yellow pea varieties were trialed in 2024 as part of the pulse Variety Trial program. Statistical analysis revealed that there were significant differences for yield ($P=0.0258$), test weight ($P<0.0001$) and thousand kernel weight ($P<0.0001$), but not for emergence ($P=0.8049$). Field peas are known to perform better in drought conditions compared to other pulse crops. The trial average in 2024 was 33 bu/ac, which was in line with 2021 (another dry year) AFSC report for dryland field peas in the Lakeland region (32 bu/ac).

CDC Engage performed the best in terms of yield in 2024, which was 19% higher than the check variety (CDC Amarillo). P1209-21 and CS Prostar performed the worst in terms of yield. Both varieties were 14% lower than the check variety. All other varieties were not significantly different than the check variety in terms of yield.

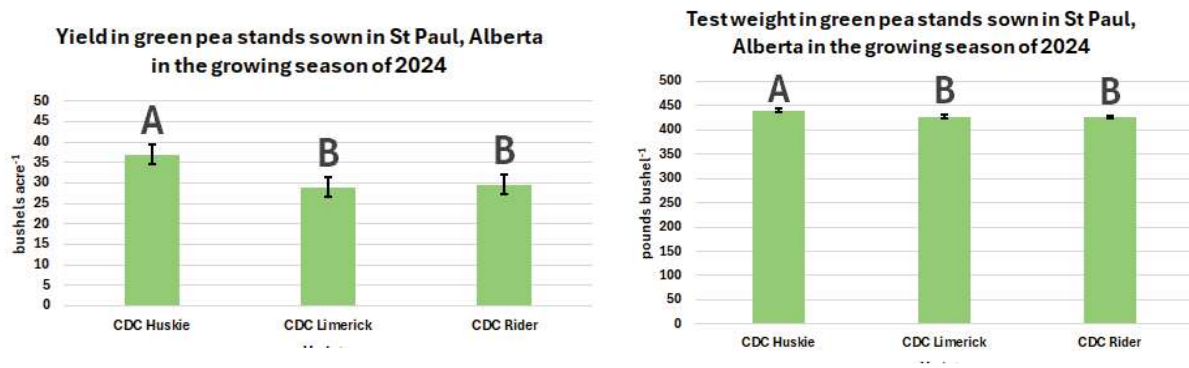
CDC Engage also had the highest test weight, followed by CDC Hickie, and AAC Planet (6,4, and 3% higher than the check). All other varieties were on par with the check variety.

McMurphy and Tollefso had the highest thousand kernel weight values (11 and 9% higher than the check). CDC 5791-9 and AAC Ardill, on the other hand, had the lowest thousand kernel weight values (13 and 7% lower than the check).

More information is available on: <https://albertapulse.com/growing-pulses/how-we-help/>



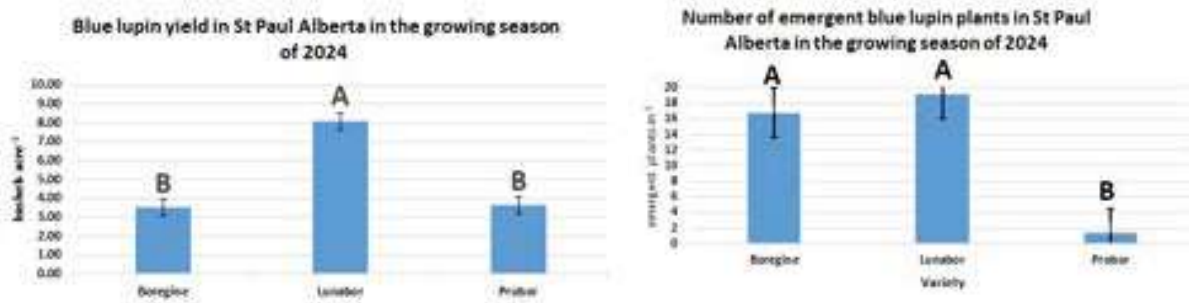
Green Field Pea



Only three green pea varieties were trialed in 2024 as part of the pulse Variety Trial program. Statistical analysis revealed that there was only significant differences for yield ($P=0.0286$) and test weight ($P=0.0464$). Values for emergence ($P=0.7281$), thousand kernel weight ($P=0.0713$) were statistically the same in all three varieties. Field peas are known to perform better in drought conditions compared to other pulse crops. The trial average in 2024 was 33 bu/ac, which was in line with 2021 (another dry year) AFSC report for dryland field peas in the Lakeland region (32 bu/ac). CDC Huskie outperformed both the check variety (CDC Limerick) and CDC rider in terms of yield (28% higher).

