

RUBIS FRUTICOSUS L.

(BLACKBERRY) INFESTATION IN STATE FOREST

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INTRODUCTION

The blackberry infestation problem in the Manjimup Shire is probably greater than any other area in the south-west. This is largely related to intensive human activity over many years in the forest, especially in the Pemberton area, the absence of extremes of climate and the high annual rainfall which ensure permanent and rapid growth of the blackberry plant.

The significance of blackberry depends to a large extent on the viewpoint. There obviously exists conflicting interests between those who pick the edible fruits for consumption, and foresters and farmers, who realise a loss in nett productive area when the species becomes established on their land.

The blackberry is capable of dominating land, especially moist fertile soils, to the exclusion of all other growth. Although remaining relatively dormant during the winter, rapid growth in spring and summer eventually result in extensive and impenetrable thickets. For example, thickets greater than three metres in height, and covering many hectares are not uncommon in the prime karri belt in the Pemberton area.

BLACKBERRY ERADICATION FROM STATE FOREST

Because of the potential threat of blackberry infestations to production forestry, especially during periods of regeneration, proposals have been put forward outlining possible measures for its control. It was envisaged that complete control would require two phases, viz.,

- (i) Survey of blackberry infestation in State Forest.
- (ii) Subsequent eradication, by chemical and physical means.

To date, the Blackberry survey has been completed, and the eradication programme will begin in 1974.

HOW THE SURVEY WAS ORGANIZED

The Manjimup Shire, covering some 681 472 ha., extends over the Forests Department Divisions of Manjimup, Pemberton and Walpole. A Blackberry Survey Officer was nominated at Pemberton, where the problem was considered to be the greatest. To assist his investigations, two liaison officers were nominated, one each in Manjimup and Walpole. The responsibilities of the Blackberry Survey Officer were to carry out a blackberry Survey in the Pemberton Division, and to co-ordinate the activities of the two liaison officers. Information collected was recorded on a centrally held Blackberry Distribution Plan of the Manjimup Shire, and in addition on plans held at Divisional Office.

METHOD OF SURVEY

The order of activity was as follows:

1. A review of the most recent and relevant literature was carried out.
2. Upon suitable base plans, information was recorded from reports by F.D. officer and employee sightings, local farmers, and outside bodies such as the Manjimup Shire Office and the Agricultural Protection Board.
3. Systematic Survey of State Forest. Because of the magnitude of blackberry infestation, the survey was based on a system of priority. Forest areas with a high likelihood of occurrence were divided, according to their existing blocks. Within each block a survey was carried out:
 - 3.1 Along rivers and streams, especially at road and track crossings.
 - 3.2 Along old logging tramways.
 - 3.3 Around old millsites and homesteads.
 - 3.4 At other places of human activity, e.g. boundaries of private property and State Forest.

These areas probably represent the majority of infestations. Other areas of State Forest given a lower priority have yet to be surveyed.

4. All information collected was recorded on a Blackberry Distribution Plan of the Manjimup Shire.

BLACKBERRY CONTROL

Blackberry eradication measures undertaken by the Forests Department in the past have been largely ineffective because of:

1. The Scale of the Problem. Within the limits set by available funds, eradication has tended to be fragmentary, rather than the more desirable method, where infestations are attacked on a face.
2. Incorrect Method of Eradication. Recent indications have shown that in many cases, deviation from the accepted method has occurred, thus reducing the overall impact of the spraying programme.

The method of spraying is vitally important, and only mediocre results, or even failure will result if not observed. Although a variety of inorganic and organic chemicals have been used, best control is achieved with the ester of 2,4,5-T as the active component. As 2,4,5-T is a systematic weedicide, and is absorbed through the leaves when applied, concentrations above a maximum level results in rapid burning of the leaves, thus removing the medium of entry. The recommended rates for foliar application are as follows:

- 2.1 Broadleaf Type - 1 kg acid equivalent in 3-4 kl.
- 2.2 Narrowleaf Type - 1 kg acid equivalent in 5.8 kl.

Spraying is carried out when the plant reaches its maximum rate of metabolism. Best results are therefore associated with mid-summer spraying, coincident with flowering and fruit formation. However, it is recognised that variations in the optimum spraying time will depend upon geographic location.

Subsequent burning of the dried canes is carried out in the following spring. It is emphasized that burning before this time often negates the effect of previous spraying.

Follow-up treatment for another two growing seasons is normally required, however with diminishing rates of 2,4,5-T application.

CONCLUSIONS

Blackberry infestation in State Forest may appear a large problem at first, but closer examination reveals that it can be eradicated with a direct and co-ordinated attack.

Although the primary source of infestations are areas of past human activity, the blackberry has rapidly spread, mediated by rivers and streams, and is now largely localized in these areas. The dissemination of blackberry seed by water transport appears to be a very efficient mechanism, and it is recommended that these areas form the first priority of attack. Areas where seed dispersal depends upon forest fauna, and other agents, represents a low rate of blackberry spread, and are accordingly given a lower priority for eradication.