

FIELD MEETING AT BROOKFIELD, JUNE 17, 1978 PASTURES FOR HORSES IN SOUTH-EASTERN QUEENSLAND

In recent years the number of horses in the vicinity of Brisbane has been increasing and, in many cases, horses are maintained on heavily grazed pastures. Consequently, the theme of this field day was on the role of pastures in horse nutrition. Visits were made to the properties of Mr. M. J. Fisher, Pullenvale and Mr. T. McEvoy, Brookfield. The field day was opened by Dr. P. C. Whiteman, President of the Tropical Grasslands Society and the closing vote of thanks given by the Vice-President, Mr. R. Pechy.

NUTRITION OF HORSES GRAZING PASTURES IN SOUTH-EASTERN QUEENSLAND

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The value of a pasture for a grazing horse depends on the pasture's ability to supply enough nutrients and energy to satisfy a horse's requirements. Because pasture growth is largely dependent on seasonal conditions the supply of nutrients is characterized by alternating periods of excess and deficiency. During the periods of deficiency expensive conserved feeds and supplements must be used in order to avoid loss in condition of the horses.

The success of a feeding program is measured not only by a horse's health and ability to work, but also by the owner's ability to integrate supply and demand so that purchases of feed and supplements are reduced to a minimum. This integration requires a knowledge both of a horse's requirements and of the nutritional value of the pasture available throughout the year.

Over the last decade considerable advances have been made in the study of the digestive physiology and nutrient requirements of horses. However, studies on the nutritional value of feed to horses have mainly been on stable fed horses. The nutrition of grazing horses has been studied to some extent in the United States, but not in Australia. This presentation aims at matching available knowledge of pasture productivity and pasture quality in south-eastern Queensland with the suggested nutrient requirements of horses.

The main conclusions are as follows:

Pasture dry matter production will usually be sufficient to satisfy a horse's requirements for energy from October or November, depending on the date of the opening rains, until April. Lactating mares are unlikely to obtain enough energy after March.

The protein requirements of horses will only be met for a shorter period, from October/November until January. Protein deficiency during the remaining months could be partly met by inclusion of a legume such as Kenya white clover. Also the provision of some lucerne hay once grasses start to mature is likely to be beneficial in both the provision of protein and some energy, particularly for lactating mares.

On pony club, eventing or show days, the horse will not have sufficient grazing time. On these days it is wise to offer about one-half to three-quarters of the normal winter feed allowance, probably with a higher proportion of oats than normal.

It is essential that at critical times of the year, spring and autumn, horses be closely observed to check their condition. Horses should usually be on full feed by May.

A KENYA WHITE CLOVER-BLUE COUCH PASTURE USED FOR HORSES

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In May 1975 seed of Kenya white clover (*Trifolium semipilosum* cv. Safari) was broadcast by hand over a closely grazed pasture dominated by blue couch (*Digitaria didactyla*). The area was fertilized with 150 kg Mo superphosphate ha⁻¹ at sowing, with a further 150 kg superphosphate in November 1975. Before and after sowing the pasture has been stocked at about two horses ha⁻¹. Supplementary feed is given from March to November.

Establishment was patchy, as would be expected from sowing into an undisturbed sward, but growth has been satisfactory and the legume is still thickening up and spreading. Kenya white clover has responded to rain at all times of the year, although growth is much slower during winter.

The good performance of Kenya white clover in this sowing suggests it could be more widely used in pastures grazed by horses. The fact that it has established from broadcasting into undisturbed swards, even if this is a slow process, is encouraging as many owners of horses may not have cultivation equipment. This sowing has also demonstrated its ability to spread under sustained heavy grazing.

INDUCED CALCIUM DEFICIENCY IN HORSES GRAZING INTRODUCED PASTURES IN QUEENSLAND

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A disease known as Equine Osteodystrophia Fibrosa (EODF) has occurred extensively since 1973 in horses of both sexes over a wide area of coastal and inland Queensland. Cases mainly occur during the spring-summer period and have been most frequent in the brigalow development regions. The clinical signs are lameness, loss of condition on otherwise good pastures, and swellings on jaw bones, sometimes known as 'big-head'. The lameness can be initiated or made more severe by work and is usually more severe in lactating mares.