More information is available on: <https://albertapulse.com/growing-pulses/how-we-help/>

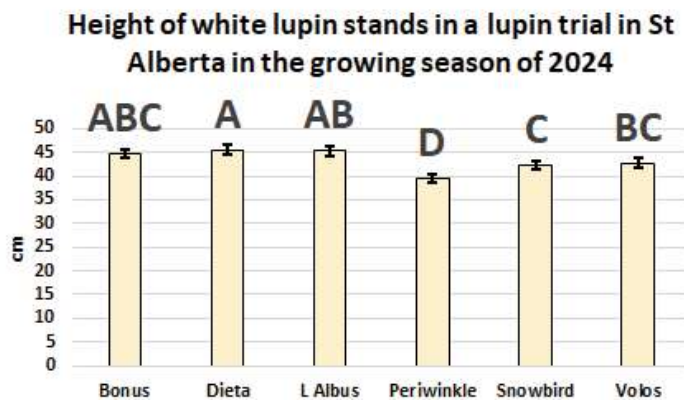
Blue lupin



There were three blue lupine varieties tested in the lupin variety trial. For the growing season of 2024, lupines had difficulty emerging and very few individuals were found at each plot site. The number of blue lupins was so low it was found best to harvest them by hand as combining them would cause grain yield loss. Despite all this, Lunabor yielded more than likewise varieties: Boregine and Probor ($P=0.002$). Similar to yield, Lunabor emergent stands were more numerous than Probor stands, but not those of Boregine ($P=0.0096$). Height was found to be the same ($P=0.1201$, no stand taller than 50cm by the end of August). Similarly, there was no difference among varieties in number of nodes ($P=0.6141$).

It is possible the wet conditions in May and June occurring in St. Paul may have made it difficult for lupine to grow further. As aforementioned, many lupine stands did not emergence. In addition, even though maturity occurred as expected (close to yellow pea), it occurred fast and pods split soon after. Many of the grain from these pods was found to start emerging while on the ground. Further trials for lupine need to be conducted in order to understand the effect of climate and soil factors involved in their development and yield

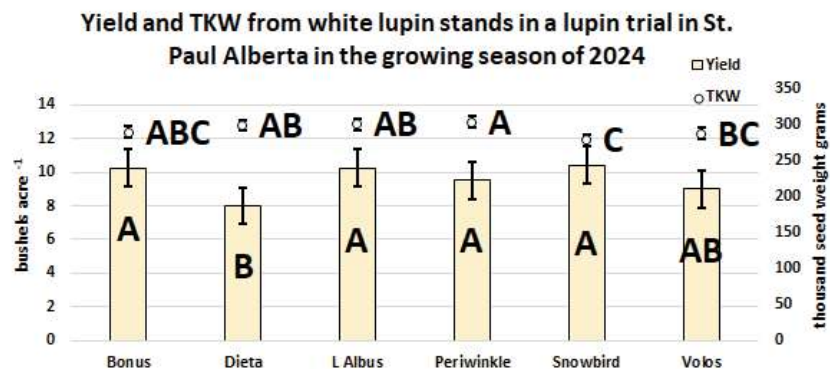
White lupin



In white lupin varieties grown in the 2024 season in St. Paul Alberta, no differences were found in emergence ($P=0.8088$), number and rating of nodes ($P=0.5310$) or test weight ($P=0.6704$).

