Pasture is one of the main feed resources used in most dairy production systems in Australia. Home-grown forage, such as pasture, is the cheapest feed source available for milk production. Pasture management is important in terms of quality and quantity of pasture on-offer, fertiliser and irrigation application and effective grazing management. These factors will significantly reflect the overall persistence and performance of pasture production and the subsequent level of milk production achieved.

Maximise pasture/forage use for milk production

Don’t just produce more forage—use more of the pasture/forage that you grow. The key to increasing production and profitability in pasture-based dairy systems is to increase pasture utilisation.

1. Maximise intake of grazing cows

Feed availability and feed quality are the main drivers of feed intake. (Refer to Technical note 3: Feed intake and Technical note 4: Factors affecting feed intake).

Feed availability

- Feed on-offer is affected by a range of factors including irrigation, fertilizer and grazing management.
- Feed intake will be affected by the amount of feed on-offer and the amount of area allocated to the cows on a daily basis.
- To estimate feed on-offer, use tools such as pasture meters and photo standards to estimate the amount of dry matter (DM) available per hectare.
- Using the estimate of feed on-offer, allocate a sufficient area to the herd to meet their DM intake requirements.
- Balance the diet to identify the optimum pasture DM intake according to milk production targets and the amount of feed on-offer per day and within the season.
- Common situations resulting in low DM intake of forage include drought; feed gaps during the change in season; inability to assess DM on offer; too much stem/not enough leaf (particularly tropical grasses); unbalanced total diet and high forage neutral detergent fibre (NDF).

Feed quality

- In most cases, forage NDF sets pasture intake.
- Tropical pastures are generally higher in NDF as they grow faster in humid, hot conditions. The maximum intake of NDF from forage is limited to 1% of body weight. For example, a 600 kg cow can eat up to 6 kg NDF from forage.
- For a 600 kg cow eating a forage that has an NDF content of 68% (for example, mature Rhodes grass pasture), the potential pasture intake is equal to 8.8 kg. However, if that forage only contains 37% NDF (for example, ryegrass/clover pasture), then the potential pasture intake is equal to 16 kg. Refer to Technical note 4: Factors affecting feed intake.
- Pastures and forages should be grazed at their optimum quality, particularly before NDF content starts to increase dramatically as the plant matures (see figure).
- Sugar concentrations in the plant tend to increase in pastures throughout the day.
• Supplement with concentrates and other feed sources to meet the cows’ DM intake and to balance the diet. Balance the diet according to the changing composition of the pasture. Refer to Technical note 8: Feeding management and Technical note 19: Slug feeding.

• Other factors affecting intake of grazing cows include temperature (Refer to Technical note 13 Heat stress & nutrition) and the availability of drinking water (Refer to Technical note 4: Factors affecting feed intake and Technical note 2: Managing for healthy rumen function).

2. Tips on grazing management

• Provide the milking cows with the best quality and readily available feed on the farm each day.

• Decide daily pasture allocation from pasture area (ha); feed on-offer (kg DM/ha); number of cows; maximum forage intake/cow; and target pasture utilisation (kg pasture eaten/ha).

• Ideal grazing stage depends on type of pasture, time of year and pasture growth rate. The rule of thumb is to graze at optimum DM yield and pasture quality for milking cows—generally before flowering and seeding stage. For example, ryegrass is ideal at a production/grazing stage when each tiller has three leaves (see photo); kikuyu ideal production/grazing stage is 4½ leaves; forage sorghum ideal production/grazing stage is a height of 90 cm.

• Adjust grazing management and rotation length to match pasture growth rate. For example, annual ryegrass may require a rotation length of 28 days in winter, but a rotation length of 18–21 days in spring.

• If pasture/forage growth is greater than milking herd requirements, don’t slow the rotation, use dry cows/heifers or fodder conservation to utilise the excess pasture.

Contacts
David Barber
DEEDI, UQ Gatton Campus
Phone: 07 5460 1585
Email: David.Barber@deedi.qld.gov.au

Further information
• DEEDI website www.deedi.qld.gov.au for the Nutrition Plu$ Technical Note series
• Protein Plu$ checkbook (Published 2006 by DPI&F, Queensland)
• Feed Plu$ CD v4.0 (Published 2008 by DPI&F Queensland)
• Condition magician booklet (Published 2003 by DPI Victoria)
• www.dairyinfo.biz