

XI ROUNDUP TIMING TRIAL

Objective: Evaluate the effects of a split application of Roundup for weed removal and how it may affect yield and quality of canola.

Background: Canada thistle is a weed that has become more difficult to control with a single application of Roundup. A split application (2 and 6-leaf stages) is recommended for good control of Canada thistle.

Methodology: The Roundup timing trial was integrated into the variety and systems comparison trial. It was conducted using a split plot design with varieties as main plots and application timings as sub-plots. All applications included Roundup Ultra Max (13 oz/ac) + ammonium sulfate (1 lb/ac). The trial consisted of the following treatments:

1. DKL 223 - single application (6-leaf stage) (check)
2. DKL 223 - split application (2 and 6-leaf stage)
3. DKL 3585 - single application (6-leaf stage) (check)
4. DKL 3585 - split application (2 and 6-leaf stage)

Observations: Weed pressure was high with primary weeds including green and yellow foxtail, Canada thistle, wild mustard, redroot pigweed, common lambsquarters, smartweed, and wild buckwheat. Heaviest weed pressure came from foxtail numbering over 200 per square foot and large patches of Canada thistle. The field had Curtail (1.75 pt/ac) applied in 2001 for thistle control. The early (2-leaf stage) application was done on June 8 at the 1 to 2-leaf stage because of forecasted heavy rains. It rained 3.73 inches on June 9. Weed control was excellent with the early application. However, weeds were starting to reappear at about the 4-leaf stage. The variety DKL 3585 showed some signs of injury about a week after the early application, especially in areas of the field that were saturated. The single application was originally planned for the 3 to 4-leaf stage, however it was delayed due to excess moisture and lack of calm conditions. All remaining treatments were applied the evening of June 25 at the 6-leaf stage in very muddy conditions. Weed control was excellent for all the treatments. Canada thistle control was excellent for both the single and split application. No maturity differences were noted between the single and split applications.

Results:

| ROUNDUP TIMING TRIAL | | | | | |
|-----------------------------------|------------------|----------------------|----------------------|------------------------------------|----------------|
| Thief River Falls, MN | | | | | |
| Treatment | Yield (%) | Yield (lb/ac) | Yield (bu/ac) | Contribution Margin (\$/ac) | Oil (%) |
| DKL 223 | | | | | |
| 6-leaf (check) | 100 | 1565 | 31.3 | 36.46 | 42.5 |
| 2 and 6-leaf | 104 | 1620 | 32.4 | 36.72 | 42.3 |
| DKL 3585 | | | | | |
| 6-leaf (check) | 100 | 1361 | 27.2 | 22.81 | 43.3 |
| 2 and 6-leaf | 100 | 1358 | 27.2 | 16.82 | 43.4 |
| LSD spray timing within a variety | | 114.3 | 2.29 | | 0.43 |
| CV% | | 5.6 | 5.6 | | 0.7 |

Note: The contribution margins had an error in the Summary Report that was printed for distribution; the corrected values are in this table.

Discussion:

Herbicide application timing had no effect on yield or oil content. The lack of good growing conditions this season did not allow the crop to capitalize on the early weed removal as has been observed in previous studies. Previous production center trials indicated that early weed removal under heavy weed pressure, such as this year, provided significantly higher yields. Contribution margins reflected differences in yield and seed costs, herbicide costs and application costs.