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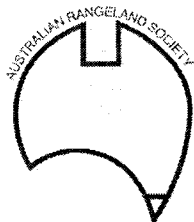
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A FRAMEWORK FOR RESEARCH AND MANAGEMENT OF WOODY WEEDS IN RANGELANDS

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INTRODUCTION

Woody weeds are one of the most serious causes (as well as symptoms) of land degradation. This paper refers particularly to the woody weeds which are encroaching onto undisturbed grazing areas.

The approach taken to the woody weed problem depends on the use of the particular area as well as the inherent features of the land resource and the shrub species. The final decision is largely determined by economic restrictions.

DEVELOPMENTS IN WOODY WEED CONTROL

In the pastoral areas, the initial approach was to reduce the woody weed population as much as possible to permit increased pasture production. The lack of cost: return benefits from single treatments resulted in the development of integrated control programmes (1). This paved the way for economic and environmentally compatible management of woody weeds. However, the resilience of many woody species, as well as continuing economic limitations, resulted in "management" in contrast to "control" becoming the criterion for treatment.

The emphasis on maximising shrub removal has detracted from wider considerations of shrub management. It is proposed that much greater use of shrubs could be made both directly (e.g. browsing) and indirectly (commercial use).

PROPOSAL FOR FRAMEWORK

The proposed framework can cover both research and commercial management perspectives - see Figure 1.

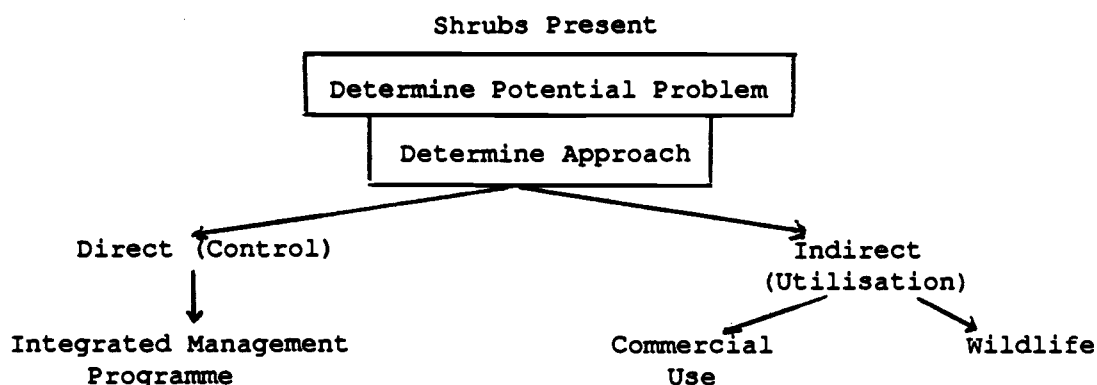


Fig. 1 Framework for research/management of woody weeds

Important points for consideration are:-

(1) Determination of problem

The species and its environment must be identified and the implications of its presence assessed to determine the problems involved.

(2) Determination of approaches

(a) Direct management

The selection of techniques and development of an integrated management programme involves consideration of economic and environmental factors (1).

(b) Utilisation of shrubs

This aspect is an area which has potential to provide a significant contribution to the management of woody weeds.

The only significant commercial utilisation of woody weeds to date has been export of small quantities of sandalwood (*Eremophila mitchellii*) to Asia and several species being harvested for brush fencing.

It is proposed that a methodical research programme be established to develop a data-base of potential uses of woody weeds. Ad hoc research has revealed the presence of chemicals which have commercial value, although extraction would not yet be economic. A data-base on chemicals and other potential uses of woody weeds would ensure commercial applications could be assessed and developed when economic factors were acceptable.

Another aspect of utilisation which needs research is palatability of woody weeds. There is a wide range of inter and intra-species palatability. Stock supplements, foliar sprays and soil additives for small areas could be investigated.

A third area which needs investigation is the value of shrubs as shelter for wildlife of commercial value. This needs to be carefully balanced with the degradation impact of shrubs but, as in the U.S.A., there would appear to be economic value in some commercial locations for providing wildlife habitat - for tourism and recreation enterprises.

CONCLUSION

The framework for both the research and applied management/control of woody weeds should be expanded to integrate control techniques as well as commercial utilisation and exploitation of the plants.

REFERENCES

1. Alchin, B.M. and Smith, R. (1988). Integration of shrub control methods. 5th Bienn. Aust. Rangel. Soc. Conf., Longreach.