Raising growing foals on Australian Pastures – The Challenge

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Nutritional strategies for raising sound foals are generally well understood, principally to provide a ration with adequate levels of minerals and vitamins and optimum levels of energy and protein for steady growth. However, practically speaking this can present something of a challenge to breeders, who must attempt to combat the large number of variables that influence the growth of foals.

Australian Pastures – The Major Variable

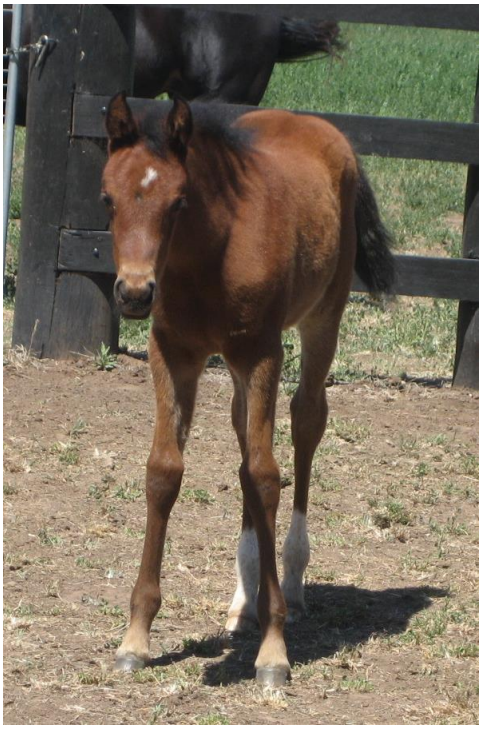
Through our work and research, we have had the opportunity to analyse numerous pastures on stud farms in NSW and elsewhere in the country. The table below describes average mineral levels of over 50 pasture samples on a per kilogram (of dry matter) basis. We have compared these values to the nutrient requirements (also on a per kilogram basis – based on the latest research) of a late gestating and lactating broodmare (average weight 500kg) and a growing weanling.

		Average Australian Pasture	**Broodmare Late-Gestation Early Lactation Requirements**[1, 2]	**Weanling Requirements**[1, 2]
Calcium	**g/kg**	*5.5*	5.0	**7.2**
Phosphorus	**g/kg**	*3.5*	3.0	**4.0**
Magnesium	**g/kg**	*2.8*	0.8	0.8
Potassium	**g/kg**	*25.0*	2.6	2.4
Sodium	**g/kg**	*1.3*	1.1	0.9
Chloride	**g/kg**	*11.0*	4.1	3.7
Sulfur	**g/kg**	*2.7*	1.5	1.5
Iron	**mg/kg**	*409.0*	50.0	50.0
Zinc	**mg/kg**	*37.3*	**40.0**	**60.0**
Copper	**mg/kg**	*7.4*	**25.0**	**25.0**
Manganese	**mg/kg**	*103.1*	40.0	40.0

Our analyses show that Australian pastures, whether improved or otherwise are typically low in trace minerals (particularly copper and zinc) and may also be low in the major minerals calcium and phosphorus compared to the recommended requirements of late gestating and lactating broodmares and growing foals.

Anecdotal evidence suggests that the incidence of Developmental Orthopaedic Disease (DOD; encompassing skeletal disease including physitis, osteochondrosis, osteochondritis dissecans, subchondral cystic lesions, angular limb deformity, flexural deformities and cuboidal bone malformation) is reduced in times of drought, and increases in good seasons.

There are at least two possible reasons for this:



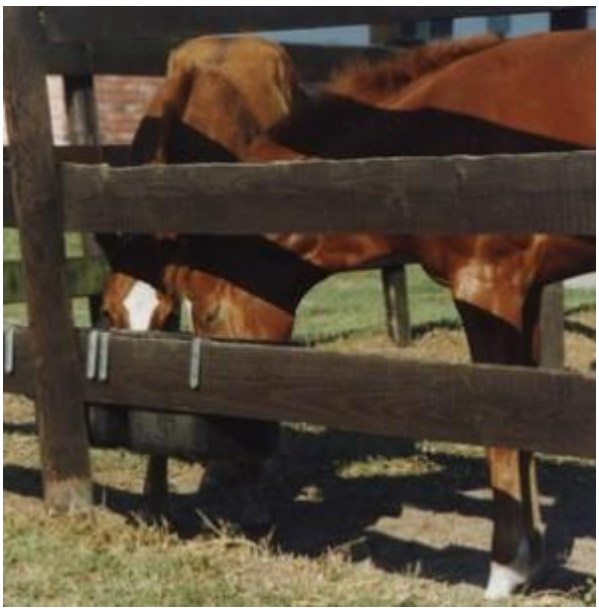
1. Firstly, as pasture availability increases, supplemental feed offered decreases. While broodmares and growing foals may be able to meet their energy and protein requirements in times of ample pasture, they will not be meeting their mineral requirements. A correlation between the occurrence of developmental orthopaedic diseases and reduced amounts of calcium, phosphorus, zinc and copper has been observed. The incidence of these diseases has been shown to decrease significantly when these minerals, particularly copper, are increased in the diet [2-5].

2. Secondly, lush, rapidly growing pastures generally have a higher content of soluble carbohydrates and protein than the dry, mature pastures found in the drier times of the year. The higher incidence of DOD noted in good seasons may, therefore, be a result of increased intake of soluble carbohydrates, as this factor has been experimentally shown to cause DOD [6].

Supplemental feeding – A MUST!!!

While a high quality forage intake may meet the calorie and protein needs of mares and young foals, mineral intake will most likely be inadequate from pasture alone. Providing free-choice supplementation, such as a salt/mineral block will provide a source of added nutrients, but it is difficult to know whether the mare or foal is consuming the proper amount each day. In these situations, we recommend offering a low energy but highly concentrated mineral supplement. There are several commercial supplements available, we now also have a custom pellet service whereby we are able to formulate a supplement to suit the specific needs of the individual farm. Pellets and supplements offered should be concentrated and palatable enough so that they can be offered without additional grain in times of ample pasture.

A final word on CREEP FEEDING…



Beyond two months of age, the amount of milk produced by many mares no longer meets all of the foal's nutritional needs. Therefore, providing additional supplementation in the form of a creep feed beginning when the foal is anywhere from one to two months of age may be beneficial. The creep feed will assist in not only ensuring the nursing foal's nutritional needs are met, but also in accustomising the foal to eating a grain mix following weaning separate from what it may eat with the mare. If during nursing supplemental feed is not consumed, then following weaning when an adequate diet is offered a compensatory growth spurt may occur. This growth spurt greatly increases the risk of developmental orthopaedic disease occurrence and severity [2]. If the foal has been on a good creep-feeding program, this growth spurt, and as a result the risk of DOD are reduced.

References:

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