

The Nutrition of Grazing Animals

Matching the feed intake with an animal's requirements, in a grazing situation, is more difficult than when animals are hand fed in a feedlot.

Although the nutritonal principle and nutrient requirements are the same for both grazing and lot fed animals, there are many additional factors which exist with grazing animals that prevent the use of a simple approach proved successful in the feed lot.

The main difference between grazed forage and lot fed diets are:

1. The grazing animal has to search for its food. If forage is abundant and palatable, five to six hours grazing may be sufficient for the animal to satisfy it's appetite. If the yield of forage if low, then bite size will be small and there is insufficient grazing time for maximum voluntary intake to be achieved.
2. Forage is never a uniform feed, consisting of varying proportions of leaf, stem and dead material. If given the opportunity, animals graze selectively, preferring the leaves. This means it is difficult to know exactly what the animals is eating and to obtain a sample for chemical analysis.

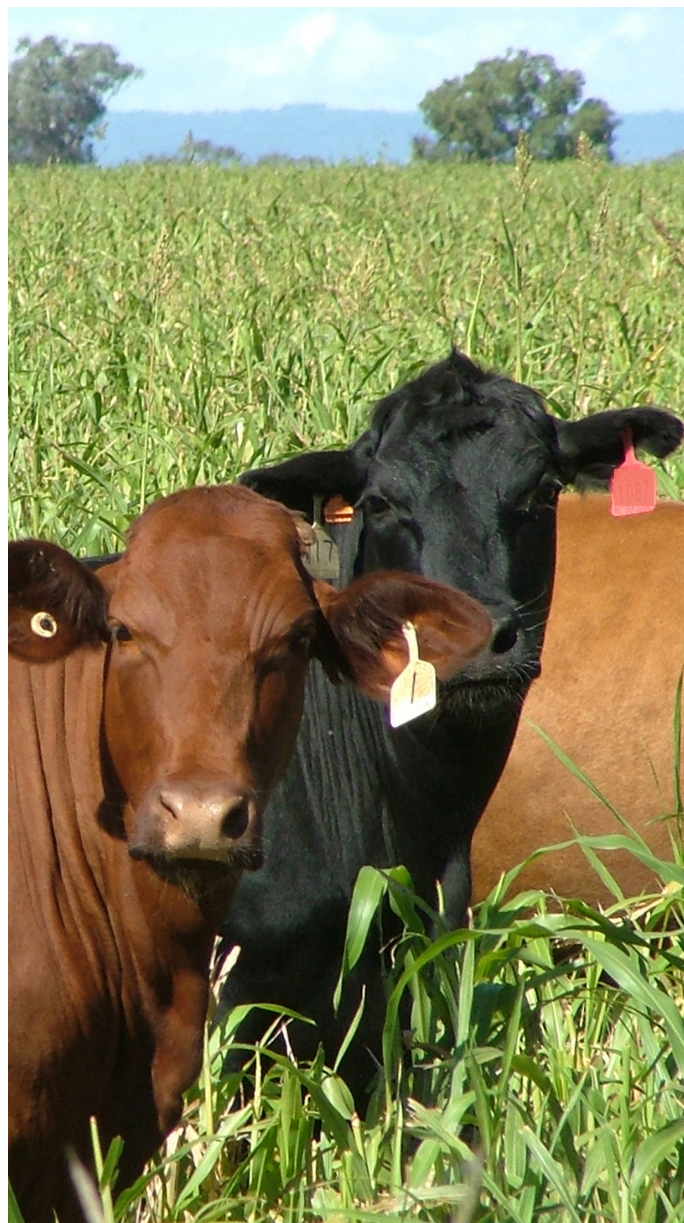
With mature forage the difference in preference between leaves and stems can become so large that grazing animals will sometimes eat only leaves, which may be in such short supply, that daily intake of forage will be seriously depressed.

3. As forage grows taller and older, there are usually rapid changes in feed quality. With increasing height, fibre content increased. But the digestibility, metabolisable energy and protein content all decline as crops become taller and more mature. These changes are so rapid there is insufficient time to analyse the diet selected and produce a least-cost

supplement, which can be fed before there is another change in composition of the forage eaten. An exception to this common trend is found in sweet sorghums, where the high sugar levels help maintain digestibility and metabolisable energy.

Although it is not possible to use nutrient requirement to 'ration' grazing animals in the same manner as with lot fed stock, there are many ways, not available to the lot feed, in which the nutrition of grazing animals can be improved.

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[Adapted from *The Forage Book*, 2nd edn by Peter Stuart, Published by Pacific Seeds, Toowoomba, 2002]

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Improving the Nutrition of Grazing Animals

Available forage

Maximum intake of forage will only be achieved if there is enough of desired forage per unit area, to enable the animals to take sufficiently large bits of forage.

With immature forage, maximum intake and production is achieved in both sheep and cattle, when the yield of dry matter per hectare exceeds about 2000kgs. If these forages are strip grazed, then maximum intake and production will be achieved in the animals are offered twice the quantity they can eat.

As mature forage contains unpalatable stem and dead material, to achieve maximum intake and production, the dry matter yield of palatable leaf should exceed 2000kg/ha.

Maximum intake of forage can only be obtained if forages are leniently grazed and this be wasteful. One method of reducing this waster to follow the initial grazing but cattle being fattened, with dry cows that have a lower nutrient requirement.

Forage maturity

To obtain the maximum voluntary intake, and the highest concentration of energy, crude protein and minerals, forage should be leafy and immature when grazed.

Late flowering hybrids give greater flexibility in grazing time, but for maximum performance it is still better to utilise the feed before the crop reaches two metre. Delayed grazing may result in lower feed quality and greater wastage of feed.

Forage protein content and protein supplementation

Mature forages may contain insufficient crude protein to maintain the activity of the rumen microorganisms. This occurs when the crude protein content of forage falls below about 7%.

The use of a Urea or Urea/protein supplement will increase voluntary intake and reduce stock mortality. But production on mature forage will still be limited by the high fibre content and low intake of metabolisable energy.

Research centre for cattle and beef quality

A number of years ago, a Co-operative Research Centre (CRC) for cattle and beef quality was established with support from the Australian Government's Cooperative Research Centres program. This CRC for cattle and beef quality is located at the University of New England, Armidale, New South Wales.

The centre has a team of geneticists, ruminant nutritionists and meat scientists drawn from the CSIRO, the University of New England, NSW Agriculture and the Queensland Department of Primary Industries. One of the aims of the centre is to identify the key genetic and non-genetic factor including beef eating quality.

Further information can be found at their website www.beef.crc.org.au

For more information, please contact Pacific Seeds on (07) 4690 2666 or visit the website www.pacificseeds.com.au



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Growing possibilities

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