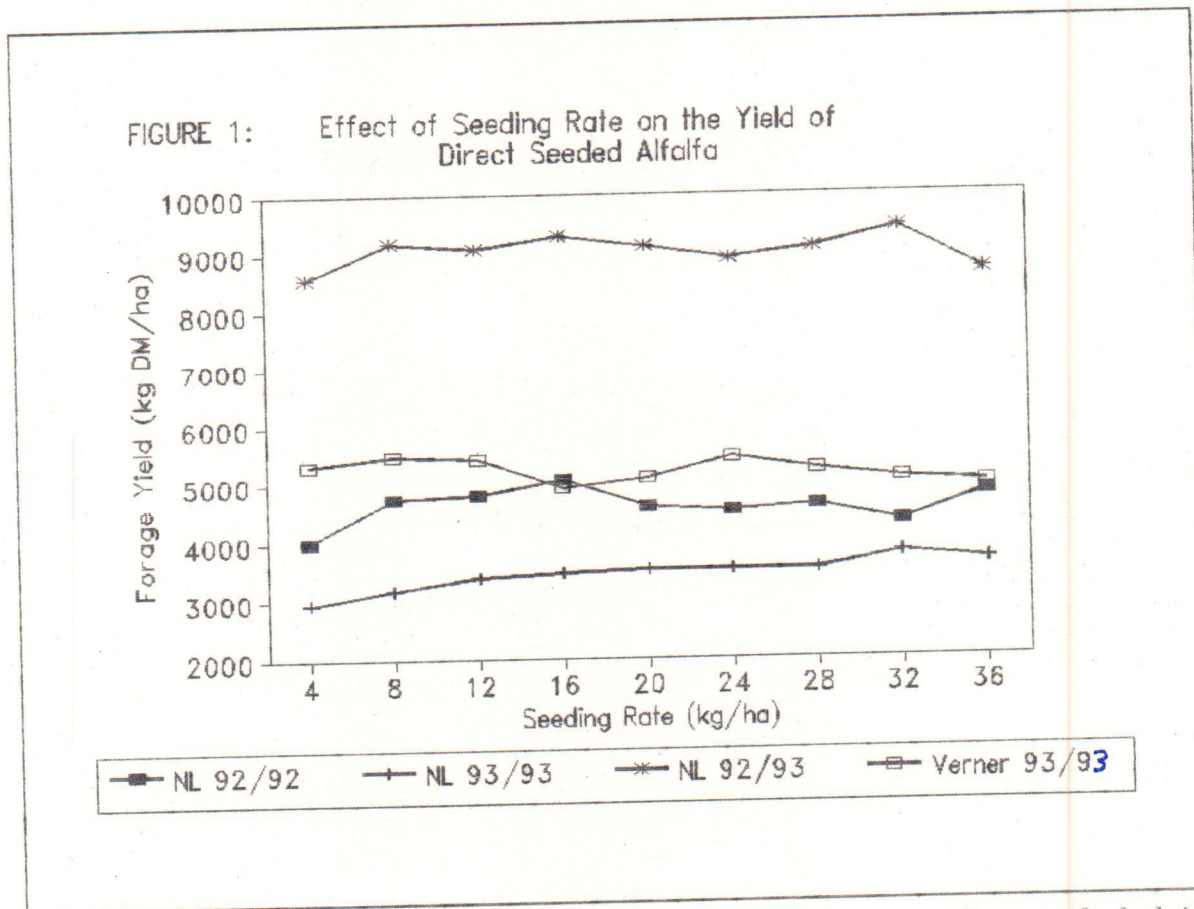


Alfalfa Seeding Rates: How Much is Enough
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The recommended seeding rate for pure alfalfa stands in Ontario is 13 kg/ha (OMAF Publication 296). For early seeding on a fine, firm seedbed, the seeding rate can be reduced by 25%. Therefore, under optimum conditions, seeding rates of 10 kg/ha would be recommended. In many cases, farmers seed at much higher rates for "insurance" against a poor stand. A study was undertaken at NLCAT to examine the effect of seeding rates on production of alfalfa in the seeding year and in subsequent production years.

Alfalfa was direct-seeded at rates ranging from 4 to 36 kg/ha in 4kg increments. Plots were established at New Liskeard in 1992, and at New Liskeard and Verner in 1993. Seedbed preparation consisted of two passes with an S-tine cultivator fitted with a levelling bar and rolling basket harrows. A research plot drill equipped with press wheels was used. No fertilizer was applied at seeding as P and K levels were shown to be adequate based on soil tests.

The yield response to seeding rate at each location and year is shown in Figure 1. It is evident that there was very little response to seeding rates in any year.



Previous studies in Ontario and the northern USA have generally concluded that the effect of seeding rate on yield was greatest in the year of seeding. In three sets of establishment-year data (Figure 1: NL92/92, NL93/93, Verner 93/93), we found no significant difference in forage yields due to seeding rate, although

there was a trend towards reduced yields with the lowest seeding rate at New Liskeard.

A research summary of Ontario data (Fulkerson, 1983) suggested that seeding rate effects might show up in older (second and third year) stands. Our data from a first-production year stand (Figure 1: NL92/93) did not show any significant differences, but we will continue to collect yields from all plots for two more years.

Data from the 1992 harvest year showed no effect of seeding rate on forage quality. Forage quality data from the 1993 harvests are not yet available.

Based on our results to date and on previous studies in Ontario, it seems likely that relatively low seeding rates will provide full stands. However, proper seedbed preparation, seed placement, soil firming (seed-to-soil contact), and soil moisture are critical to establishing vigorous forage stands at low seeding rates.