

## Update on Ag Action 1000209965 IWM in Narrow -Row Field Beans

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2019 marked the second and final year of study for the project on Integrated Weed Management in narrow row field beans. The two experiments outlined within this study investigated (1) the tolerance of narrow-row field beans to the rotative weeder and (2) the integration of the rotative weeder, camera guided inter-row cultivator and various PRE and POST emergent herbicides for weed control in narrow row beans. In 2018, both of these studies were carried out in navy, pinto and black beans. After review of 2018 results, in 2019 it was decided to conduct the project in Pinto beans only, but add a wide-row component. In 2019, two IWM experiments were established, one in wide row and one in narrow row pinto beans. This was also incorporated into the tolerance study, where treatments were replicated in narrow and wide row beans, in order to study any differences in the effect of row spacing on bean tolerance to mechanical weeding. The wide row experiment in the integrated weed management trial allowed us to experiment with other features of the camera guided equipment such as the finger weeders, which cannot be used in the narrow row system (Figure 1).



Figure 1: Camera-guided inter-row cultivator configured for wide rows with finger weeders (left), and configured for narrow 6" rows (right). Carman Manitoba, 2019.

All trials were successfully established in 2019. Measurements taken included crop establishment, crop and weed biomass, and final yield. During the 2019 growing season, experiments were featured during the SMART day, MPSG extension field day in Carman Manitoba. They were also featured in separate field tours hosted by the Natural Systems Agriculture Lab group.

As of the end of October, 2019 all experiments were successfully harvested and yield data was collected. Data will be analyzed and final reports submitted in early 2020.