

REDUCED HERBICIDE RATES FOR NARROW-ROW SILAGE CORN

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INTRODUCTION

Narrow-row (15-inch) silage corn production has been made possible by the introduction of the Kemper[®] chopper head that sweeps corn from any row width into the chopper. As a result, several large dairies in western and northern New York have purchased planters and silage choppers to produce silage corn in narrow rows. An estimated 5,000 acres of narrow-row silage corn was grown in New York in 1997. In addition, at least one grower is experimenting with narrow rows for grain production. Reports from research (Cox et al., 1995) and from grower trials/comparisons show yield increases from 1.5 to 5 T/A with 15-inch rows compared with yields from 30-inch rows. If these yield increases are consistent, the acreage of narrow-row corn in New York could increase significantly.

Since corn in 15-inch rows will shade the soil surface earlier in the growing season than corn grown in 30-inch rows, this cultural practice has the potential to reduce the amount of herbicides needed for effective weed control. Tolenaar (1994) reported that an increase in corn population from 18,000 to 40,000 plants per acre reduced weed biomass by 50% at the early grain-filling stage. Westgate et al. (1993) reported that a 33% broadcast herbicide rate under narrow rows resulted in the same level of weed control as the full herbicide rate in 30-inch rows. It is estimated that an average of 4 lb ai/A of herbicide is used on New York corn acreage. If herbicide rates in 15-inch corn could be reduced to even 67% of the full rate, there would be a reduction of more than 1 lb ai/A. This change would reduce the environmental impact of corn herbicides and would have economic benefits for corn growers.

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