

THE NUTRITIONAL VALUE OF SELECTED FORAGE SPECIES  
OF WESTERN NEW SOUTH WALES

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This work is designed to investigate the nutritional status of some important forage species through different growth stages and seasonal conditions. The nutritional value of trees and shrubs, summer growing perennial grasses, winter growing annuals, and perennial chenopods are quantified in this study.

In the past, the nutritional value of plants in the pastoral regions of New South Wales has usually only been measured in "one-off" situations. This approach made it difficult to compare results because the nutritional value of a plant is likely to alter according to season, rainfall or phenological state.

Information on a plants' nutritional status is important to our understanding of the value and potential role of various forage species in livestock production. Such knowledge will facilitate decision making on the timing of grazing, supplementation, pasture management and livestock production and reproduction.

#### Objectives

1. To determine the nutritional status for a selection of species representing trees and shrubs, summer growing perennial grasses, winter growing annuals and perennial chenopods.
2. To examine the variation in nutritional status between different growth stages of the plant, at different times of the year, and under different seasonal conditions.

#### Methodology

The tree, shrub and chenopod components are sampled four times during the year at sites in the Broken Hill and Cobar districts. The sampling of perennial grasses and winter growing annuals is undertaken in response to rainfall events. These species are taken from sites close to Cobar to facilitate the intensive sampling regimen required to follow their rapid growth cycle following significant rainfall. All species are sampled from at least three different sites to cover a range of environmental conditions, in particular, soil type.

The following parameters are measured to estimate nutritional value:

- \* nitrogen (%)
- \* acid detergent fibre (%)
- \* dry matter digestibility (%)
- \* metabolisable energy (megajoules/kg dry matter)

This work is supported by a grant from the Wool Research and Development Fund on the recommendation of the Australian Wool Corporation.