

GUIDELINES FOR SUCCESSFUL BREEDING

Together with our partner vets, B&W Equine Vets, we have many years of experience specialising in equine breeding and fertility. Overall, we have found that a fertile broodmare and good quality semen can provide excellent results, but we have also identified certain factors that can hamper the breeding process. Thankfully, we have developed solutions to most of these issues, and the expertise to advise on alternatives. Horse breeding can still be a bit of a lottery, but we hope that by sharing with you our knowledge and experience, these guidelines will assist you in obtaining the desired outcome.

Age:

As mares get older their uterus degenerates. When they reach their teens, degeneration is evident and from 17 years of age marked degeneration is the norm. This degeneration impairs the uterine immune responses making the mare more prone to chronic uterine infection and inflammation, an environment in which an embryo will not survive.

Older maiden mares can have further problems with fluid retention due to age-related fibrosis of their cervix which prevents it from relaxing. Younger maiden mares can also be prone to fluid retention as their cervix has not yet been stretched to deliver a foal.

Conformation:

There are three seals in the mare's reproductive tract:

- Vulva – this is the external seal and should display no more than a mild slope and the lower 2/3 should be below the pelvic brim. Variations in this conformation will increase the risk of bacterial contamination from the outside environment causing a possible uterine infection. A Caslick procedure can be performed where the vulva lips are stitched together to create an artificial seal.
- Vestibular – this is within the vagina and acts as a barrier to the external environment
- Cervix – the entrance to the uterus. This can be damaged from previous foalings. It also undergoes fibrosis as the mare ages, decreasing the elasticity and causing problems with fluid retention in older maiden mares. Younger maidens can also have cervical dysfunction, causing fluid retention, which usually improves after they have had their first foal.

Treatment:

These variations of the reproductive tract do not mean that your mare cannot have a foal but do make it more likely that difficulties in conception and carrying a foal to term will occur. Careful veterinary monitoring of the mare around the time of breeding, laboratory testing to evaluate the uterine health and necessary treatment is vital to maximise success rates.

Uterine infections, also known as endometritis, are routinely treated with a combination of antibiotics, uterine lavage and catabolic drugs (these stimulate uterine contractions to expel any fluid). Other treatments may be incorporated into your mare's breeding plan depending on the laboratory findings and veterinary recommendations.

After treatment, the uterus will be reassessed to determine its health status for breeding. On occasions, especially in chronic infections, treatment is unsuccessful and may have to be repeated or a more aggressive treatment may be required.

Semen Choice:

- Frozen semen has the benefit of being accessible when required as can be shipped and stored at the stud in advance and be available for when your mare ovulates. There is a large variation in quality of frozen semen, which is dependent on the stallion and the freezing centre. This can affect the pregnancy success rates. The number of straws provided can also vary hugely and it is important that a full dose is dispensed (usually 6-8 straws) for each insemination. Due to the shorter longevity of thawed semen over fresh and chilled it is vital that insemination is strictly timed within 6 hours of a mare's ovulation. Frozen semen insemination is, therefore, the most labour intensive for both the veterinarian and the boarding stud. Good quality frozen semen (as is processed at West Kington Stallion Centre) used correctly can, however, prove very successful when used in the right mare. Frozen semen often causes an increased inflammatory reaction in the mare due to the agents that are used in the freezing process. Mare's prone to fluid retention, for reasons discussed above, can subsequently encounter an increased likelihood of poor conception with frozen semen making it a less advisable choice.
- Chilled semen is diluted with semen extender, cooled and transported to be used up to 36 hours after collection. There is a variability of the quality of semen received as often the semen's motility will decrease with time, although this can be dependent on stallion and processing technique. Logistics of transporting the semen can be problematic as they often rely on courier companies and air travel. Delays in receipt of the semen can result in a dose of less than the recommended 500 million motile sperm and can even be too late if the mare has ovulated. If the semen is being shipped from overseas there are often restrictions on what days it can be delivered. This makes timing of the mare's ovulation critical for maximum success.
- Fresh semen is collected at a stallion centre in close proximity to the mare and is inseminated within a few hours in its raw or diluted state. This can be advantageous if the mare suffers from an inflammatory reaction to semen extenders as raw semen can be used. Due to the short time period between collection and insemination the semen quality doesn't degrade maintaining maximum fertilising potential. Fresh semen is often a good option for a difficult mare.