

APPLICATION ABSTRACTS

Predation of livestock by wild dogs in eastern New South Wales

P.J.S. Fleming and T.J. Korn

In tablelands, escarpment and coastal areas of eastern New South Wales wild dogs are considered a pest by many graziers. Records of predation of livestock by wild dogs and other wild dog activity were collected from 22 eastern New South Wales Pastures Protection Board districts from January 1982 to December 1985.

Sheep (1,520 reports) were the most commonly preyed livestock, followed by cattle (308 reports) and goats (93 reports). We found differences in predation relating to the species composition of livestock enterprises in each region. A seasonal pattern of predation emerged and observations of wild dogs were positively correlated with predation. The seasonal pattern indicated that existing aerial wild dog control programmes were reactive rather than preventative and it is recommended that aerial baitings be brought forward from June/July to the end of April.

Blue-green algae in southern Australian rangeland soils

R.W. Rogers

Blue-green algae were found in 134 of 136 soil samples from rangeland sites in southern Australia. The species present include several capable of nitrogen fixation, and all produce a gelatinous sheath which binds soil particles to produce soil-surface crusts. It is likely that blue-green algae are widespread and important in the ecology of arid rangelands and the conservation of their soils. If climatic changes (associated with the greenhouse effect) destroy the lichen surface, which are currently very widespread but are very heat sensitive when wet, blue-greens may become even more significant in rangeland soil conservation and the maintenance of pasture productivity. Both lichens and blue-green algae merit inclusion in assessments of range condition.

New land degradation survey techniques for arid Australia - problems and prospects

G. Pickup

The methodology for a new survey of land degradation in Australia currently is under discussion. This paper describes flaws in some of the point-based methods which might be used in such a survey and offers a new approach based on spatial and temporal variability of vegetation cover derived from remote sensing. The new approach has the potential to separate grazing-induced degradation from natural variability.

The effect of ant activity on meat baits impregnated with sodium monofluoroacetate (compound 1080) used for the control of dingoes and wild dogs

P.F. Merks and M.C. Calver

The meat baits used widely in the control of dingoes and wild dogs in pastoral areas of Western Australia may be detoxified rapidly by ant activity. The problem is compounded by the presence of a large and diverse ant fauna in preferred dingo habitats. It is therefore advisable to lay baits when target animals have a high likelihood of taking them before ants detoxify them. Nevertheless, the destruction of untaken baits by ants reduces the exposure of non-target fauna, and hence may be seen as an advantage in the long term.

Approaches to the restoration of rangelands - the Queensland experience

A.J. Pressland and T.W.G. Graham

This paper argues that it is not the incidence of drought nor the amount or distribution of rainfall that is the prime cause of rangeland degradation. Rather, it is simply that expectations of the potential animal productivity from rangelands is much higher than the reality.

Three case studies from Queensland are used to highlight the difficulties which may be experienced in attempting to restore degraded rangelands to a productive state. These studies addressed the problems in using fire for overcoming woody weed infestations in mulga lands; in reversing the trend towards nutrient rundown in sown buffel grass pastures; and in improving pasture condition in northern eucalypt-spear grass areas reduced through a combination of drought and overgrazing.

The need for an ecological understanding of the system is an essential prerequisite for rehabilitation. It is highly unlikely that restoration will be successful in the long-term unless management based on sound ecological principles, in concert with a change in attitude towards expectations and risk, is not implemented.

Rangeland restoration projects in western New South Wales

D.R. Green

The rangelands of Western New South Wales have suffered significant levels of land degradation in the past. Overstocking by domestic animals and rabbits has been the major contributor to land degradation. Three major types of land degradation are identified; soil erosion, woody weed proliferation and pasture quality decline.

Contour furrowing has proved to be successful for the restoration of sheet eroded areas, intercepting runoff, seed, silt and litter to provide establishment niches. On scalded country waterponding is presented as the most successful reclamation technique. Moisture infiltration and soil salt leaching are the factors that contribute to the success of this technique.

Woody weed proliferation is a major concern in the rangelands. Fire is discussed as a control tool for broad scale infestations. Blade ploughing, chemical control and goat grazing are also presented as woody weed control techniques for specialized areas.

Pasture quality decline is recognized as a land degradation issue, but it has been poorly addressed in the past. The development of grazing management strategies to reverse pasture quality decline is recommended as the future direction of rangeland restoration work.