

# Preparing a Mare for Foaling

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All mare owners and breeders want their pregnant mare to produce a well-developed, healthy foal with no difficulties during foaling. There are a number of important management practices that should be carried out in the last three months prior to foaling that will help to ensure that the mare remains healthy and able to feed and care for newborn foal. Careful management will help to minimise foaling problems and assure a healthy start to the young foal's life and maintain her fertility and be able to be bred again and conceive during the first 4-6 weeks after foaling.

## Feeding During the Last 3 Months

An unborn foal doubles its size during the last 3 months (last trimester) prior to birth. This rapid rate of development increases the demand for energy, protein and trace-minerals for the mare to pass into her unborn foal through the membranes.

**During this time of higher demand of late pregnancy, the grazing mare approaching foaling has a reduced gut capacity to carry the bulk of feed required, less energy available from pasture and often extra energy drain due to the cold wintery weather in most areas. The mare also has to build up reserves to meet the elevated needs in preparation for milk production and to maintain her fertility in the first 2 months of the post foaling period to enable her to breed commercially at 12 month intervals.**

A heavily pregnant mare should be provided with a higher energy diet containing more grain or prepared feed concentrate to provide energy, as well as protein, calcium and other essential nutrients to fuel the growth of her unborn foal.

## Avoid Excessive Condition

It is important to try to maintain a pregnant mare in a 'trim' condition, preferably with a 'fleshy covering' and last 2-3 ribs just covered. Heavily conditioned or overweight mares are more likely to have difficulties at foaling and, in fact, produce reduced volumes of lower protein milk after foaling.

As a working guideline, you should plan to increase the energy and protein levels by 10% per month to meet needs by adding an additional 200gm concentrate per 100kg bodyweight (remember the unborn foal adds 15% to the pregnant mare's bodyweight). or roughly 1 kg of concentrate over the 9th and 10th month of pregnancy to maintain the mare in a 'fleshy' but not overly fat condition. This additional amount of concentrate as mare cubes, pellets or even grain, such as oats or barley, will depend on the seasonal conditions and the available grazing in the paddock.

**During the last month before foaling, a heavily pregnant mare is often unable to consume a large bulk of feed due to less hindgut room, and pasture is often short and either very succulent and of less value or sparse and short during mid winter. As a guideline, the hay should be limited to about 1.2% of bodyweight (6kg or 3 biscuits of hay for a 500kg mare) and the hard feed increased to 1% ( about 5kg daily, made up of 70% grain, cubes or pellets and 30% by weight of chaff to meet nutrient needs.**

If you decide to adopt the plain grain option, then you will need to feed a supplement to provide the essential calcium, phosphorus and bone minerals, as well as trace-minerals, particularly copper, zinc, iron, selenium and Vitamins A and E to enable the unborn foal to store these in its liver as a reserve of essential bone and joint nutrients to meet the demands of the rapid growth phase during the first 2-3 months of peak lactation. **Although a mare can produce up to 4% of her body weight in milk each day, or between 17-20 litres of milk daily for a 500kg mare at peak lactation during 4-10 weeks after foaling, milk is relatively low in bone minerals and trace-minerals to meet the full demand of growth and development. A foal reaching an average 15.2 – 16hh as an adult a higher rate of growth, about 1200-1300g per day during the first month of life for an average foal on milk alone, decreasing by 100g per day each month to maintain a 800g per day Average Daily Gain (ADG) by 5 months of age at weaning), as compared to wild horses.**

### Handy Hint

#### Beware of Uterine Distortion Syndrome

Studies have observed that overweight mares confined to hilly country have a higher incidence of Uterine Distortion Syndrome (UDS) with bent and deviated legs in newly born foals. UDS is thought to be caused by compression of the unborn foal in womb during the last 2 months before foaling as fat mares graze on hilly country.

### Handy Hint

#### Paddock Feeding to Reduce Wastage

It is generally inefficient to feed large volumes of chaff as roughage in a 'hard feed' to paddock fed mares, as it is costly and unless it is dampened in the bins, it can blow away as a mare feeds. In fact, a well formulated breeder pellet or cube, mixed with 30% oats or rolled barley as a fibrous carrier for the pellet, (they are cheaper per kilogram than chaff) and on smaller studs with some available grazing, a half a biscuit of teased out lucerne hay can be mixed into the bin with the hard feed. The popular and safe tyre feeders are ideal to mix in hay and concentrate as a paddock feeder. Lucerne cubes are an ideal, low waste roughage to mix into pellets or grain mixes, but at the present time, the cost is prohibitive for many smaller studs.

