

Management of the Mare During Late Pregnancy and Lactation

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Considerable time and money is invested in analysing bloodlines and selecting stallions for broodmares. To reach genetic potential, a similar investment of thought and care is necessary after pregnancy is confirmed. Nutrition influences fertility; ability to recover from foaling and conceive again; foal vigour at birth and the growth and soundness of the suckling foal. The quality and quantity of milk available to the newborn foal is affected by the nutritional management of the mare even before the foal is born.

The nutrition of the late pregnant mare affects:

- ***the foal's immunity against disease***
- ***the risk of diarrhoea in the young foal***
- ***foal growth rate***
- ***bone growth and the risk of bone and joint diseases in the weanling and yearling***

MANAGEMENT OF THE LATE PREGNANT MARE TO IMPROVE MILK QUALITY

1. ***Vaccinations and foaling location:*** It is essential that the foal receives the first milk or 'colostrum' to protect it against infections. The mare should be vaccinated against tetanus and brought into the foaling location at least one month before foaling. This allows her to produce colostral antibodies and confer some immunity to organisms in the foaling environment that cause joint ill, scours and septicaemia. The incidence of diarrhoea in foals is up to 63% higher in foals born to mares brought to new locations for foaling, than it is in resident mares.
2. ***Colostrum:*** The foal can only absorb colostrum for 12 to 18 hours after birth - after this, the gut cells change, and even if colostrum is given it cannot be taken up by the foal. If there is any doubt about the quality or quantity of colostrum, the foal should be given at least one litre of frozen colostrum before it is 6 hours old. Frozen colostrum must be brought to room temperature slowly. Overheating with hot water and defrosting in a microwave damage the protective proteins. Some breeders routinely monitor foals immunity at 18 hours of age and insurance companies require documentation of adequate immunity before insuring a foal.
3. ***Running milk:*** Anywhere between 3 and 24% of mares have reduced quantity or quality of colostrum. It is especially important to have a veterinarian assess the colostrum in mares that run milk prior to foaling. Running milk often occurs when mares are fed too heavily during pregnancy and after foaling. Mares must receive correctly balanced mineral, vitamin and essential amino acid intakes, but if the pasture is unusually lush and improved or excessive amounts of starch are fed, they may be at greater risk of running milk and over producing milk. The strong healthy foal tends to overdrink and may get gastrointestinal overload, which can lead to diarrhoea.
4. ***Foal heat diarrhoea:*** Milk overload is often associated with foal-heat. This can occur if the mare is fed too heavily during pregnancy and after foaling. This does not suggest complete removal of good feed, as this will result in loss of milk and/or reduced fertility.

Mitavite has recently released a specialised, extruded feed, Mitavite Promita , which contains all required minerals vitamins and essential amino acids to balance pasture and traditional hay/grain diets.

Trace mineral, vitamin and essential amino acids requirements are met - allowing hay, pasture and grain intakes to be varied - without inducing deficiencies of essential nutrients. This offers a feeding strategy that prevents dietary imbalances but allows management of mare condition so running of milk and over-production are not encouraged. **Mitavite Breeda** is formulated to provide essential vitamins, minerals and amino acids as well as the extra protein and energy required when pasture quality and/or quantity is low.

Foals growing well with mares don't need additional feed till 2-3 months of age, so it is important to place mares feed bins out of reach of foals.

5. **Mineral intake during pregnancy:** Mares milk is very low in copper, manganese, zinc, selenium, iodine and iron, so for the first 3 months after birth the foal relies on its own reserves which it builds up during the last 3 months of pregnancy. If the pregnant mare does not receive adequate trace minerals in the last 3 months of pregnancy, it is not possible to make up for this by supplementing either the mare or the foal after birth. The incidence of bone and joint lesions is the same - whether or not the mares and foals are supplemented after birth. Feed processing affects mineral absorption - pelleting has been associated with a reduction in calcium and magnesium absorption, while steam extrusion increases mineral uptake.
6. **A full udder and/or milk on the foals face:** Examination of the udder and observing the foal at the teat are very important. A full udder may indicate a good milk supply, but it may also indicate that the foal has gone 'off suck' - a sign that all is not well. Likewise, seeing a foal approach the udder and apparently suck is not conclusive evidence that it is drinking. Milk on the face and nose indicates that the foal is not actually attaching to the teat and ingesting milk. Such foals are often in the early stages of an impending illness.
7. **Milk yield, diet and foal growth:** For the first 3 months after birth, the growth and development of foals depends on the mares milk production and while this may appear sufficient to the owner, but it may not be for the foal. Milk yield - is determined by: the innate ability of the mare; the mares feed consumption during the latter stages of pregnancy; the intake of energy and nutrients during lactation and water availability. If calcium and phosphorus levels are inadequate, the mare must mobilise her bone reserves. Generally, a 16-17% protein mix is suitable for pregnant and lactating mares. The provision of energy and nutrient-dense complete feed such as **Mitavite Promita** or **Mitavite Breeda** is desirable for the following reasons:
 - *large amounts of roughage limit the capacity for concentrates
 - *a readily digestible complete feed supplies all nutrients in a reduced volume, thus avoiding overfilling the gut - which increases the risk of post-foaling colics.
8. **Feeding high oil feeds** or adding oil to the diet has benefits. Oil is used preferentially for milk production and provides an early growth advantage for foals. In addition, studies on Thoroughbred mares on oil-enriched feeds have found shorter time to foal heat (12 vs 14 days), fewer cycles per conception (1 vs 2) and higher pregnancy rates (100 vs 89%). In mares over 10 years of age, higher plasma progesterone levels have been reported between days 0-13 and 37-49 when supplementary oil is fed. This suggests that increasing the oil intake may increase progesterone concentration in pregnant mares over 10 years of age.
9. **Essential amino acids:** The period of maximum bone growth is from 3 months before until 12 months after birth, and for muscle, from 2 to 22 months of age. Essential amino acids such as lysine, methionine and threonine are mandatory for bone and muscle development. The amino acids composition of the mares' diet affects blood and milk and therefore determines foal intake. Much of the amino acids in poorly digested foods end up in the caecum, where they ferment and degrade to ammonia, and are 'lost' to the horse. Because steam-extruded feeds are preferentially digested in the small intestine, essential

amino acids are readily available for absorption, to support bone and muscle growth and the achievement of genetic potential.

At Mitavite, agricultural scientists, equine nutritionists and veterinarians combine their fields of knowledge and expertise to formulate the Mitavite range of feeds.

Using steam-extrusion, micronization, protected-heat-stable vitamins and chelated mineral proteinates Mitavite feeds nurture, support and protect growth, development and performance.

For further information on feeding horses please fill in our ***nutrition advice form***.

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