ROYSTON PARK

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Property description

The property of 1620 ha is 50 km north of Mackay with an annual rainfall of 1625 mm with most rain falling in the period December to March. In most years around 100 mm can be expected during the winter months. The property can expect 6 to 10 frosts per year ranging from light to quite severe. Pastures will recover rapidly once the weather warms up.

The country is gently rolling mostly at altitudes of between 60 m and 120 m. The main soil type is a brown earth with a pH of around 5.7 and available phosphorus of 5 to 10 ppm and available K of 0.3 me per cent.

Development

The property was purchased in August 1968 and since then an area of some 1012 ha has been developed. Almost the total area will eventually come under pasture.

The composition of pastures is 890 ha of grass/legume mixtures and the balance sown to pangola (*Digitaria decumbens*) and *Brachiaria decumbens.*

Pasture establishment

The main establishment method for the area following clearing and burning has been one ploughing followed by a harrowing which leaves the ground in a slightly rough state for seeding. This allows the soil, after rain, to break down and give good cover. By adopting this practice the soil does not set too hard or dry out. The rate of fertilizer at planting is 500 kg ha^{-1} of Mo single superphosphate. The period of seeding has always been between the months of November and January.

Pasture species

The main species used on the property are:

Grasses — Kazungula setaria (*Setaria anceps*), *Paspalum plicatulum*, pangola grass and *Brachiaria decumbens.*

Legumes — Siratro, Schofield stylo, Tinaroo glycine and Centro.

We have found the most suitable pastures to date have been Kazungula setaria with Siratro, Schofield stylo and Tinaroo glycine, and pangola grass planted alone. *Paspalum plicatulum* has performed reasonably but to get the best out of it it needs rather heavy stocking and this in turn puts a tremendous pressure on the legume content.

Seeding rate

Seeding rates used at all times have been:

Kazungula setaria	—	0.5 to 0.75 kg ha^{-1}
Paspalum plicatulum	—	1 to 1.5 kg ha^{-1}
Brachiaria decumbens	—	3 kg ha^{-1}
Siratro	—	0.5 to 0.75 kg ha^{-1}
Stylo	—	1.5 kg ha^{-1}
Glycine	—	1.5 to 2 kg ha^{-1}

Costs

Approximate costs of development and planting for the period 1968-74 have been:

Clearing	—	\$50 ha^{-1}
Cleaning up and ploughing	—	\$30 ha^{-1}
Planting costs and seed	—	\$30 ha^{-1}
Fertilizer	—	\$25-30 ha^{-1}
Total cost	—	\$135-140 ha^{-1}

* "Royston Park", Kuttabul.

In October 1976 we commenced developing another property and costs of development have increased as follows:

Clearing	—	\$85-100 ha^{-1}
Cleaning up and ploughing	—	\$37-50 ha^{-1}
Planting costs and seed (less species planted)	—	\$30 ha^{-1}
Fertilizer at half previous rate—250 kg ha^{-1}	—	\$30 ha^{-1}
Total cost	—	\$182-210 ha^{-1}

Management

After the pastures have fully established, which normally takes about 4 months, they are continuously grazed. The number of cattle is determined by the feed available. The object of the grazing management is to maintain a good legume content.

Pastures on "Royston Park" up to 8 years old still retain good legume contents (10% to 30% depending on time of the year). There is little or no weed regrowth and no pasture has ever been slashed. The small amount of regrowth can be controlled by hand cutting and treating with Tordon.

Fertilizer maintenance dressing is 125 kg ha^{-1} of single superphosphate every year (250 kg ha^{-1} was applied in some years). Mo super is applied every third year.

We have used burning in small areas where natural grasses (mainly blady grass) have encroached. We have found that it gets rid of the tall cover and mulch build-up, and allows a good legume seed germination.

This property is run in conjunction with two other properties and because of the state of the industry development has virtually ceased over the last two years. However, we have now embarked on a program on some 400 ha for the 1976-77 year.

Cattle Enterprises

There are at present a total of 2310 head of mixed cattle on "Royston Park", consisting of 1000 breeders, 500 steers, 750 weaners and 60 bulls.

Stocking rates on pastures vary, depending on the time of year. Normally we run a beast to 0.6 ha. However, because of circumstances over the last 2 years, the pastures have carried in the order of a beast to 0.4 ha all year. These have been high rainfall years and all the pastures on "Royston Park" can be grazed throughout the wet season.

Fattening is carried out on the property and at stocking rates of 0.4-0.6 ha per beast weight gains in the order of 0.45 kg day^{-1} have been achieved over a period of some 5 years. The best period of weight gain was between June to October 1973 when animals averaged 0.76 kg day^{-1}. This was a mild wet winter-spring period. The only period of weight loss over this 5 years was between October 1972 to February 1973 (a drought period in the Mackay area) when average weight loss of 0.1 kg $head^{-1}$ day^{-1} occurred. These trials were carried out in conjunction with the Department of Primary Industries.

The property also has a small Brangus stud with some 300 registered cattle.

Summary

It would seem in our area that the species which now give the best results are Kazungula setaria and Siratro. They have both persisted under extreme grazing pressure and I make special mention of Siratro for it is the only legume which was performed well under all conditions. It has an excellent growth rate and will withstand extremely dry weather. The only failing it has is its susceptibility to frost. However once the cold weather is finished it comes away again very well.

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