

With increases in larger farms, producers have a limited time in the spring, and as a result many are broadcasting their fertilizer in either the spring or fall to save time. Broadcasting is considered an inefficient use of N and can cause economic losses and environmental degradation. These risks can be minimized by using N efficiency products such as Agrotain, Super U and ESN that reduce N losses to the environment. To explore these N efficiency products using canola, a trial was conducted near Prince Albert SK in 2019.

The first four treatments varied the rate of fertilizer; 0, 0.5x, 0.75x, and 1x the recommended N rate to achieve a 40 bu/ac crop. These treatments were used to create a N response curve (Figure 1). The other eight treatments had the same 1x N rate and examined the different N management strategies; fall or spring, side-banded or broadcast, and four N sources (Urea, Agrotain, SuperU, ESN).

There was a clear yield response to N in Figure 1 and there was a strong relationship between yield and N rate ($r=0.89$, $p<0.001$).

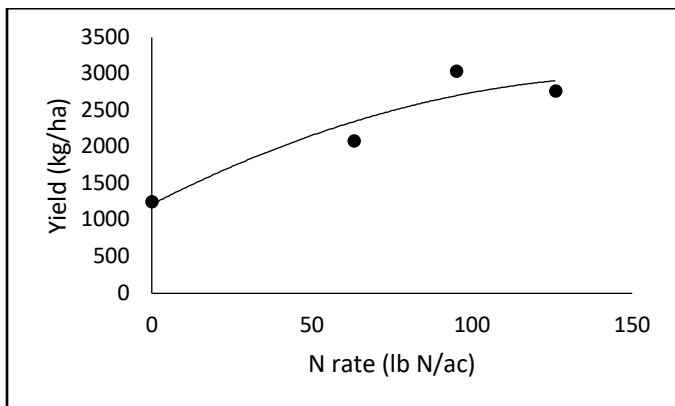


Figure 1. Nitrogen response curve of canola at the CLC in 2019.

Spring side banded at 1X had the best stand establishment versus spring broadcasted urea and ESN that had the lowest establishment (Figure 2). Banding nitrogen is considered the best practice for fertilization as was demonstrated. The efficiency product ESN is typically recommended for use with fall applications because release may be too slow when applied in

spring, especially under dry conditions. This may explain the low plant densities with ESN. However, low plant establishment did not directly translate to lower yields. In Figure 3, there appears to be little difference between yields.

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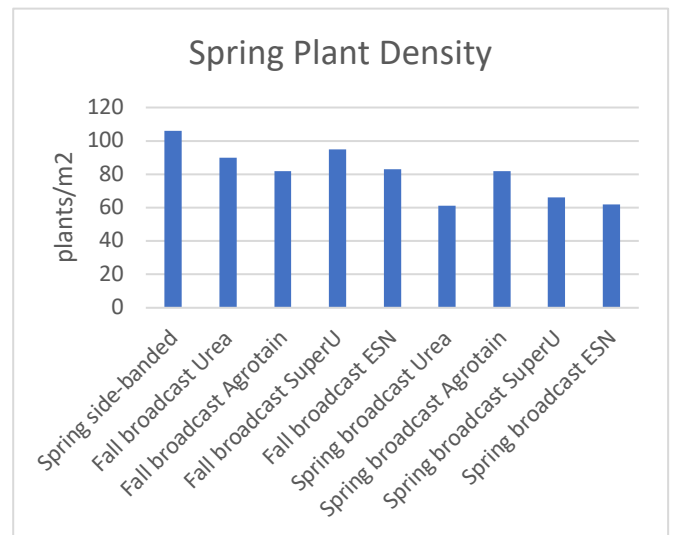


Figure 2. Spring plant density of spring canola in response to different N management strategies at the CLC in 2019.

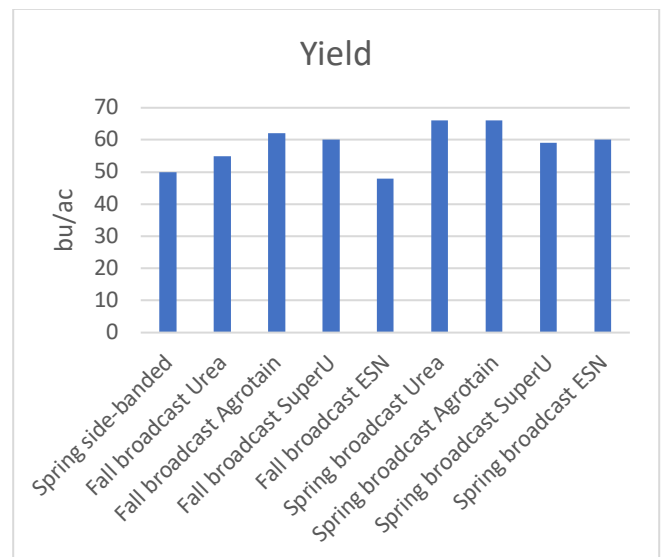


Figure 3. Yield of spring canola in response to different N management strategies at the CLC in 2019.