The growing season of 2024 was not suitable for white lupine either. Many of the stands were too short (no taller than 50cm) but there were more stands in trial plots compared to number of stands in blue lupine varieties. Height was also significant ($P=0.0111$). Periwinkle was the shortest white lupine variety, followed by Snowbird, Volos and Bonus. Although the tallest stands were from plots sown by the Dieta variety, these individuals were no

taller than those found in plots sown to Bonus and L. albus varieties. Yield was the same for all varieties but Dieta ($P=0.0237$). It is possible that the variety Dieta is more sensitive to environmental factors than other varieties resulting in yields

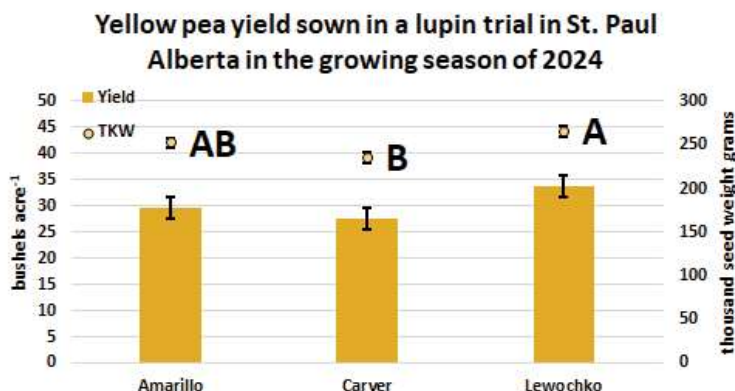


significantly lower. Thousand kernel (seed) weight was lighter in the Snowbird, Volos and Bonus varieties ($P=0.0300$). There was a trend where height in some way predicted tkw (except in the Dieta and Periwinkle white lupine varieties). As such, shortest stands had lightest tkw than those stands able to grow taller. These results indicate that although Snowbird was one of the most yielding, its thousand seed weight is the lowest, meaning that, should this variety be sown the next season, more seed is required to achieve optimal number of stands, which could be costly for growers. This is contrary to the Periwinkle variety, which was one of the most yielding and had one of the heaviest tkws.

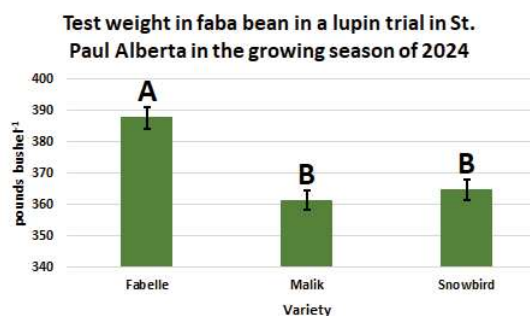
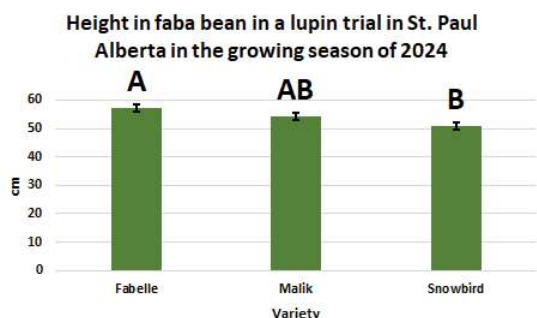
Yellow Field Pea (in lupin trial)

Along with blue lupine and white lupine varieties, the lupine trial also had for comparison three yellow pea and three faba bean varieties. These varieties had the same yield ($P=0.1692$), test weight ($P=0.1446$), height ($P=0.3375$), node number and rating (0.3153) and emergence ($P=0.4076$). Thousand kernel (seed) weight was greater in the

Lewochko variety compared to Carver and both were the same in comparison to the control (Amarillo). In comparison to lupine, yellow pea stands looked healthy and yield was similar to that found in yellow and green pea trials. It is possible that the drought occurring in July and August may have hastened their maturity, but otherwise all varieties were on par with each other.



Faba bean (in lupin trial)



and Snowbird. Overall faba bean varieties were affected by the drought this growing season. This is reflected mostly in its yield, which was below 30 bushels per acre in all varieties in this trial.

Faba bean varieties were quite different among each other in height ($P=0.0282$), test weight ($P=0.0061$), tkw (tsw) ($P=0.0002$) and yield ($P=0.0065$). The fabelle faba bean variety stands were as tall as Malik but had heavier test weight and was higher yielding than Malik and Snowbird varieties. An outstanding caveat found among this varieties is that Malik had a heavier thousand seed weight, followed by Fabelle