

Do intensive dryland pastures have a role in controlling environmental weeds in Coastal Central Queensland?

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Summary In combating environmental weeds in Coastal Central Queensland since 1970, we have identified the issue of competition as an important factor. Where weeds have no competition they thrive.

Recent experience in the Bundaberg area showed that fertiliser use on a weedy *Sporobolus* species (e.g. giant rat's tail grass, *S. pyramidalis* P.Beauv.) followed by a high stocking rate of cattle, removed the weed's advantage. The experience suggests that more knowledge about the effect of fertiliser at high levels on dryland pastures will help manage a whole range of weeds. The aim of this paper is to summarise the known information available about using above maintenance levels of fertiliser to improve pasture production of grasses common in Coastal Central Queensland and thereby combat weeds.

A good starting point is the relationship between improved soil fertility after fertiliser application and grazed pasture production. In most areas of Queensland, with greater than 900 mm rainfall, the two main soil elements nitrogen and phosphorous control grass

growth. However, the ability for these elements to enhance grass growth depends on the genetic potential of the grasses concerned. For example, Australian native grasses do not have the genetic potential to respond to improved soil fertility enough to warrant the cost. Also, livestock, such as cattle and horses, have a much greater liveweight than native herbivores so they need to consume a greater volume of grass. Therefore, there has always been great interest in any grasses with the genetic potential to enhance livestock production per hectare.

Therefore, we need to consider; firstly, what do we know about fertiliser and grass response in tropical as opposed to temperate pastures, and secondly, how much financial return will be gained through increased animal liveweight, while creating greater competition for weeds? Our proposed work for 2013/14 involves three trial plots in Coastal Central Queensland to investigate the potential of high levels of nitrogen fertiliser in controlling weedy *Sporobolus* species.