

**CHEMICAL CONTROL OF FLEABANE
(PULICARIA DYSENTERICA)**

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Fleabane is a stoloniferous herb common in marshes, wet meadows and ditches in Britain. It also occurs in Europe, Asia Minor, and North Africa (Clapham *et al* 1962). It is not readily grazed by stock and forms dense patches along the banks of water courses. Although a common weed in Britain and Europe, little information is available on it or its control. Fleabane has been reported to be susceptible to MCPA and 2, 4-D (Fryer and Makepeace 1978). Fleabane currently has a limited distribution in New Zealand, having been recently found in the Dannevirke, Woodville, Pahiatua and Eketahuna areas. It has also been found considerable distances from the stream edges where it is thought to have originated. It is essential to undertake eradication programmes before this weed becomes widespread, reducing pasture productivity and making eradication more difficult. The objective of this research was to assess the suitability of several chemicals for the eradication of fleabane.

The site selected for the experiment was near Pahiatua. The trial design was a randomised block with four replicates. Herbicides were applied as shown in Table 1. The herbicides glyphosate and 2, 4-D + picloram were applied by knapsack sprayer at a water rate of 110 litres/ha. Picloram granules were applied by a pepper pot style shaker. The plots were visually scored for control of shoot growth on 13 February 1987, 25 August 1987 and 2 October 1987. Fleabane shoots were counted in five randomly selected quadrats from each plot on 19.10.87. The shoot counts were analysed using the Friedman multiple range rank test as these data were not normally distributed and not suitable for a simple transformation to meet the requirements of an analysis of variance.

TABLE 1: The effects of herbicides on fleabane shoot numbers for each application date measured on 19.10.87.

Herbicide	Rate (kg ai/ha)	Mean Shoot No/m ²		Rank Sums		
		Applied	5.12.86	23.3.87	5.12.86	23.3.87
glyphosate (Roundup)	1		142	229	37	42
glyphosate	2		91	113	29	34
picloram (Tordon 2G)	0.25		55	312	25	45
picloram	0.50		0.2	136	8	35
2,4-D + picloram (Tordon 50-D)	0.5 + 0.125		1.7	41	13	24
2,4-D + picloram	1.0 + 0.250		0.2	1.2	8	13
Untreated			432		50	
					*21.6	

* Minimum difference required between rank sums to be different at 5% significance level.

All chemicals tested gave good shoot knockdown in the short term. Visual estimates and shoot counts taken in October 1987 indicated that glyphosate suppressed shoot production but was ineffective for long term control of fleabane (Table 1). It also opened up the pastures allowing the ingress of other weeds but did improve the clover content of the plots. Picloram granules gave good long term control at the December

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application date especially at the high rate. 2, 4-D + picloram was effective at both application dates and rates, with the earlier application date the more effective.

Fleabane will be a difficult weed to eradicate because of its distribution along the edge of water courses where environmental restrictions apply to herbicide use. Also locating plants can be difficult because of terrain and other vegetation. 2, 4-D + picloram was the most effective of the herbicides tested and had the greatest versatility in terms of application date. It should be applied at the higher rate and the earlier application date to achieve maximum control. Repeated applications may be necessary to eradicate fleabane as the longevity of the seed in the soil is not known. Picloram is also suitable for eradicating fleabane but better suited to spot applications and should be applied early in the growing season to be effective.

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