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The extent, distribution and cost of control of blackberry in New South Wales

A. D. Mears
Department of Agriculture, Sydney[1]

Introduction

Blackberry (*Rubus fruticosus* L. agg.) is a significant weed of the tablelands and slopes of New South Wales. It is of less consequence in coastal areas and insignificant on the plains. Blackberry grows mainly in areas with an average annual rainfall greater than 760 mm, except where soil moisture is higher than normal because of irrigation or along watercourses (Amor and Richardson, 1980). Growth is more prolific in fertile soils than in sandy or skeletal soils.

[1] Present address: 31 Telopea Avenue, Caringbah, New South Wales.

The largest infestations in Australia are in Victoria and New South Wales, with an estimated 663 000 ha of blackberry in Victoria in 1975 (Amor and Harris, 1979). The northern limit of the species is Moreton Bay in southern Queensland and blackberry also occurs throughout Tasmania, in the Mount Lofty Ranges of South Australia, and in the south-western corner of Western Australia (Amor and Richardson, 1980).

This paper reports the results of a survey to estimate the extent and annual expenditure on the control of blackberry in New South Wales in 1980.

Table 1 Estimated areas and densities of blackberry in New South Wales

Agricultural region	Dense infestation (ha)	Medium infestation (ha)	Sparse infestation ha)
1 Mid Coast and Hunter Valley	15 000	10 400	50 900
2 North Coast	300	800	3 100
3 New England	25 350	420 000	1 987 500
4 Western	8 200	200	200
5 South Western		insignificant	
6 Southern	63 800	186 800	382 200
7 South Eastern and Illawarra	3 400	41 500	139 400
8 Central Western	55 200	175 400	407 000
Total	171 250	835 100	2 970 300

Table 2 Estimated expenditure on blackberry control in New South Wales

Agricultural region	Council expenditure ($)	Landholder expenditure ($)	Total expenditure ($)
1 Mid Coast and Hunter Valley	105 200	122 300	227 500
2 North Coast	10 900	33 100	44 000
3 New England	215 000	2 672 100	2 887 100
4 Western	16 000	11 500	27 500
5 South Western		insignificant	
6 Southern	53 000	530 900	583 900
7 South Eastern and Illawarra	88 000	261 000	349 000
8 Central Western	68 100	755 300	823 400
Total	556 200	4 386 200	4 942 400

Survey method

A questionnaire was mailed to each Council seeking an estimate of the area of dense, medium and sparse infestations of blackberry, an estimate of their annual expediture on control and an estimate of the cost of control on private lands. The method used was that adopted by Campbell (1977) to estimate the distribution of serrated tussock in New South Wales.

The estimates were totalled for each of the eight agricultural regions of the State. It was felt that this provided a more satisfactory statistical base than the figures provided by individual Councils when presenting the magnitude of the problem in State-wide terms.

Results

The area and density of blackberry estimated by each Shire or County Weeds Officer provide the basis for the map of the distribution and severity of blackberry in New South Wales (Figure 1). The areas of blackberry under each of the three density categories in each of the eight agricultural regions of the State are given in Table 1. The estimates of expenditure on control are given in Table 2.

Conclusion

It is recognized that replies from Councils can be expected to contain some bias, and evidence that they cannot be treated as exact is provided by personal observations of the Departmental officers involved. Some estimates are known to be very conservative. Estimates of cost of control will also vary, and the amount spent by private landholders (other than the Forestry Commission of New South Wales) is only a general guide.

It is apparent from the estimated areas of infestation and of Council and private expenditure that the area of land infested by blackberry is still very large, despite the expenditure of approximately five million dollars a year. Significant reduction of the infested area or of the level of infestation would require a greater level of spending on current methods or an effective means of biological control.

There is a critical need for more accurate survey methods to be used to avoid major variations between the real and estimated situation. These variations are due to the physical difficulties of getting an accurate measurement and the often unconscious motivations of the person or group supplying the figures. The estimates of at least a percentage of the areas involved should be checked for validity by an unbiased surveyor.

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