

Timing and Intensity of Cultivation and Effects on Weed Control

Final Report for FNE98-209

Project Type: Farmer

Funds awarded in 1998: \$2,770.00

Projected End Date: 12/31/1998

Matching Non-Federal Funds: \$6,838.00

Region: Northeast

State: Maine

Project Leader:

[Gerald Fortin](#)

Project Information

Summary:

The Lely cultivator is meant to be used early in the season, to control weeds in the crop row before or as the crop emerges. Mr. Fortin conducted an experiment in collaboration with Dr. John Jemison and others at the University of Maine, to test its effectiveness in corn. They tried seven different treatments. One of these involved using only herbicides (atrazine and pendimethalin) for weed suppression, one involved making three passes with the Lely cultivator, and the other five consisted of various combinations and timings of Lely and between-row cultivators, from as few as two to as many as seven passes done from pre-emergence to canopy closure. They measured the effectiveness of each technique at controlling 1) annual grasses, 2) perennial grasses, and 3) broadleaf weeds. They also looked for treatment effects on corn yields.

Results: All categories of weeds were most effectively suppressed by the chemical treatment, which also gave far and away the highest yields. Two passes of the Lely cultivator combined with one pass of a between-row cultivator was definitely more effective than a treatment consisting of just a single pass of each. More than two passes with the Lely did not however appear to help, and where the Lely was run three times with no use of the row cultivator suppression of weeds, particularly broadleaves, was quite inadequate. This last treatment also gave the lowest yield. Yields of other mechanical treatments differed little or not at all from each other, though corn plants growing in plots where the Lely was run while the soil was very wet sustained some damage.

Conclusion: The Lely cultivator can give fairly good control of weeds growing within corn rows, but between-row cultivation must be performed as well. No combination of mechanical weed controls, however, matched herbicides for effectiveness.

Cooperators

- [Dr. John Jemison, Jr.](#)

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Research

Participation Summary

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture or SARE.



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