**Increasing the proportion of clover in temperate, high rainfall pastures using herbicides**

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Increasing the clover content of pasture improves the feed value of pasture while influencing pasture production and nitrogen fertility. One method for increasing the proportion of clover involves the use of herbicides. It is important to know the effect herbicide concentration and application time have on the proportion of clover in the resultant pasture and its dry matter production. This data could be used to develop techniques for improving pasture quality and production.

**Method**

Strips of pasture 2 m x 40 m were sprayed with either glyphosate (Roundup), fluazifop-butyl (Fusilade) or paraquat (Gramoxone) using a logarithmic boom spray unit. Maximum concentrations of the chemicals were 720, 850 and 400 g/ha respectively, and the minimum concentrations were 1/25th of these. Each treatment was replicated 4 times. Date of application was either June 2, August 21 or November 12, 1986. Botanical composition and dry matter yield above 4 cm was measured on sprayed strips in early August, early October and late December, respectively.

**Results and Discussion**

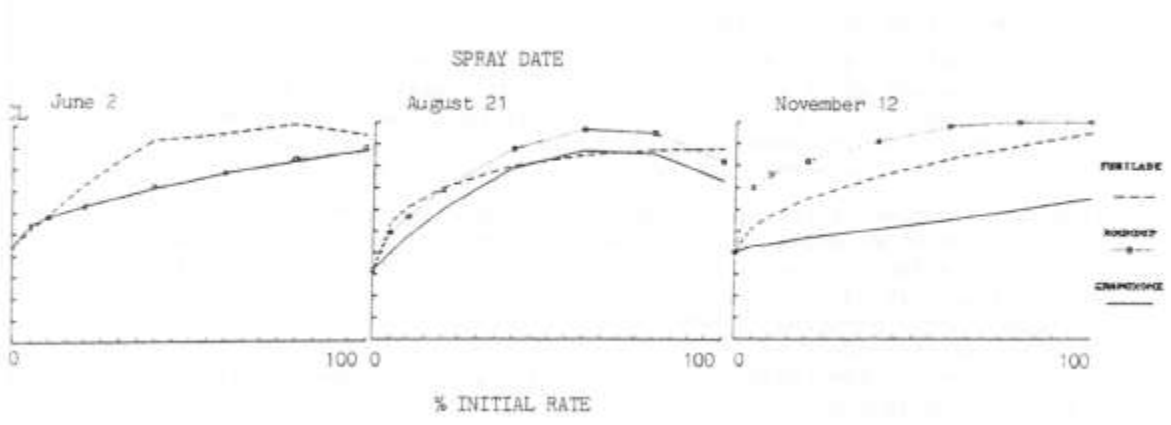


**Figure 1. Effect of herbicide rate and time of application of three herbicides on the proportion of clover in a perennial pasture.**

All three herbicides significantly increased the clover proportion despite the wide range in application dates. Fusilade was more effective in June (6 weeks after the late autumn break) while in spring Roundup was the most effective. Gramoxone was unsatisfactory for increasing the clover content above 65% in spring. In the period between application and the first harvest, Roundup depressed growth by 80% at the higher rates, while Fusilade and Gramoxone reduced yields by up to 50%. Most pastures were producing at similar growth rates to the non-sprayed pastures by the second harvest following spraying.

The untreated pasture had at least 30% clover. This may be critical in determining the upper limit of clover proportion achieved and the ability of a pasture to recover quickly after spraying.