The disease develops where horses have been grazing virtually pure swards of introduced grasses, mainly buffel grass in inland areas. In coastal areas setaria pastures are the main risk, though green panic, guinea grass, Kikuyu and para grass have been involved in a smaller number of cases.

Although the pastures have contained calcium and phosphorus in the right proportions, the condition is due to an induced calcium deficiency. Oxalates present in the grass interfere with calcium absorption in the horses' intestine causing a secondary calcium deficiency.

The disease can be avoided and affected horses restored to health if horses are grazed only on native pastures, which contain very little oxalate. If improved pastures have to be grazed it is best to avoid using them in the spring/early summer growth flush. The presence of a legume will also reduce the problem, provided the legume is grazed. However, the safest approach is to use supplements of ground limestone/salt, ground limestone/molasses or other high calcium-low oxalate feeds such as lucerne hay.

Investigations into this oxalate problem are being carried out at the Animal Research Institute, Yeerongpilly. It is hoped that prediction of variations in pasture oxalate and calcium status will enable better control of the disease, and give more precise information about supplements to feed horses at risk.

PROBLEMS WITH HORSES AT PASTURE

T. J. McEVOY

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In the last five years there has been a large increase in the number of horse studs in the Greater Brisbane/Ipswich area. Many of the properties are small, two to five hectares, and the high cost of purchased feeds has stimulated interest in the establishment of sown pastures.

Most of the nutrition problems encountered on these studs are related to two factors. Firstly, veterinarians tend to be disease orientated rather than nutrition orientated—this relates to university training where there is insufficient emphasis on subjects such as were discussed previously by Mr. Ikin. Secondly, many owners of horses are ill-informed about nutrition and this is partly due to popular magazines on horses concentrating on more dramatic articles. Most horse breeding ventures which are based on the desire for status or novelty fail, but those with a business like approach and an ability to ask the right questions and seek out the right answers are usually successful.

The Brisbane area is not generally suited to breeding and there is usually massive overstocking of small areas. This has led to a complex of problems which can be considered under three main headings.

Inadequate nutrient intake

This subject has been discussed by Mr. Ikin. However, one specific problem which should be emphasized is that composition of both pasture and supplements must be taken into account in order to ensure that calcium-phosphorus ratio is maintained within the range 1: to 2:1.

Diseases associated with overgrazing

Another group of problems is associated directly or indirectly with overgrazing. Incisor teeth become excessively worn due to grazing too close to the ground and foreign bodies such as wood chips may lodge in the mouth and prevent horses from eating. Excessive intake of dust and rubbish results in choking and windsucking. Peck order injuries arise in a herd of hungry horses and prolonged swallowing of dirt often results in sand colic in the caecum. Parasitism is also more difficult to control when horses are on overgrazed pastures.

Other plant derived problems

Mr. McKenzie has outlined the problems associated with oxalate, the main problem grass around Brisbane being Kikuyu. Poisoning can occasionally arise from weeds introduced in hay but more common problems are from horses eating oleander leaves and fruits (when inadvertently fed with lawn clippings), mouldy hay, rattlepod (*Crotalaria* spp.)—walkabout disease—or crofton weed (*Eupatorium* spp.)—Tallebudgera horse disease. Other plant derived problems include paspalum dermatitis, grass seeds penetrating eyes, and bee sting allergies—usually a problem when grazing white clover in spring. Flatulence (wind), diarrhoea and founder (laminitis) may result from horses grazing on excessively rich, high quality, clover dominant swards.

FIELD MEETING IN THE WARWICK DISTRICT SEPTEMBER 15, 1978

MEDICS FOR PASTURE IMPROVEMENT IN SOUTHERN QUEENSLAND

A field day with the theme "Medics for pasture improvement in Southern Queensland" was held in the Warwick district on September 15, 1978. The Society met at the Hermitage Research Station, where research on medics, and the particular