

Rampion mignonette - current research into a new weed

R.S. St John-Sweeting¹, R.J. Carter², E.D. Carter¹ and H.A. Reimers¹

¹Department of Agricultural Technology, The University of Adelaide, Roseworthy SA 5371

²Animal and Plant Control Commission, Adelaide SA 5000

Rampion mignonette. *Reseda phyteuma* L. spp. *phyteuma*, is a weed recently introduced to Australia. It was first found in South Australia at Clare in 1986 where it was estimated to have colonised 38 ha of vineyard. Studies in 1991-92 included laboratory experiments, a field survey and a competition trial with crop and pastures at Clare.

Results

Survey. A survey examining the frequency of occurrence of the weed within a nominally selected row of each vineyard block was conducted in late 1991 and early 1992. Results of this survey, which covered 200 ha of vines at Clare, found 93 ha of vines to be infested.

Hardseededness. Seed collected on 19 December 91 had 74% hard seed and was 26% germinable. Less than 1% of the seed was found to be dead.

Seedling emergence. Table 1 shows a significant decrease in emergence with each increment in depth. The 1.5 mm diameter seeds are able to emerge quite readily from 30 mm depth.

Table 1. Emergence of rampion mignonette from various depths. The seed was not scarified and was found to be 25% germinable.

Depth of sowing (mm)	Seedling number per 50 seeds sown ^a	Depth of sowing (mm)	Seedling number per 50 seeds sown ^a
5	9.2a	60	0.2d
10	6.4b	70	0.2d
30	4.2c	85	0.0d
45	0.6d	100	0.0d

^aMeans followed by different letters are significantly different. l.s.d. = 2.0 (P = 0.05).

Competition. The competitive effects of wheat, faba beans, subterranean clover and tall fescue against rampion mignonette are being assessed in a field experiment established at Clare on 17 June 1992. A randomised split block design with six replicates and involving fixed quadrats with and without weed removal was used. The first rampion mignonette seedlings were not observed until late September when the soil temperature at 10 cm had reached 15°C. Preliminary observations indicate that rampion mignonette will not compete with the crops and pastures tested and will only grow readily on bare soil as found in the vineyards.

Herbicides. Preliminary tests with 15 herbicides indicate glyphosate (Roundup CT(D) at 3L/ha is effective in killing the weed. Oryzalin (SurflanC¹) at 6L/ha gave good residual control of germinating seeds for six months.

Conclusion

Rampion mignonette is a prolific seeder with a high level of hardseededness. At this stage it does not appear to pose a threat to broadacre crops and pastures: however, there is a threat to the vineyards of Australia.

Acknowledgements

We are grateful to South Australian Animal and Plant Control Commission and The University of Adelaide Key Centre for Dryland Agriculture for financial support.