Canada Thistle Control in Roundup Ready Canola. 1999

Roundup Ready canola (LG3235) was seeded May 19 into 7.5-inch rows at 700,000 pls/acre in a conventional tillage system. Individual plots (12 x 30 ft) received a single application or a split application of Roundup at various canola stages. Each treatment was replicated 4 times. Treatments were applied on June 5 (1-4" weeds), June 10 (2-10" weeds), and June 16 (4-12" weeds). Canada thistle present in the entire plot were counted June 5.

			June 5	Jun 28	Sep 1	August 25
			C. Thistle	C. Thistle	C. Thistle	Yield
Treatment[1]	**Rate**	**Timing**[2]	density[3]	---Control (%)---		(lb/A)
Roundup	1 pt	B	323	80	67	1476
Roundup	1 pt	C	155	75	88	1221
Roundup / Roundup	1 pt / 1 pt	A / C	198	85	90	1563
Roundup	1.5 pt	B	246	83	84	1608
Roundup	1.5 pt	C	171	77	85	1486
Roundup / Roundup	1.5 pt / 1 pt	A / C	277	85	85	1688
Roundup	2 pt	B	283	84	78	1463
Roundup	2 pt	C	234	80	86	1371
Roundup / Roundup	2 pt / 1 pt	A / C	166	87	87	1633
Stinger + Assure II	0.5 pt + 10 fl oz	B	102	87	97	1035*
Weedy Check			360	0	0	376
LSD			214	7	11	261
CV			65	7	10	13

[1] All Roundup treatments applied with AMS (1%)

[2] A=coty to 2-leaf canola (Jun 5), B=3 to 4-leaf canola (Jun 10), C=5 to 6-leaf canola (Jun 16)

[3] These numbers represent the average Canada thistle density over the four replications

*Low yield due to high population of lambsquarters, not lack of Canada thistle control

Flea beetle pressure was extremely high this year. Even though the canola seed was treated with Gaucho, we had to make a foliar insecticide application to help reduce the flea beetle pressure. The canola crop emerged very nicely, but remained in the cotyledon to 2-leaf stage for an extended period. Much of the slow growth can be attributed to the heavy flea beetle pressure. This allowed the Canada thistle to get a good start without a lot of early shading from the canola crop.

Roundup at higher rates tended to burn down the thistle plants faster than the lower rate (1 pt). On June 28, Canada thistle control with the 3-4 leaf and split applications were somewhat higher than the late application (5-6 leaf canola), primarily due to the earlier spray date or more time to kill the plant. The final rating on September 1 generally showed better season-long control with the 5-6 leaf and split applications compared to the 3-4 leaf application. The 5-6 leaf and split applications tended to have fewer plants and the plants present were usually much shorter than those in the 3-4 leaf application. Some plots had much higher Canada thistle populations than others. With such high populations and varied emergence, it is likely that some plants were covered by others and were not sprayed.

Although we saw better control at the end of the season with the late treatment, delaying the application also allowed the Canada thistle to grow quickly which effectively reduced canola yield. Yields were 100-300 lbs higher with the 3-4 leaf or split applications than the 5-6 leaf application. The canola stand that received only the late application appeared more thin and somewhat shorter compared to plots where

Canada thistle has been taken out earlier. The field also had a fairly heavy lambsquarters population that also contributed to yield reduction in late-applied treatments.

Stinger was very effective in controlling Canada thistle. However, because we did not put down a soil-applied product such as Treflan, the heavy lambsquarters population was primarily responsible for reducing the canola yield in the Stinger plots.