

CARE OF HORSES

FIELD MEETING OF THE CENTRAL COAST BRANCH AT MT. OSSA, MACKAY DISTRICT, NOVEMBER 25, 1978

The Central Queensland Branch of the Tropical Grasslands Society held a "Horse Care" field day on Mr. Clyde McLean's property at Mt. Ossa, 40 km north of Mackay. Keen interest was evident from horse societies and pony and performance clubs, as well as from cattlemen with interests only in stock horses. Over 200 people attended the afternoon field day and approximately 50 remained for a barbecue and films. Demonstrations on horse shoeing and drenching of horses were very popular during a one hour break for afternoon tea.

Three presentations dealt with supplementary feeding and health of horses and these will be circulated to members in the Society's newsletter. A fourth paper on calcium deficiency or "big head" of horses has previously been covered in the proceedings of the Brisbane meeting of the Society held in June 1978 (*Tropical Grasslands*, volume 12, number 3, page 212). The two papers presented here outline management procedures for pastures specifically grown for feeding horses.

WHAT ARE GOOD PASTURES FOR HORSES?—MY EXPERIENCE

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I have found two pasture species to be most suitable for grazing my horses: *Paspalum plicatulum* cv. Rodd's Bay and pangola grass (*Digitaria decumbens*). However I feel pangola grass is probably the ideal pasture.

Plicatulum pastures

Horses will do well on Rodd's Bay plicatulum and will eat it readily when shut on pure stands. It is not as palatable as pangola grass and they will tend to patch graze and weeds may invade these patches. I run my breeding mares in a well shaded paddock of Rodd's Bay plicatulum at a stocking rate of a mare to 0.7 ha. Pangola grass hay is fed also.

Initially I sowed legumes (Schofield stylo and Siratro) with the plicatulum. Horses really like Siratro and soon graze it into the ground. Stylo appears to be less palatable and has persisted for longer. By shutting up the plicatulum paddock in January I have cut between 400 and 450 bales of hay per hectare in April. However it is not as good quality as pangola hay.

Pangola grass pastures

Pangola grass is very palatable but maintains a weed free pasture and doesn't grow tall and rank when spelled. It makes very good hay and I have cut 368 bales from 0.3 ha in one cut. I can carry around 4 to 5 horses per hectare by making and feeding back pangola grass hay and using nitrogen fertilizer.

Although pangola grass is slower and more difficult and expensive to establish, it is well worth the extra effort. I have obtained best results from autumn planting. Weeds are less of a problem and the weather is still warm enough to allow pangola growth.

Sensitive weed can build up in pangola grass as horses don't graze it as readily as cattle do. Spelling over the wet season and applying nitrogen can smother it out in one season.

I collect my pangola runners by cutting and running the green material through a hay baler without tying. This results in shorter runners which are easier to handle. These runners are picked up in a trailer and placed in heaps around the paddock and spread from there by hand. The runners are disced in and then rolled to firm the surface. I have cut my labour and planting time by half by using this method.

Experience will soon indicate what setting to use to bury two thirds of each runner and leave one third on top. I find this gives a quicker cover than burying more of the runner. The better the seed bed preparation the better the take and quicker the spread.

The secret to good pasture establishment and growth is to use adequate fertilizer. I apply two bags of superphosphate per hectare each year and one bag of urea in autumn and/or spring depending on how much grazing or hay I require. Initially I applied this fertilizer at planting also but I found it promoted weed growth. I now apply the fertilizer in the spring, approximately three months after planting when runners are starting to spread.

Pangola grass hay

I make most of my hay during the winter or early summer. I don't have irrigation but there is usually sufficient rain to wash the fertilizer into the soil and produce sufficient growth. I try to cut pangola grass for hay five to six weeks after applying 50 to 100 kg per hectare of urea (depending on previous fertilizer applied). Growth older than this gives hay of lower quality. I don't attempt to make hay during the wet season.

I have also made hay from oats, sudax and lucerne. The oats made good hay but the sudax gave twice the number of bales. The lucerne quickly became very grassy. The sudax also became very grassy during the wet season. When fed together the horses eat sudax hay first then lucerne and then oats. However, I find I can make pangola grass hay more cheaply and with a lot less effort and the hay is readily eaten by my horses.

In conclusion, I recommend pangola grass for grazing and for making hay for feeding in the yards.

PASTURES FOR HORSES

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It is unfortunate that, when discussing the above subject, one is unable to make recommendations for "horse" pastures that are based on conclusive research data or even proven facts. Instead we have to rely on information and observations gathered over only a few years. The following notes are based on my experience in the Mackay region.

