



## Wheatland Conservation Area Inc.

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### Pre-harvest Weed Control and Desiccation Options for Flax

Saskatchewan Flax Development Commission

The objectives for this project were to demonstrate the effects of pre-harvest herbicide and desiccant options for flax on seed and straw dry-down, as well as provide a forum for discussion on the potential advantages and disadvantages with respect to both weed control and efficacy as a harvest aid.



In the spring of 2020 flax was seeded into cereal stubble at Swift Current using a 9-row Fabro-built cone seeder equipped with Atom-Jet openers. Treatments were a factorial combination of two varieties (CDC Bethune and CDC Glas) and four pre-harvest herbicide/desiccation options. The pre-harvest treatments were an untreated control, glyphosate applied alone versus glyphosate tank-mixed with saflufenacil, and diquat.

Spring plant densities significantly differed between varieties with Bethune having lower plant populations for each treatment. Mean plant densities of each variety were 222 plants/m<sup>2</sup> (CDC Bethune) and 272 plants/m<sup>2</sup> (CDC Glas). There were also significant variety effects on visual stem dry-down ratings at 0 DAA where, in both cases, dry-down ratings were higher with CDC Glas than with CDC Bethune. The differences did not diminish over 14 days and remained significant. Stem moisture content did not differ between varieties, but the Reglone Ion applications did result in a lower stem moisture, specifically on CDC Glas. However, all values were relatively low and provides evidence that the crop dried down reasonably well regardless of pre-harvest treatment at this location. Resulting seed yield mean was slightly higher from CDC Bethune (2,528 kg/ha) compared to CDC Glas (2,459 kg/ha), but no treatment effects from herbicide or desiccant were present.

Pre-harvest herbicides or crop desiccants are less likely to improve crop dry-down under warm, dry conditions as experienced in Swift Current in 2020. Although above normal precipitation was received from May through July, August was extremely dry with very little moisture and temperatures well above average. This explains the lack of response to treatment application, which is confirmed by visual ratings that stem dry down progressed steadily as the crop matured, regardless of variety or pre-harvest treatment. In contrast if moisture were less limiting and temperatures were cool, especially in August there may have been more observable differences in stem dry down ratings between pre-harvest treatments and ultimately reductions in both seed and stem moisture content at harvest.