Mulga pastures

When first settled, the mulga lands were probably a mosaic of relatively productive undulating grasslands and open woodlands. But they would never been vigorous, being constrained by the soil and climate. In open woodlands with spaced large mulga trees and under low grazing pressure, the main species are the perennial grasses—kangaroo grass, silky umbrella grass, mulga oats, mulga mitchell, Queensland bluegrass and wiregrasses.

As grazing and other pressures increase, kangaroo grass disappears. Sheep prefer mulga oats and mulga mitchell, eating little of the wiregrasses. Thus, under heavier grazing pressure, these unpalatable wiregrasses become more dominant, while annual grasses, such as five-minute grass, and forbs, such as sida, also become more abundant.

Annual grasses provide useful grazing for a short time, but offer less stability and protection to the soil. Although the stemmy grasses have little grazing value, any perennial grass provides ground cover, while pores in the soil of their root zones act as 'wicks' for water infiltration, reducing water run-off. With long-term over-use, all vegetation disappears, leaving only sand-blasted scalds.

Poor ground cover increases rainfall run-off on the slopes, especially during intense summer storms when 75% of the rainfall can be lost. This water may increase grass growth in run-on areas, but the slopes become even more degraded.

For and against mulga browse

For. The mulga tree or shrub is a legume the leaves of which have fairly high (10–12%) levels of crude protein. However, stock can digest only about 40% of this protein because it is protected by tannins.

Despite the tannins, mulga browse provides good feed throughout the year and is a valuable reserve feed during droughts. It will maintain the condition of animals, although it is not a production ration.

Against. The fragile nature of these pastures has been exacerbated by the use of mulga as browse. It has allowed property managers to keep too many animals during droughts, resulting in excessive grazing pressure on the pasture. As only vigorous pasture and fire can control shrub growth, there follows massive regrowth of mulga and woody weeds.

Open grassland under old man mulga has changed to mulga thickets with sparse wiregrass. Grass growth
declines as the tree stands become more dense. In the
competition for water between trees, shrubs and
grasses, the deep-rooted woody species win.

The problem of mulga regrowth has been recognised
for a long time. In 1901, a Royal Commission was set
up to look into the problem in New South Wales,
probably after mulga feeding became a common
practice during the severe and long drought at the
turn of the century.

More damage to the mulga lands occurred during
the 1930s resulting from closer settlement, the
Depression and recurring droughts. Even larger areas
were affected in the 1950s, made easier with chainsaws and mechanised pushing.

**Mulga thickets or bare ground**

The lack of fire has allowed mulga regrowth and
unpalatable shrubs so thick that some land now has
little grazing value. Mulga populations are now often
as high as 12,000 stems/ha, while woody shrubs,
such as turkey bush, hopbush, turpentine, cassias
and false sandalwood, occupy open spaces where tree
cover is less dense. As the density of trees and shrubs
increases, grass production declines.

Mulga’s only natural enemy seems to be grasshoppers, which can cause localised damage. There are
no effective enemies of many of the other shrubs.

Where managers have tried to maintain their flock
size, excessive grazing pressure on the remaining
grasses has led to loss of ground cover and increased
soil erosion from wind or water. Some highly erodible
soils in mixed mulga-box country have developed deep
gullies; other hard-setting soils suffer sheet erosion to
form extensive scalds.

Bare soil deteriorates quickly in the mulga lands as
the top few centimetres of soil contain most of the
available nutrients and organic matter. When this is
lost, the soil surface seals, reducing rainfall
infiltration. Increased run-off results in a near-
constant drought for existing herbage, while few
seedlings can establish on the scalded, often sand-
blasted, surfaces. About half of the grass seedlings
that do emerge die within 14 days, and less than 10%
will ever flower and drop seed.