

## CHAPTER 2

# Pasture growth and management

Pasture is the cheapest source of feed for livestock. The key to optimising the profitability of a grazing enterprise is to optimise the amount of pasture grown and consumed, with minimal supplementary feeding and minimal impact on the environment.

This chapter deals with optimising pasture growth and the persistence of the desirable pasture species. Making the best use of pasture, and assessing the quality and quantity of pastures to meet animal needs, is dealt with in Chapter 3.

### Pasture growth

The amount of pasture grown is determined by the rainfall, temperature, length of the growing season, soil type, nutrients and plant species.

Plants use sunlight, water and carbon dioxide to produce carbohydrates through photosynthesis. Carbohydrates are used immediately for growth or stored as water-soluble carbohydrates (WSC). The rate of plant growth is strongly influenced by both the leaf area (to capture light) and the WSC reserves in the tiller bases (if leaf area is insufficient). Although rainfall, temperature and soil type cannot be controlled, pasture growth can be optimised by ensuring nutrients are not limiting, plant species are appropriate and leaf area is sufficient.

### Pasture growth curves

Figures 2.1–2.6 illustrate some indicative monthly pasture growth rates for a number of sites in south-eastern Australia. Each figure illustrates the growth rates for an improved perennial pasture with good fertility (adequate nutrients) and an annual pasture with lower soil fertility. Pasture growth is measured as kilograms of dry matter per hectare per day (kg DM/ha/day).

These pasture growth curves illustrate the range in growth rates that can occur within the same soil type and environment. Therefore they give an indication of the potential for maximising growth by addressing plant species and nutrients, given the same amount of rainfall. Note that an ‘average’ year is depicted, so there will be monthly variation around each pasture growth curve