

APPLICATION ABSTRACTS

The effect of feral goats and sheep on the shrub populations in a semi arid woodland

G. Harrington

Feral goats have been suggested as a means of counteracting the increase in shrubs in some grazed woodlands in western New South Wales and Queensland. Hopbush and mulga can be destroyed and punty reduced by very heavy goat pressures but the difficulties and expense of such a treatment are prohibitive for extensive areas. Neither mature or seedling budda and turpentine are susceptible to goats although root sprouts after bulldozing budda and wilga can be controlled by heavy goat pressure. Moderate grazing by goats has very little effect on any shrub except young mulga. Goats are not recommended for shrub control in these areas.

Effect of fertility level on the yield of some native perennial grasses on the North-West Slopes, New South Wales

G.M. Lodge

Native grasses have traditionally been regarded as unresponsive to applied fertilizer, and any fertilizer application to the rangelands of northern New South Wales has largely resulted in increased legume yield. In this study some native grass species such as *Bothriochloa macra* (redgrass), *Chloris truncata* (windmill grass) and *Dichanthium sericeum* (bluegrass) were found to be responsive to applications of nitrogen, phosphorus and sulphur.

Information on the response of individual species to varying fertility conditions will allow a greater understanding of the ecology of rangelands and enable more informed management practices to be used.

A survey of the regeneration of some problem shrubs and trees after wildfire in western New South Wales

A.D. Wilson and W.E. Mulham

Following extensive wildfires in 1974/75 the recovery of several different species of shrubs and trees was recorded at a number of sites across western New South Wales. Fire had a considerable effect on the survival of some plant species, but only a minor effect on others. Young trees of white cypress pine (*Callitris columellaris*) and mulga (*Acacia aneura*) had a poor recovery rate and hence could be thinned by the use of fire. Narrow-leaved hopbush (*Dodonaea attenuata*) and punty (*Cassia eremophila* var. *platypoda*) suffered severe losses at some sites, but not at others. Large numbers of seedlings emerged after the fires, so it is unlikely that a single fire would have a lasting effect on the density of these shrubs.

Other woody plants – yarran (*Acacia homalophylla*) budda or sandalwood (*Eremophila mitchellii*) and turpentine or budda bush (*E. sturtii*) – had only low death rates and would be difficult to control by burning. However, seedlings which had emerged prior to the fires were considerably reduced in number so that burning may have a greater role in keeping country clear of these shrubs than in the eradication of mature stands.

These results may not apply under all conditions, but they do provide a guide for further research on burning under controlled conditions as a means of scrub control.

SYMPOSIUM ON POPLAR BOX (*EUCALYPTUS POPULNEA*) LANDS

Introduction

The lands of semi-arid eastern Australia, in which poplar box (*Eucalyptus populnea*) and its various associated shrubs occur, has been the subject of Governmental enquiry and research, mainly with respect to the reduction in grazing capacity and the increase in unwanted woody plants.

A Symposium on the land-use problems of these lands was organised by officers of the Soil Conservation Service of New South Wales, CSIRO Division of Land Resources Management, Rangeland Research Group (Deniliquin) and CSIRO Division of Land Use Research, Woodland Ecology Group (Canberra).

This Symposium was held at Cobar, New South Wales, in the poplar box lands on 27-29 March 1979, and aimed to bring together published and unpublished information about the poplar box lands for an audience of some 40 people, including research groups in the States, CSIRO and graziers from the surrounding districts. The purpose was to examine and propose research directions in relation to current land-use problems.

The 17 papers presented at Cobar covered resource definition, resource use and management, effects of land use and perceived research needs. The first five papers are descriptive and deal with the perceptions of research worker, pastoralist, administrator and extension worker to research needs in poplar box lands, the history of pastoral development and its ecological consequences, and the biology of shrubs which have become a prominent component in these lands.

The remaining papers will be published in the next issue of the Australian Rangeland Journal.

Owen Williams