

WOODY WEEDS IN SEMI-ARID RANGELANDS IN NEW SOUTH WALES

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Heavy regeneration of shrub and tree species has taken place on red earth soils in the Cobar district of western New South Wales in the 12-15 inch rainfall belt. The competition for space has seriously depleted natural pastures and caused a marked decline in the productive capacity of the country. The problem was investigated by an Inter-Departmental Committee (Anon. 1969).

The smaller shrub species, such as turpentine (*Eremophila sturtii*), hobbushes (*Dodoneae* spp.) and punty bush (*Cassia nemophila*) each growing to about 4-7 feet in height, and budda (*Eremophila mitchelli*) growing to about 10-12 feet, have always been a natural component of the vegetation, occurring usually as scattered plants with occasional thick patches, amongst the taller stands of bimbale box (*Epopulnea*), mulga (*Acacia anenra*), white cypress pine (*Callitris collumellaris*) and a wide range of other small tree and tall shrub species.

There has been a very considerable increase in the density of these small shrub species, apparently as a result of a period of above average rainfalls extending from 1947 to 1956. There are now millions of acres in which it is impossible to see more than 30-50 yards in any direction.

Because ground space is being increasingly occupied by growing scrub and young timber the depleted pastures are being seriously overstocked as landholders try to maintain normal stock numbers. Sheet erosion is becoming widespread in spite of heavy timber cover.

Sheep have to subsist on short-lived annuals which appear when seasonal conditions are very favourable. Graziers are forced to feed scrub or top-feeds to keep sheep alive. Many graziers report having cut or pushed scrub continuously for periods in excess of 3½ years during the drought of 1965-67. In spite of good seasonal conditions since the drought there has been virtually no recovery and scrub-pushing becomes a common practice during short-term dry spells.

The returns which might result from the eradication of the scrub and timber would not justify treatment. Measures have been recommended which aim at increasing the plane of nutrition of the lambing ewes and growing lambs. Small areas can be cleared for cultivation of winter fodder crops to provide good quality feed at lambing time and small open paddocks for mating.

There is scope in many cases for applying water-spreading techniques to utilize the huge volumes of run-off for promoting the growth of winter and summer fodder crops and lucerne pastures on areas cleared for cultivation. Contour-furrowing can be used to restore productivity to sheet-eroded ridge country where the stand of timber and scrub is open enough to permit this. However, the problem of millions of acres of country continuing to decline in productivity still remains. Consideration is being given by some to running goats, either for meat or mohair, as a means of utilizing the very considerable amount of browse material which sheep cannot use.

One small enterprize, in which wild goats have been domesticated and sold for meat, has shown that thick stands of scrub can be killed out within 2-3 years. From this it would appear that goats could be used to clean up scrub-infested country using a rotational programme with very heavy browsing over a 2 year period to kill the majority of scrub and young timber. A period of rest would then be needed to permit ground forage to regenerate, with a return to grazing by sheep but using goats from time to time to keep down regeneration of scrub or timber. This is the basis of successful land use of similar country in the semi-arid zones of United States of America and South Africa.