

TIMING OF SPRAYTOPPING AND ITS EFFECT ON
SUBTERRANEAN CLOVER REGENERATIONP.M. Dowling¹, B.R. Milne¹ and H.G. Kelso²
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Abstract. The influence of four spraytopping applications over a 17 day period on subterranean clover regeneration in the following autumn was determined in a field experiment at Bathurst during 1988/1989. Glyphosate (0.16 (G_L), 0.32 (G_H) kg a.i./ha) and paraquat (0.1 (P_L), 0.2 (P_H) kg a.i./ha) were each applied at two rates in 100 l water/ha on 21 and 27 October and 1 and 7 November 1988 to a well grazed pasture sward composed mainly of *Vulpia* spp. (68%) and subterranean clover (14%). Treatments were replicated four times. Seedling regeneration in 1989 was estimated from four soil cores (each 7.5 cm diameter) per plot (3 x 10 m). Cores were removed from the plots in March 1989, placed into trays, watered; and when germinated, seedlings were removed. Cumulative counts represented the potential for germination imposed by the respective treatments. Regeneration of subterranean clover tended to increase as each herbicide at the lower rate (G_L, P_L) was applied later (paraquat - 66% increasing to 88%; glyphosate - 14% increasing to 106%). However, only with paraquat did maximum *Vulpia* control more closely correspond with maximum regeneration of subterranean clover (85%). The earlier application of glyphosate which resulted in maximum *Vulpia* control also coincided with flowering of the subterranean clover, causing a marked reduction in seed-set and regeneration (39%). At the higher application rates (G_H, P_H), level of regeneration was less dependent on application time, and was less than that at the lower rates (G_L, P_L). Regeneration was also lower where glyphosate was applied, compared to paraquat. Mean regeneration percentages compared with the control were: P_L 72; G_L 57; P_H 56; G_H 29.