

Canada thistle control in Clearfield Canola (2000)

Gaucha-treated Clearfield canola (46A76) was seeded May 17 into 6-inch rows at 700,000 pls/A in a conventional tillage system. Individual plots were 10 x 30 ft and replicated three times. Treflan was preplant incorporated on May 3. Raptor and Stinger were applied on June 9 to 3 to 4-leaf canola. Canada thistle was 2 to 6 inches tall at application. The canola was harvested August 15.

Treatment ^a	Rate	Plot no.	Canada thistle ^b		Yield lb/A
			Jun 29	Jul 15	
			—% Control—		
Treflan / Raptor	1.5 pt / 4 fl oz	101	-	-	1197
		206	55	50	1378
		303	62	58	754
Raptor	4 fl oz	102	-	-	1238
		203	50	45	911
		306	62	60	1524
Raptor + Stinger	4 fl oz + 2 fl oz	103	70	62	850
		205	72	65	1993
		304	70	68	1103
Raptor + Stinger	4 fl oz + 4 fl oz	104	85	80	1418
		201	-	-	1894
		305	85	88	1654
Treflan / Stinger + Assure II	1.5 pt / 8 fl oz + 8 fl oz	105	90	92	1839
		204	95	96	1083
		301	-	-	1596
Untreated		106	0	0	825
		202	-	-	1989
		302	-	-	1499

^a Raptor treatments were applied with 1% Quad 7, and Assure II was applied with 1% COC.

^b Canada thistle was absent from some plots prior to treatment, therefore, thistle control was not rated for those plots.

In the table above, we show the individual replications rather than just the means. We do this because in this study, the individual plots provide more information than the means alone. See the following page for a discussion on the impact of Canada thistle and flea beetles on the canola yield. The observations below were made on July 15 concerning the herbicide impact on Canada thistle:

Untreated CT plants: CT is about 44" tall and flowering. CT is slightly taller than flowering canola.

Raptor only: CT is generally 20-32" tall, healthy, about to flower...but still below top of flowering canola

Raptor + 2 oz Stinger: A few CT plants 4-6" and severely necrotic, however, most plants 20-28" tall, mostly healthy...will likely flower at end of year

Raptor + 4 oz Stinger: Many plants severely twisted and necrotic, some 2-6" tall but damaged, only a couple plants 12"

8 oz Stinger: Almost all plants severely necrotic and no more than 2-4" tall

West

301	302	303	304	305	306				Canada thistle absent–sprayed with Capture.
									Canada thistle present–no Capture applied.
201	202	203	204	205	206				Canada thistle present–sprayed with Capture.
101	102	103	104	105	106				

East

The diagram above shows the typical layout of our weed control studies. Plots 101-106 represent the first replication for each treatment. Plots 201-206 represent the second replication for each treatment. Plots 301-306 represent the third replication for each treatment. Therefore, each treatment (i.e., Raptor at 4 fl oz) was applied to three different plots. Referring back to the table on the previous page we see that Raptor alone was applied to plots 102, 203, and 306.

We established this study at this site because we knew there was a Canada thistle patch here. We wanted to determine the rate of Stinger necessary to adequately control Canada thistle when applied with Raptor. Unfortunately, no Canada thistle emerged in the south side of the study area (plots 101-102, 201-202, 301-302). This is why there are no ratings for Canada thistle control in these individual plots in the table. There were Canada thistle plants present in plots 103-106, 203-206, and 303-306.

Canola yield was not only impacted by Canada thistle, but also by a high population of flea beetles. Flea beetle pressure has been increasing over the past three years. Although this was not part of the study as originally planned, we sprayed the outer two plots on both sides of the study area with an insecticide (Capture) to help control flea beetles. We drove along the north and south sides of the study area with one arm of the spray boom extended over the two outside plots. The middle plots (103-104, 203-204, 303-304) did not receive an insecticide application in order to avoid damaging the canola with the tractor tires.

The outside plots where the insecticide was applied yielded about 500 pounds higher than the middle plots where the insecticide was not applied. We could see a significant difference in canola growth soon

after application where the insecticide had been applied. We only wanted to see a few dead flea beetles. We did not expect to see such a drastic difference in canola growth following the insecticide application. For our research purposes, in the future we will apply a foliar insecticide in our canola weed control studies to help reduce the impact of flea beetles even if the seed has been treated.