



AI Newsletter December 2023

Preparing your mare for breeding

Ensuring broodmares arrive in the breeding season in good health gives a much better chance of them becoming pregnant and maintaining the pregnancy. As a practice, we see year on year the benefits of mares arriving in good health as most often those arriving looking well with a shine to their coat are the mares that cycle well and get pregnant.

The condition the mare starts the breeding season in is the biggest factor. Research has long shown that there is a link between the body condition score of a mare and her fertility from studies as far back as 1939, emphasising the importance in this right to increase the chances of successful breeding (1). Having these mares in a positive energy balance at time of breeding both increases the chance of a successful conception, but also maintaining this positive energy balance has reduced risk of losing the pregnancy in the first 3

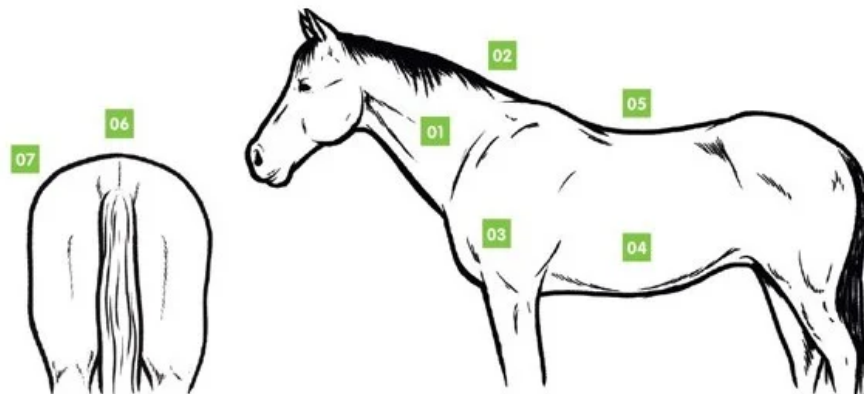
months as a decrease in body condition scores in this period was associated with higher rates of pregnancy loss.

Mares that enter the breeding season in thin condition (score 2/5 or less) have been shown to start cycling later than a mare that is in good condition (score 2.5-3/5) and the time to first ovulation and therefore breeding opportunity was almost twice as long in thin condition mares. Achieving a pregnancy in mares in good condition entering the breeding season also increased when compared to mares in thin condition (2).

Body condition score should be measured at a minimum once a fortnight throughout the autumn and winter. Any rugs should be removed and an appraisal of the mare's condition made, feeling over the neck, ribs and hindquarters. Adjustments to nutrition supplied can be made as a result. The aim is for the mare to remain in the condition in the image below:

3 - Healthy (Good)

A fat score of 2.5-3 is normally ideal for most horse, unless your vet advises otherwise



1. Shape of the neck muscles are less clear
2. No crest (no fat underneath the mane) except for stallions
3. Thin layer of fat covering the body
4. Ribs cannot be seen but easily felt with light pressure
5. Spine is covered but can still be felt
6. Hindquarters are beginning to become rounder in shape
7. Hip bones are just visible and can be easily felt

Image courtesy of the British Horse Society (3)

How can we achieve this?

Nutrition:

Mares should be provided with sufficient good quality roughage throughout the winter as well as with a balancer to ensure they are receiving all of the vitamins and minerals they require. This can be given daily as a feed using any of the commercially available balancer feeds or can be given as a monthly supplement using VetPlus Event. To be effective, it is important to start this supplementation early in both pregnant and non-pregnant mares, and to maintain it throughout the preparation for breeding, but also throughout the pregnancy.

Mares carrying a foal should receive appropriate supplementary feeding in the final couple of months of pregnancy and after birth of the foal to ensure they have sufficient energy reserves to feed and grow the foal.

Worming:

Mares should be dewormed appropriately through the wintertime with an oral moxidectin worming product to address encysted redworm. If the mare is not to be bred until the late spring or early summer, a faecal worm egg count should be performed in the spring and an appropriate treatment given if required.

Dental care:

Ensuring the teeth are checked by a Veterinary Surgeon or qualified Equine Dental Technician and any issues addressed. A good time to do this is before the winter sets in as dental problems tend to have greater consequences over the winter when there is greater reliance on hay or haylage for fibre.