Suitable species

We have learned that most of the introduced pasture grass species are able to cause "Big Head" disease under certain circumstances. Pasture legumes with their inherent higher calcium content seem to be ideal pasture companions for grasses presently available to supply horses with that "balanced diet" and avoid calcium deficiencies in their metabolism.

During my experience with tropical pasture development in the Mackay district I have repeatedly observed horses preferentially grazing Siratro to such an extent that all existing Siratro plants were killed out in a relatively short time. Whether the alkaloids in Siratro make it extremely palatable to horses or whether the animal instinctively tries to balance its diet I am unable to say.

Horses have a double set of teeth and are able to graze pastures considerably lower to the ground than cattle and therefore prove a "danger" to any grass or legume species. Careful pasture management is therefore absolutely essential if we are to maintain a productive pasture.

Due to the above fact of "close to the ground" grazing by horses I feel that at this point in time pangola grass is the most suitable grass species for a "horse" pasture. Should we be able to obtain seed or runners of the creeping legume *Desmodium heterophyllum*, I feel that it would be worthwhile to maintain a pangola pasture with this legume. At present, all we are able to do is to make pangola or the grass of our choice as vigorous and nutritious as possible. This can be achieved through a proper fertilizer program and careful grazing strategy.

Pangola planting

When choosing a site for your horse paddock avoid locations that are flooded or remain water-logged for long periods. Your pasture and your horses will perform better on reasonably free draining soils.

Successful establishment of any pasture firstly requires the elimination (mechanically or chemically) of most of the undesired species of plants, secondly sound and possibly weed free planting material, and thirdly a soil with sufficient fertility to allow maximum growth of the introduced grass.

Planting fertilizer

As most of our coastal soils are inherently low in phosphorus I would suggest an application of 400 to 500 kg per hectare of granulated superphosphate (9% P; 10% S; 20% Ca), worked into the soil prior to planting. A soil analysis is advisable on economic grounds when planting a large acreage. An application of 100 to 125 kg per hectare of urea during planting makes sufficient nitrogen available for the initial growth of the runners.

Should irrigation be envisaged I would suggest an application of 100 to 125 kg per hectare of muriate of potash applied and worked into the soil prior to planting.

Management

When considering management practices of any tropical pasture remember that a young pasture is like a young horse. Both have to be worked leniently and fed well to allow them to grow into a healthy production-unit blessed with longevity.

Here are a few points to remember: Do not graze the establishing pasture too early. Avoid initial stocking when soil is too wet. Compaction will inhibit rooting of new runners. Do not overstock. The number of horses per hectare should be judged by the pasture feed available at any given time. Overgrazing will allow weeds to re-establish and gradually take over.

Maintenance fertilizer

As a rough guide to maintenance fertilizer rates, I would suggest 250 kg per hectare per year of granulated superphosphate where a soil sulphur deficiency is suspected, or 125 kg of "Triple Super" (19.2% P; 1.6% S; 16% Ca) where no sulphur deficiency is suspected.

Nitrogen should be applied in sufficient quantities to maintain adequate and vigorous growth. It is well to remember that the protein content of the pasture grasses is governed by the amount of nitrogen available in the soil. Strategic applications of nitrogen will ensure sufficient feed supply when required, providing of course that soil moisture is not the limiting factor. It is wiser to apply 100 to 125 kg per hectare of urea or its equivalent four times a year than one application of 400 to 500 kg per annum.

Irrigation

Where irrigation is available apply 100 to 125 kg per hectare of urea just prior to or during each irrigation cycle for maximum efficiency of water applied. The aim is to achieve an even supply of nutritious feed. Periodic (biennial) soil analysis is a good investment to indicate whether the fertilizer program is adequate or wasteful.

Renovation

After some years of grazing it may be necessary to rejuvenate pasture by aerating the soil. Compaction by trampling or grazing animals on some soils can be most severe and spectacular improvement of pasture performance has been observed on some trial strips on local properties. Soil disturbance to a maximum depth of 15 cm has been sufficient.

Conclusion

We have to realize that we do not know for certain which grasses or grass-legume mixtures make up the ideal horse pasture. Using the presently available species we can however provide nutritious pasture feed through attention to correct management practices. Improved pastures in the wet tropics may not adequately supply all nutrients required to sustain working horses or lactating broodmares, but will go a long way to reduce hand feeding costs and provide our four-legged friends with the green feed so essential to their well being in the long term.