

Effect of 2,4-D on stand of Brassica napus (Dwarf Essex)

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Objective

To evaluate effect of preplant 2,4-D application on establishment of the cover crop , Brassica napus.

Background

Crop Year:	2012	Soil Test:	pH 6.8, P 23 ppm
Location:	OSU Unger Farm		K 124 ppm
County:	Crawford	Wheat Planting Date:	Oct. 17. 2011
Soil Type:	Blount (Silt Loam)	Wheat Variety:	Marion
Drainage:	Systematic	Cover crop:	Brassica napus
Previous Crop:	Wheat	Cover Crop planted:	8/25/2012
Tillage:	No-tillage	Fertilizer:	99-46-60
		Cover crop seeding rate:	40 lbs. /acre

Methods

Glyphosate-resistant marestail can be controlled by using a systems approach that often includes a fall herbicide treatment to control the weeds that emerge in late summer and fall. The herbicide 2,4-D controls marestail when applied in fall, but has been known to injure/kill broadleaf plants that are planted too soon after application. This study used a randomized complete block design with two treatments replicated 4 times to compare the stand of Brassica napus over 2,4-D treated plots and a control. The treatment of 2,4-D ester at 0.5 lb ai/A plus glyphosate at 0.75 lb ae/A was applied to 10 by 40 feet plots utilizing a 10 foot CO2 plot sprayer calibrated to apply 15 gallons/acre at 40 psi. The control plot was glyphosate at 0.75 lb ae/A. Brassica napus (Dwarf Essex Rape seed) was broadcast spread over all plots at 40 pounds/acre utilizing a calibrated broadcast spreader immediately after herbicide applications on 8/25/2012.

A second trial (same 2 treatments and methods as described above) was conducted with one change; plots were tilled lightly using a tractor-mounted roto tiller (about 1 to 2 inches deep) 3 days after herbicide application and seeding. Rainfall in the amount of 0.5 inch occurred on 8/28/12 A steel rod square frame was thrown randomly into each plot 3 times to measure plant stand on November 15, 2012. An average plant stand was calculated for each replication.

Treatments

1. 2,4-D ester @0.5 lb aia + glyphosate @.75 lb ae/A
2. Control (glyphosate @ .75lb ae/A)

Results

Table 1. Stand of Brassica napus* (broadcast herbicide with no seed incorporation) on 11/15/2012

Treatment	Ave. Stand
2,4-D @ 0.5 lb ai/A	18.3
Control	18.5

F=0; Not significant. CV =7.8, * Seeded and treated with herbicide on 8/25/2012

Table 2. Stand of Brassica napus* (incorporated herbicide and seed on 8/28) on 11/15/2012

Treatment	Ave. Stand
2,4-D @ 0.5 lb ai/A	21.5
Control	19.7

F=3.8; Not significant. CV= 6.2; * Seeded and treated with herbicide on 8/25/2012

Summary

There was not a significant effect of preplant 2,4-D application on Brassica napus stand , regardless of whether the herbicide was broadcast spread or broadcast spread and lightly incorporated 3 days after treatments.. It is not known at this time what the herbicide label interpretation of this treatment is. Further investigation of this treatment with other cover crops, timing and tillage effect is planned. Pesticide applicators are reminded to read and follow pesticide label directions.

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