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## Breeding Considerations

Spring is quickly approaching, which means that foaling and breeding season are well under way. This can be a very exciting time of year, when much anticipated foals are finally arriving and breeding decisions are being made. This article will highlight a few things to consider when formulating a breeding plan.

It is important to ensure that your mare is in good health before starting the breeding process. This is a great time to consult your veterinarian about body condition and nutrition needs, dental care, and current vaccination and deworming recommendations. It is also good idea to have a breeding soundness exam performed on your mare to determine the health of her reproductive tract. Depending on the age, health, conformation, and breeding history of the individual mare, this exam will involve rectal palpation and ultrasound of the reproductive tract, and may include uterine culture, cytology, or biopsy.

Artificial insemination is currently the most popular method of breeding, and can be accomplished with fresh, cooled, or frozen semen. Timing of insemination close to ovulation is of utmost importance, so your mare must be examined every 1-2 days when she comes into heat to help determine the best time for insemination. Hormones may be used to manipulate the estrous cycle to assist with timing as well.

- Fresh semen undergoes minimal or no processing and must be used almost immediately, so the mare and stallion must be at the same location. Its fertility is usually longer once inseminated, so a mare could ovulate a few days after insemination and still become pregnant.
- Cooled semen is collected from a stallion, processed, cooled, and transported overnight to the mare's location. It usually retains good viability for 24-30 hours if kept cool, plus an additional 24-48 hours once inseminated.
- Frozen semen can be preserved in liquid nitrogen for years, allowing mares to be bred to stallions that are retired, have passed away, or are unavailable due to high demand or heavy competition schedules. Frozen semen typically has the lowest fertility, so mares must be evaluated every 6 hours and then inseminated immediately after ovulation.

A commonly overlooked, yet crucial, step is a post-breeding evaluation of the mare. Insemination is not a sterile process, so bacteria and debris can be introduced into the mare's uterus along with the semen. Normal mares will easily clear fluid, debris, and bacteria on their own, but some mares need to be assisted during this process. It is important to evaluate the mare after breeding and address any signs of inflammation or infection if they are present.

Live cover continues to be a popular method, which can be accomplished by pasture breeding or hand breeding. Veterinary evaluations throughout the mare's estrous cycle can help to limit the number of times

she is bred during a cycle. Live cover requires less veterinary intervention, but also poses increased safety risks to the horses and handlers involved.

Embryo transfer is rapidly emerging as a popular process for valuable mares. A mare is first inseminated, and then 6-8 days later the embryo is flushed out of her uterus and implanted in a recipient mare, which then carries the foal to term. This allows a mare to produce more than one foal per year, and also allows a mare to produce foals while remaining in competition throughout the year. This process can be performed with both the donor mare and recipient mares at one site, or embryos can be shipped overnight from a donor mare to another facility where recipient mares are kept.

If you have any questions about breeding options, remember to consult your veterinarian to help you determine the best plan for your horses.