

## Pasture-fed beef from tropical pasture systems

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### Introduction

Since beef cattle were introduced to Australia, most slaughter cattle have been produced off pasture. Even today, of the 8 M head slaughtered each year, approximately 5.5 M head (68%) are wholly pasture-fed.

The ability to produce beef/carcases with consistent eating quality off pasture has been enhanced following the introduction of the Meat Standards Australia (MSA) grading system (Anon 2003). Meat Standards Australia (MSA) provides the technology to predict the eating quality of beef at the carcass stage. Management at all points along the supply chain can be modified to guarantee a high-quality, pasture-fed product.

A major requirement in meeting MSA grades is annual liveweight gain per head of at least 180 kg. This eliminates most grazing systems across northern Australia. For example, native pasture systems in Queensland can achieve these weight gains only in exceptional years and then only on the best land types. Only introduced improved pasture species in endowed land zones are able to achieve these required growth rates.

This paper identifies regions capable of producing MSA-certified pasture-fed beef and gives examples of pastures used in each region to provide the required liveweight gains. It also identifies possible market specifications for a pasture-fed product, which could take advantage of this emerging, valuable market.

### The regions

The regions capable of producing high-quality, pasture-fed beef are broadly the coastal strip and hinterland from Cape Tribulation in the north to the New South Wales border, but also include the Central Highlands, the Burnett and the Darling Downs (Figure 1). Nearly 4.5 M head or 40% of the total Queensland herd currently graze on these endowed areas.

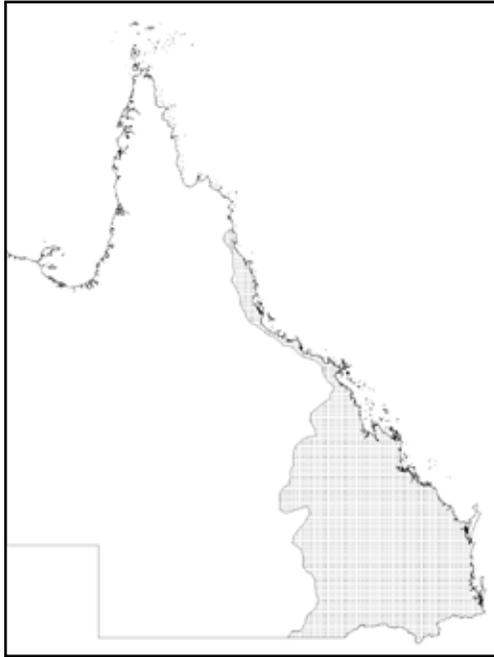
Climatically, these regions range from reliably high-rainfall country in the far north (>3000 mm/annum) to variable and relatively low-rainfall country in the Central Highlands and the Darling Downs (600 mm/annum). Land types in these endowed lands are moderate to highly fertile basalts, alluvials, brigalow and downs soils.

### The systems

A range of highly productive exotic grasses and legumes (plus fertiliser where required) are used to achieve the high weight gains needed to meet high-quality specifications. These were derived from extensive plant evaluation research between 1950 and 1980 (Gramshaw and Walker 1988).

For example, in coastal Queensland and hinterland areas, signal grass, setaria, rhodes grasses and panics are grown alone or with legumes such as pinto peanut, centro, creeping vigna, glycine or desmodium. Across the Central Highlands and Burnett, buffel grasses, panics and creeping bluegrasses are widely used and legumes include leucaena, butterfly pea, stylos, Wynn cassia and siratro. On the Darling Downs, Bambatsi, creeping bluegrasses, rhodes grass, Floren bluegrass and Premier digitaria are used with burgundy bean, stylos, medics or lucerne. Here, forage cropping is also widely used to maintain high weight gains.

The virtual elimination of ongoing work into plant introduction and evaluation has placed at risk animal production across these endowed



**Figure 1.** The hatched areas are capable of producing high quality, certified pasture-fed beef.

regions. A major insect or plant disease incursion, affecting one or more of our major plant species, could devastate the productive capacity of these lands.

### The product

Currently there are a number of pasture-fed beef products on the Australian domestic market, which appear highly regarded. An issue, however, is that there is no common production standard for use of the name 'Pasture-fed'.

Feedback from the domestic and overseas marketplace indicates that the product standard needs all of the following: no hormone growth promotants; no antibiotics; MSA grading for grilling cuts; no confinement or grain feeding during the animal's lifetime; lifetime traceability; and third party audit.

### Getting it all together

Some large processors/wholesalers operating in domestic and export markets are very keen to pro-

mote the distinctive eating flavours and health attributes of pasture-fed product. In addition, a core of passionate Queensland beef producers have been working with industry bodies for several years to move the industry into establishing such a Certified Pasture-fed Label, but progress to date has been slow.

There are, however, several factors that point to the successful emergence of a certified pasture-fed label:

- Queensland producers and R&D staff are world leaders in the use and management of tropical and subtropical pasture fattening systems to achieve high liveweight gains.
- Our use of cattle genetics in these environments to produce a quality product is unsurpassed.
- The use of the pathway to the MSA grading system is world's best practice for producing a high-quality eating product.
- Beef labeled as 'pasture-fed' is experiencing good demand from domestic markets and strong interest from export customers.

It is time for industry to move forward and pull all these attributes together to produce a high-quality product for domestic and export markets – "Certified Pasture-fed Beef".

### References

- ANON (2003) *Meat Standards Australia: beef information kit*. (Meat & Livestock Australia Limited: Sydney). ISBN: 1 74036 505 4.
- GRAMSHAW, D. and WALKER, B. (1988) Sown pasture development in Queensland. *Queensland Agricultural Journal*, **114**, 93-101.

Ed. note: signal grass = *Brachiaria decumbens*; setaria = *Setaria sphacelata*; rhodes grass = *Chloris gayana*; panics = *Panicum maximum*; buffel grass = *Cenchrus ciliaris*; creeping bluegrass = *Bothriochloa insculpta*; Floren bluegrass = *Dichanthium aristatum*; Premier digitaria = *Digitaria eriantha*; Bambatsi = *Panicum coloratum*; pinto peanut = *Arachis pinto*; centro = *Centrosema pubescens*; glycine = *Neonotonia wightii*; creeping vigna = *Vigna parkeri*; desmodium = *Desmodium uncinata*; leucaena = *Leucaena leucocephala*; butterfly pea = *Clitoria ternatea*; Wynn cassia = *Chamaecrista rotundifolia*; stylos = *Stylosanthes* spp.; siratro = *Macroptilium atropurpureum*; lucerne = *Medicago sativa*; burgundy bean = *Macroptilium bracteatum*; medics = *Medicago* spp.