

Tufted Vetch (*Vicia Cracca*) Control In Soybean With Pre-Plant Burndown Herbicides

Purpose:

To evaluate the efficacy of several pre-plant burndown herbicides on tufted vetch, a perennial weed that is difficult to manage once soybeans have emerged.

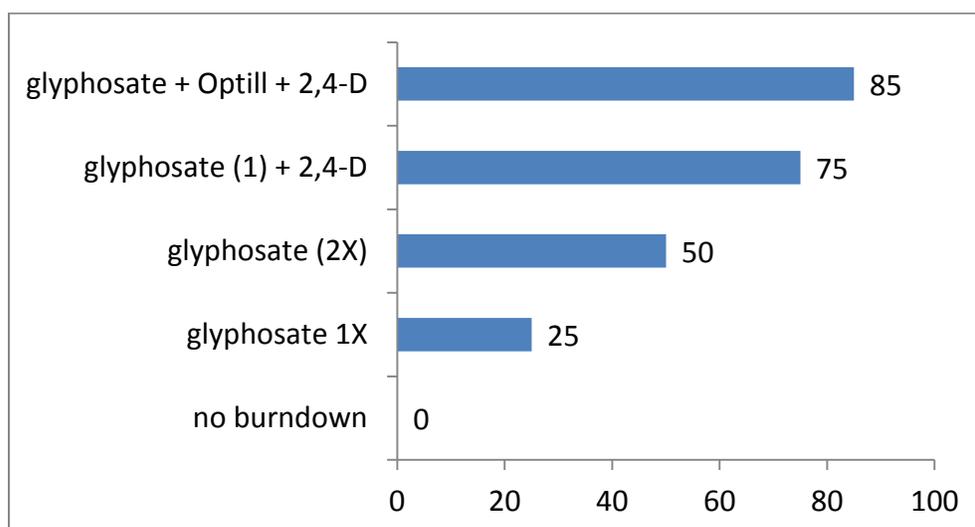
Methods:

The experiment was set up as a randomized complete block design with four replications of each herbicide treatment. Soybeans were no-till planted at 190,000 seeds/ac and in 15" rows. Burndown herbicide treatments were applied prior to planting. All treatments received a post-emergent application of glyphosate at 1800 gai/ha (equivalent to 2 L/ac of Roundup Original) and at the 3-4th trifoliolate stage of soybeans. Percent visual control of tufted vetch was taken at 14, 28, 56 and 84 days after application. Percent visual soybean injury was evaluated at 7 and 14 days after application. Soybeans were harvested and yield values adjusted to 13% moisture content.

Results:

Most pre-plant burndown treatments failed to provide adequate control of tufted vetch. The exception was when 2,4-D ester 700 was included with glyphosate or glyphosate + Optill (imazethapyr/saflufenacil) at 320 mL/ac (see Figure 1).

Figure 1 Visual control (%) of tufted vetch at 56 days after application with a pre-plant herbicide



Interestingly, although glyphosate did not provide adequate control of tufted vetch (Figure 3) it did not appear to negatively affect soybean yield (Figure 2).

Figure 2 Soybean yield (bu/ac) with different pre-plant burndown treatments for the control of tufted vetch

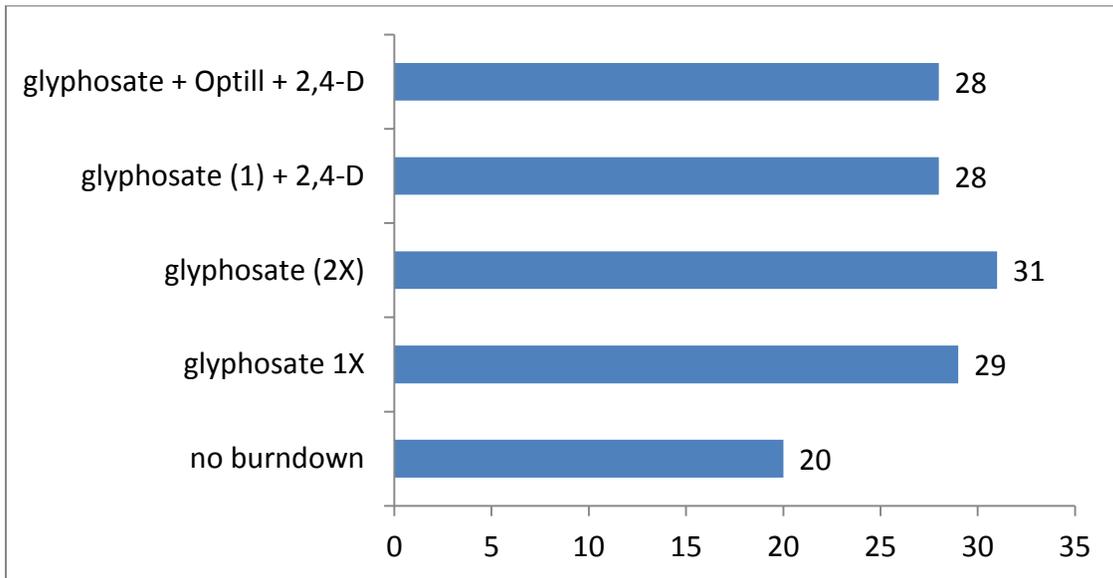


Figure 3 Tufted vetch control with glyphosate applied pre-plant



Figure 4 Tufted vetch control with glyphosate + Optill + 2,4-D Ester 700 applied pre-plant



Summary:

Next Steps:

Additional trials over multiple years will need to be conducted in order to verify these preliminary results

Acknowledgements:

Peter Smith, University of Guelph for his technical assistance.

Project Contacts:

Mike Cowbrough, OMAFRA, mike.cowbrough@ontario.ca