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## Handy Hint

If you are feeding the full recommended rate of a commercial mare cube, pellet or muesli mix, then these should provide an adequate intake of bone mineral and trace-minerals to meet the needs of late pregnancy. However, not all commercial feeds meet these needs, because some manufacturers formulate to their own guidelines or to a price, or use outdated nutrient allowances. If you are adding additional grain to boost the energy intake in a minimal bulk of feed during late pregnancy, then you may need to add a supplement of Kohnke's Own Cell-Grow pellets to make-up the shortfalls of bone minerals and trace-minerals during the critical period of late pregnancy. This is can be a 'hit or miss' strategy, as some supplement products, even those that have been around for years, are not always well matched to the latest recommendations for pregnant or lactating mares.

## Vaccination

A booster injection of tetanus toxoid (and Strangles if recommended in your area by your vet) should be given 4 weeks before foaling to enable optimum passive transfer of antitoxin into the colostrum milk prior to foaling, not only to protect the mare against tetanus if she is torn at foaling, but also to ensure that the colostrum (first milk with concentrated antibodies levels) contains a source of antitoxin to the new born foal.

**Many stud farms give an additional tetanus antitoxin injection to the newborn foal to ensure optimum protection against tetanus and other germs if microbial infection from the soil is taken up through the umbilical stump.**

## Paddock Management

Provide pregnant mares with ample opportunity to exercise, often most easily managed by locating waterers and feeders at opposite ends of a paddock to encourage exercise. **Always locate heavily pregnant mares in a well drained paddock, preferably with a firm, sheltered rise or mound so that they can move away from wet, low lying areas during rainy periods to keep their hooves (hind hooves in particular) dry and better able to support the increased hindlimb loading during late pregnancy (up to 70kg, consisting of a 50kg foal, 20kg fluids and membranes, in a 500kg mare).**

## Pre-lactation

Most mares start to 'bag up' and 'wax up' within the last 2-3 weeks before foaling. However, up to 24.7% of mares pre-lactate or 'run their milk' before foaling, deleting the amount of concentrated protective antibodies that they are able to pass in their first milk to a foal

**If a mare begins to pre-lactate for more than 3-4 days prior to foaling with large volumes of sticky, white colostrum splashed down the insides of her hindlimbs, the full reserve of about 750mL of highly concentrated initial colostrum milk may be drained away.**

A newborn foal born to a 500kg mare needs to take in about 500-750mL of concentrated colostrum milk within the first 6-12 hours after birth to make it immunologically adequate against common environmental microbial diseases for the first 12 weeks of life until its own immune system can produce antibodies

## Did You Know ?

**Studies in Holland by Dr. Peter Van Weerin have shown that a young foal has only a "once in a lifetime" chance to form sound, flexible cartilage and tendons, starting from around 6 months of pregnancy when cartilage and collagen begins to form and then finally matures by 5 months of age. If developing joint cartilage and tendon tissue is not provided with adequate nutrients during late pregnancy and the first 5 months of a foal's life to form resilient type one collagen in its structural matrix, it is unable to mature to protect joint surfaces and provide strong tendons and ligaments essential for soundness in a future athletic career. The bone structure in the unborn foal is composed of a fibro-cartilaginous framework which at birth is only 16% calcified, increasing to 60% calcification by 6 months of age and 83% by yearling age under optimum nutritional conditions.**

## Handy Hint

Many heavy pregnant mares become uncomfortable when their hindlimbs are lifted and positioned for routine hoof trimming during the last month of pregnancy. It is good practice to trim the mare's hooves about 4 weeks before foaling and repeat again about 4 weeks after foaling once the mare is not as 'foal proud' and anxious when being handled. Consult your farrier. An application of **Kohnke's Own Hoof-Seal®** to the walls and soles once a week will help maintain optimum hoof flexibility and strength by minimising moisture variations in both dry and wet conditions.

## Handy Hint

### Check for Caslick's Sutures Before Foaling

Don't forget to check all mares, especially those bred away from your stud or property, for a Caslick stitch up of the vulva, to prevent unnecessary damage to the vulva during foaling. Arrange for your vet to remove the Caslick skin seal at least 4-6 weeks before the due foaling date, just in case the mare foals earlier than expected.

starting at 4-6 weeks after birth. The low level of immunity in as young foal occurs at between 5-7 weeks after birth when the colostrum immunity is being depleted and its own immune system is immature or slow to respond.

**It takes about 4 weeks for a mare transferred to a new locality to become sensitised to local microbial populations and environmental 'flora'. It is good practice to bring a mare home from a stud for foaling, or send her to a stud to foal down, about one month before she is due to foal, so that she can pass on antibody immunity to the local 'flora' in her colostrum to her newborn foal.**

Check with your vet and arrange a concentrated antibody drench or serum transfusion ( at about 20mL per kg birth weight of the foal) during the first 12 hours after foaling if you have a mare that has pre-lactated and is likely to have deleted her colostrum reserves in the few days prior to foaling.

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