Addressing problems early means mares can winter well and enter the spring in the best condition possible. Horses will not show signs of a painful mouth (e.g. dropping food) until they are in a significant amount of discomfort.



Foot Care

A mare that is in pain is not going to cycle well and poor hoof condition is a problem we see year on year in broodmares. Mares should be trimmed regularly by a qualified farrier to ensure cracks do not develop and to manage

any existing cracks. Unmanaged cracks in the hoof cause a painful splitting in the hoof, leading to lameness. These mares are in pain and they will also not move around as much which reduces their grazing efficiency and therefore puts them at a nutritional disadvantage.

Feeding a good quality balancer containing biotin will also help to improve hoof strength and quality of hoof growth. If the mare has poor feet it is important to start supplementation early to allow good quality hoof to grow through.

Vaccination

Vaccination of the mare is advised. We advocate vaccinating all horses with vaccines for Equine Influenza and for Tetanus and would strongly recommend vaccinating with the Equine Herpes Virus vaccine, particularly for broodmares and those horses on the same premises or in contact with broodmares.

Tetanus is a fatal disease and can be acquired by any horse at any time - commonly when they sustain a wound as it is caused by a bacteria in the environment - but vaccination is preventative. Equine Influenza is common and highly contagious and while vaccination doesn't prevent disease it does reduce the severity. There is evidence that antibodies are transferred via milk from a vaccinated mare to the foal so vaccinating the mare and having a good level of antibodies means the foal will be offered protection too (3).

Equine Herpes Virus vaccination

Pregnant mares - vaccination with EHV vaccine should be performed at 5, 7 and 9 months of pregnancy to reduce the risk of abortion due to Equine Herpes Virus.

Non-pregnant mares and other in contact horses over 5 months - vaccination with EHV vaccine should be performed prior to breeding with the primary course of 2 vaccines performed 4-6 weeks apart. Booster vaccine every 6 months.

The older mare

Pars Pituitary Intermedia Dysfunction (PPID), or Cushing's disease, affects approximately 20% of horses over the age of 15 years old, and has been diagnosed in horses as young as 10 years old. It can affect any breed of horse or pony. One of the effects of PPID is reduced fertility.

Mares that are showing any of the signs including muscle wastage, abnormal fat deposits, a curly coat, slow to lose their winter coat, long guard hairs on the back of the legs, excessive drinking or urinating, or recurrent infections such as repeated foot abscesses, should be tested. This is a condition that can be managed with a daily medication which can improve fertility in a mare diagnosed with PPID.

Early cycling

It is possible to bring forward the start of a mare's cycle which allows breeding to be brought forward. To achieve this it must be started early (December) and maintained throughout the winter months. This is done by managing the duration of light the mare is exposed to each day and gradually increasing the duration of light exposure over the winter months which tricks the brain into thinking that spring has come earlier.

It is only possible to do this in an indoor environment or by using a system such as the Equilume mask, and the routine must be followed strictly for it to work. It will be at its most effective too if the mare is also physically well, meaning the nutrition, parasite control and other management must be right. Also it must be started well in advance of the breeding season (i.e. in December for early spring breeding). The system at our clinic means we would only be able to maintain this in mares that are arriving using the Equilume system.



1. Fradinho, M.J. *et al.* (2014) 'Effects of body condition and leptin on the reproductive performance of Lusitano mares on extensive systems', *Theriogenology*, 81(9), pp. 1214–1222. Available at: <https://doi.org/10.1016/j.theriogenology.2014.01.042>.
2. Henneke, D.R., Potter, G. and Kreider, J.L. (1984) Body condition during pregnancy and lactation and reproductive efficiency of mares. *Theriogenology*, 21(6), pp.897-909.

3. <https://www.bhs.org.uk/horse-care-and-welfare/health-care-ma...>
4. Wilson, W.D. *et al.* (2001) 'Passive transfer of maternal immunoglobulin isotype antibodies against tetanus and influenza and their effect on the response of foals to vaccination', *Equine veterinary journal*, 33(7), pp. 644–650. Available at: <https://doi.org/10.2746/042516401776249435>.

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