

The number of herbicide resistant species and their spread continues to grow. With a limited number of registered herbicide groups and a lack of new chemistries being registered, we need to use different methods and practices to manage weeds. One potential method is using harvest weed seed control (HWSC) technology such as the Seed Terminator. The Seed Terminator is installed onto the back of the combine and uses a hammer mill to pulverize weed seeds in the chaff during combining. Harvest weed seed control methods have been utilized in Australia for several years and it is predicted that 95% of farmers in Australia will be using some form of HWSC by 2022. The Seed Terminator was developed in Australia and trials have shown a 93% and 96% weed seed kill rate when operating at 2250 RPM and 2400 RPM respectively.

To Demonstrate the Seed Terminator in Saskatchewan Fields, a field trial was set up east of Rosthern and Duck Lake on land owned by local producer Josh Lade. Four 10 by 100 m strips were marked in the field. Treatments were alternating, with two strips being combined with the seed terminator and two strips without. In 2018, before harvest and the use of the seed terminator, a preliminary weed survey was completed. In 2019 a weed survey was conducted after year 1 of the use of the Seed Terminator. Herbicides were used in 2018 but not in 2019 which is likely why there is a higher number of total weeds in nearly all the plots in 2019 (Table 1). In 2019 Control- Plot 1 had the highest number of weeds and Seed Terminator Plot- 4 had the lowest number of weeds.

Table 1. Weed surveys conducted in 2018 and 2019

Treatment	Total Weeds 2018	Total Weeds 2019
Control - Plot 1	53	170
Seed Terminator - Plot 2	85	128
Control - Plot 3	120	94
Seed Terminator – Plot 4	71	47

In 2018, chaff was collected from the back of the combine from two locations per plot. For the plots that were combined with the Seed Terminator, two types of material were collected: straw that didn't pass through the seed terminator and chaff that passed through the seed terminator. The two types of chaff from the plots combined with the seed terminator and the chaff from the plots combined without the seed terminator were planted into potting soil in large pots outdoors.

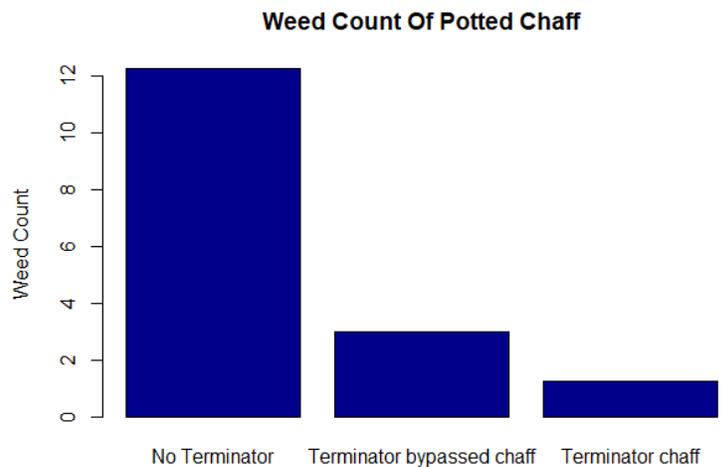


Figure 1. Average weed count from chaff that was collected in the harvest of 2018 and then planted in pots the summer of 2019.

The number of weeds that germinated from the no terminator chaff in the outdoor pots in 2019 was higher than pots with terminator and terminator bypassed chaff (Figure 1). The chaff that bypassed the terminator had slightly higher weed count than the chaff that passed through the terminator.

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