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Reproductive Assessment of Horses During Post-Breeding Season

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PLANNING FOR NEXT SEASON
In late summer, the large majority of breeding is completed for the year and if things have gone as planned, the mares have settled. This is a good time to begin planning for the next season in order to avoid the full schedule of a breeding season in progress. Early attention to the animals’ individual health can cause next year’s breeding season to be successful with less cost and frustration when spring comes again.

A mare’s normal, biological breeding season starts in mid-April and often extends through October. But most breeding activity is completed in July, making late summer a good time for examination. Record keeping, conception rates and, more specifically, horses that are not exhibiting peak reproductive performance – both mares and stallions – should be examined.

EXAMINING THE MARES
Your primary concern at this time should be the mare(s) that did not conceive. Assuming that nutrition is adequate and the stallion being used is fertile, you should first take a look at reproductive management. Keep detailed reproductive records available and up to date. If there are none, start them now. Document each mare’s behavior throughout at least one normal estrous cycle. Write down any additional information you collect, such as:

- Changes in eating habits.
- Changes in behavior among herd mates.
- Discharge from vulva.
- Palpation and/or ultrasound information from your veterinarian.

All data can be of assistance in subsequent breeding seasons, as each individual mare tends to establish some regularity from cycle to cycle and often from year to year.

CAUSES OF REDUCED CONCEPTION RATES
Reduced reproductive efficiency in horses is often caused by human intervention, ranging from poor estrus detection, missed breeding, and improper use of lights and hormones to more universal problems such as selection principles and the imposed breeding season.

Infections in the reproductive tract are also a common source of problems. Age and poor vulvar conformation may contribute to such infections. If a mare’s vulva is lying more horizontal than vertical, it may be allowing fecal matter, bacteria, and other pathogens into the tract. Letting even a minor inflammation go untreated can lead to significantly reduced conception rates, so veterinary assistance is needed to tend to these infections.

Infections can appear throughout the mare’s reproductive tract and can be caused by a myriad of organisms. The ovaries seem to be resistant to most infections, but the fallopian tubes, uterus, and cervix can be susceptible to inflammation and infection, which can lead to the formation of scar tissue. Infections of the uterus are rather prevalent and a significant cause of reduced fertility.

Inflammation of the endometrium, the inner lining of the uterus, is called endometritis. It is characterized internally by excess edema upon palpation, and excess mucus and white blood cells, often presented as discharge from the vulva. The mare may outwardly exhibit a shortened (or otherwise abnormal) estrous cycle due to the presence of infectious organisms, reinforcing the importance of detailed record keeping.

The veterinarian can perform a uterine flush or uterine infusion with antibiotics while the mare is in estrus as well as pre- and post-breeding infusions with an antibiotic semen extender. The mare may also be placed on systemic antibiotics, depending upon the severity of the infection.
A Caslick’s suture may be performed by your veterinarian on mares with poor vulvar conformation. This is to help prevent pathogen invasion and stave off an infection in preparation for the subsequent breeding season. The procedure is inexpensive, simple, and effective. The vulva must be reopened in the spring for breeding or foaling.

FEEDING YOUR BROODMARES
The mares that are confirmed pregnant can most often be fed a maintenance diet, unless they have a foal at side. Maintain an acceptable body condition for the pregnant mare: feed her only for the amount of work she is doing, not for the pregnancy.

Most pregnant mares (like all other categories) perform best if they are fed to maintain a Body Condition Score (BCS) of 5 or 6 on a scale of 1 (emaciated) to 9 (extremely fat). Only in the last 6 to 12 weeks of gestation does she need higher quality feed — that is, feed with greater nutrient concentration, not greater amounts of feed. If the mare has a foal at her side, she needs to be fed for lactation, which significantly increases her requirement for energy, protein, calcium and phosphorus.

EXAMINING THE STALLION
Stallion owners usually begin each breeding season with a Breeding Soundness Exam (BSE), but if poor conception rates by a particular stallion are noted, he should be more thoroughly investigated.

The primary portion of a BSE is semen evaluation. Four characteristics determine the quality of semen: volume, concentration, motility (movement), and morphology (form and structure). Motility and morphology are often overlooked when evaluating sperm cells, but may actually be indicators of specific problems.

Normal parameters for each are as follows:

- **Volume:** 30 – 250 milliliters
- **Concentration:** 30 – 600 million cells/milliliter
- **Motility:** at least 40% progressively motile
- **Morphology:** at least 65% normal sperm cells

Additional parameters of the collected semen can be investigated if a consistent problem is suspected. Such parameters are pH, longevity of the semen sample, presence of foreign matter, and excess red and/or white blood cells. Again, record keeping for each sample and each year is imperative.

You should also reevaluate your nutrition program and housing options for your stallion(s) to maintain optimal physical and mental well-being throughout the year. The stallion needs to be a part of the daily farm activity, not just during breeding or teasing situations. Seclusion and boredom account for the development of many stallion vices, most of which are potentially harmful to himself and/or the handler.

FEEDING YOUR STALLION
During post-breeding season, stallions also should be fed for the work they are doing. They no longer need the additional energy of the breeding season. Many stallions will fit into the maintenance diet category at this time.