



RESIDUAL EFFECTS OF SIMAZINE ON PERENNIAL GRASS ESTABLISHMENT

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Four perennial grasses were sown near Queanbeyan in July 1989 into an area treated with the residual soil active herbicide Simazine used to control the winter growing annual grass vulpia. All plots including the controls were over-sprayed with the non residual knock-down herbicide Roundup at 2.5L/ha prior to sowing.

Establishment was equal to or better than the controls (where no Simazine was sprayed) at low rates of 1 & 1.25 L/ha after 2 weeks delay between Simazine spraying and sowing (plant back period - PBP). At higher rates (1.5 & 2L/ha) a PBP of 4-8 weeks was required before grass establishment was equal to the controls.

Simazine breakdown will be fastest in acidic soils, at warmer temperatures and with good soil moisture. Simazine is also more active in light textured soils. The soil at the trial site was a light sandy loam with a pH in CaCl_2 of 4.8 so that the effects of Simazine could be expected to be large.

Phalaris was the most sensitive grass and most severely affected. The 2L/ha rate of Simazine with a 2 week PBP resulted in 2.5 times grass established compared to lower rates of Simazine (Fig 1).

The overall rate of improvement in grass establishment at 2L/ha with successive PBPs was constant for all grass species at 7.5% per fortnight.

However at 1L/ha, while the initial effect on grass establishment was less, the rate of improvement per PBP was only 3% (Fig 2). At 1L/ha the effect of weed competition became more important. Fescue being more tolerant of Simazine but weakly competitive seedling established better at 2L/ha after only 4 weeks compared to 1L/ha where weed control was not as effective (Fig 3).

Establishment was eventually up to 50% greater than in the unsprayed controls with PBPs of 10 & 12 weeks. Question: Was the better establishment after 10 & 12 weeks PBP a real effect or was it due to less weed competition wherever Simazine was used? Further work continues in winter 1990.

Acknowledgements: The technical assistance of Mr J.L. Booth and help with recording by various tableland Extension & Research Agronomists made this work possible.

