

With the advent of effective and safe herbicides over the last 50 years, producers have placed less importance on many of the cultural weed management practices such as increased seeding rates and closer row spacing. But, with herbicide resistance becoming an ever-growing issue, these cultural methods are being considered again.

Larger farming implements have resulted in wider row spacing and less competition. A consequence of low-density seeding is that cereal crops tend to have more secondary growth in the form of late tillers that need to be terminated using harvest aid herbicides. Increasing seeding density can be used to reduce herbicide use and tillering. However, no competition studies using new spring wheat varieties have been done in recent years. In response to this knowledge gap, a trial was conducted near Prince Albert SK, in 2019 exploring the effect of seeding density on weed competition and regrowth in spring wheat.

The treatments included four different seeding rates of spring wheat; 203, 270, 405, and 540 seeds/m² and two different row spacings; 10 and 20 inches, replicated 4 times. The seeding rates were based off the base rate of 270 viable seeds/m² (100% the seeding rate). To ensure weeds were present, tame oats and yellow mustard were cross seeded through the plots.

Smaller 10" row spacing had fewer weeds than the larger 20" row spacing, and the higher seeding rates generally had lower amounts of weeds than the lower seeding rates (Figure 1).

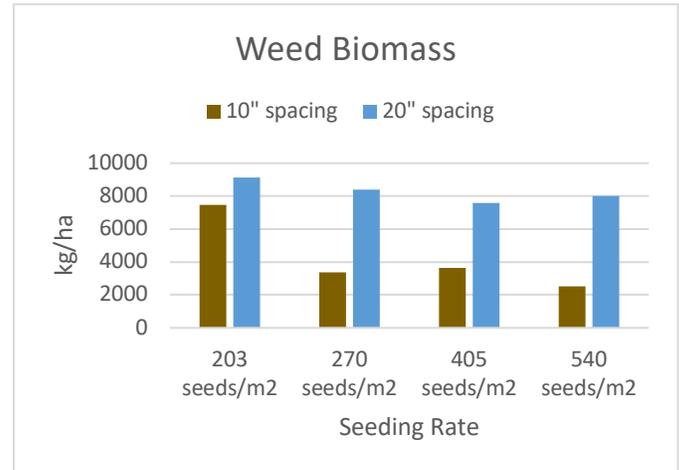


Figure 1. Weed biomass in plots with different seeding rates and row spacing at the CLC in 2019.

Tillering was not significantly affected by row spacing or seeding density, although there was a slight trend of increasing tillers with decreasing seeding rate with 10" spacing but not 20" spacing (Figure 2). This lack of trend for 20" spacing could be due to more concentrated plants.

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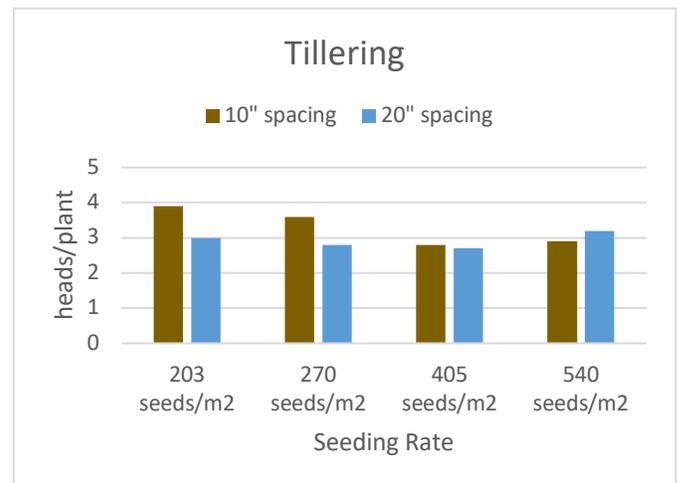


Figure 2. Tillering of spring wheat with different seeding rates and row spacing at the CLC in 2019.