

MARE CONDITION AT MATING AND THROUGH PREGNANCY©

Dr J H Stewart BVSc BSc PhD MRCVS Dip BEP AAIM
Equine Veterinarian and Consultant Nutritionist

Mares have the lowest reproductive efficiency of domestic animals - only 55-60% of positively tested mares produce live foals. The major reasons for low reproductive performance are poor reproductive management, uterine infections and irregular cycling. Correct nutrition can alleviate some of these factors.

The reproductive cycle of the mare takes a full year and she often reproduces every year. The role of correct nutrition on reproductive efficiency, maintenance of pregnancy and the breeding life of the mare is critical. It is during the lead up to the breeding season and early pregnancy that we have the greatest opportunity to adjust the mare's condition and prepare her for the demands of late pregnancy and lactation.

Dietary requirements vary according to the stage of the reproductive cycle:

1. *Empty and early pregnant mares:* If mares do not have a foal at foot, their nutrient requirements are not increased during the first 4 months of pregnancy.

- *Maiden show or performance mares* do better in small groups rather than turned out with a large band of mares. Nutrition should be varied as little as possible until they are tested positive and then, if necessary, gradual changes in body condition can be made.

- *Mares retiring from racing* have better conception rates if they are bred straight away or given 90 days to let down. In between they are harder to get in foal - often because they are accustomed to a stable, regular exercise and a high plane of nutrition. On arrival at the stud shoes are removed, feed reduced and they may enter an already established social hierarchy. It is important to maintain energy intake as weight loss reduces fertility. Free choice hay - a mixture of lucerne and meadow - should be available and amount of concentrate varies with mare body condition and the quality and quantity of roughage.

- *Older mares* take longer to begin cycling and have more multiple ovulations than young mares. Recently published research found that hormone levels are higher and cycling begins earlier when mares are fed a highly digestible, nutrient-dense fully steam extruded concentrate, such as Mitavite Promita, when compared to mares fed on oats.

- *Thin mares:* Mares need to be gaining weight to cycle regularly and produce plump, ripe follicles. Even when thin mares are fed recommended energy levels, only 46% ovulate - compared to 86% of thin mares fed at 150% of recommended energy.

- *Fat mares:* A fat mare who is not getting recommended energy intake may perform as poorly as the thin mare, so a weight reducing diet is not compatible with reproductive performance. Adjustments should be made after pregnancy is confirmed.

- *Lactating mares* - lactation often coincides with the 1st 4 months of gestation. Mares foaling in low body condition have impaired reproductive efficiency even if energy requirements for lactation are met. Deficiencies of energy will lessen reproductive efficiency and where diets are unbalanced in terms of protein and minerals the mare may suffer reduced milk yield and fertility problems.

Feeding programs prior to mating and during early pregnancy depends on the quality and quantity of roughage. When reasonable quality hay and/or pasture is abundant, 1.5 to 2 kg of a well formulated steam extruded concentrate such as Mitavite Promita, or 2 to 4 kg of a steam extruded complete feed such as Mitavite Breeda are all that is required. Less of the extruded feed is required because steam extrusion lifts digestibility by up to 40% and improves mineral uptake. Mares will do well on

improved, high quality pasture alone if a good mineral concentrate like Mitavite Promita is provided.

2. 4 to 8 months pregnant: Mares increase their body weight by around 80kg during pregnancy and most gain occurs between 4 and 8 months. It is essential to meet requirements to prevent deficiencies in essential vitamins and minerals just before the most demanding period - the last 90 days of pregnancy and lactation.

Diets must be 'balanced'. Feeding several different supplements can lead to 'overlapping' and increased risk of excesses and subclinical toxicities. Often borderline imbalances and deficiencies won't create clinical disease but they affect fertility, ability to reach potential and soundness.

3. Last 3 months of gestation: by the 7 - 8th month of gestation, only 17% of foal birthweight has

been achieved. As the needs for pregnancy increase, appetite increases - giving mares extra protein and minerals required for the growing foal. However, the foal occupies more of the mares abdomen and her capacity for bulky feed declines - just when her nutrient requirements increase. The incidence of colic is higher in mares in the peri-foaling period than at any other time and many of these cases are linked to diet - particularly overfeeding. Therefore, it is critical that the mare is not overfed and this can easily occur if the diet is not highly digestible. Crushing, cracking and pelleting do little to improve digestion, but steam-extrusion increases it to 92%.

Mitavite produces the only range of fully steam extruded, balanced complete feeds and concentrates for breeding horses - enabling matching of the feed to the roughage and to the mare. For further information on Mitavite feeds call toll free 1800 057 487 email: ausfeed@ozemail.com.au www.mitavite.com.au