

# PREPARING YOUR MARE FOR BREEDING

By Julie Skaife

**There are many factors to consider before you breed your mare. This Q&A with reproduction specialist Dr. Karen Wolfsdorf of Hagyard Equine Medical Institute will help you be prepared.**

## ***WHERE DO I START IF I WANT TO BREED MY MARE?***

First, consult with your veterinarian to decide whether your mare needs to go away to the stallion or breeding farm or whether you can keep her at home for breeding. This will depend on whether you are breeding her naturally or with artificial insemination using cooled or frozen semen and her previous reproductive history. Another factor in this decision is the stallion you would like to use, his fertility and what type of semen is available.

Make sure you understand the breeding contract and stallion owner's policies thoroughly. Discuss the particulars with the stallion owner to find out if there are any periods over the breeding season when the stallion is not available. If artificial insemination is elected, determine the number of breedings you get in a season for cooled semen, what days semen shipments are available, what the policies are for requesting semen, etc. If frozen semen is being used; how many doses are provided, what are the number of straws per dose and are there any guarantees of quality or pregnancy?

If your mare is pregnant think about where you would like the mare to foal. Are you prepared to do foaling checks through the night yourself, or would you prefer her to foal at a dedicated farm? Finally, ensure that you have the funds available to cover the stud fees, breeding management and foal expenses and that you are financially prepared for complications.

## ***WHY DO I NEED TO GET MY MARE EXAMINED BY A VETERINARIAN?***

It is important to ascertain that the mare is a good candidate to breed, with a normal and healthy reproductive tract. Knowledge of where the mare is in her estrous cycle and following her while in heat will increase her reproductive efficiency. Fertility declines with age, so horses over 10 years of age who have not had a foal previously or mares that have had many foals, may find it more difficult to conceive. It is also important to check for inflammation and infectious and sexually transmitted diseases. Whether you are having your mare bred naturally or via artificial insemination it is important to time the breeding accurately, close to ovulation, in order to increase the chances of conception and decrease the costs involved. You should plan to have a reproductive exam performed early in the season after they have emerged from winter anestrus and have follicular activity. If your mare has never been bred or you have no knowledge of her reproductive history it is advisable to have her examined before you enter into a breeding contract with a stallion owner.

## ***WHAT DOES A PRE-BREEDING EXAM INCLUDE?***

### **Clinical exam**

It is important to check that the mare is in good physical health. A lot of brood mares have orthopedic disease that prevent them being ridden. It is essential to ensure that the orthopedic problem is not likely to get significantly worse as the mare gets heavier in foal. A severely lame pregnant mare causes increased stress, inflammation and pain may result in abortion. Any systemic medical issues such as Cushings disease or insulin resistance should be addressed. Brood mares should be the correct weight with a body condition score of 5-7 out of 10; a mare that is either too fat or too thin will struggle to conceive.

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### **Vulvar Exam**

One of the most important parts of the reproductive tract that is frequently overlooked is vulvar conformation. The vulva, along with the vestibulo-vaginal sphincter (hymen) and the cervix form the three barriers of the uterus that prevent contamination from air and feces. The vulva should be vertical with the anus above it. In some older mares the anus becomes sunken and the vulva forms a shelf underneath - this is poor vulvar conformation and makes uterine infection and inflammation more likely, due to contamination of feces and urine, reducing the chances of the mare to conceive.

### **Vaginal Exam**

It is necessary to examine the cervix and vaginal walls; this is done by placing a speculum into the vagina. Observing the cervix visually allows determination of where the mare is in her estrous cycle, as well as if signs of inflammation (redness), infection (discharge) or pooling urine is present. It is important to check the cervix for scarring which can result in difficulty dilating which can lead to fluid being trapped within the uterus as well as potential complications at foaling. The ability of the cervix to close completely without any defects is also necessary. If the cervix doesn't close properly it allows contamination of the uterus potentially leading to chronic infection and inflammation. When checking for cervix competency, it is important to do so manually when the mare is not in heat (diestrus), so that the tubular canal can be felt completely.

### **Rectal Exam and Ultrasound**

Mares are long day breeders and therefore their natural breeding season is in the spring and summer. Artificial lighting with or without medical treatment can help advance their return to reproductive activity from winter anestrus when they are not cycling. Rectal palpation and ultrasound allows the ovaries, uterus and cervix to be evaluated anatomically and functionally. Ultrasound gives the ability to see things within the reproductive tract which can't always be felt. Ovarian structures (follicles, corpus luteum, etc), uterine edema, intra-uterine fluid, endometrial

cysts and cervical length are all important to note during the examination. Putting the whole reproductive exam together can provide you with the knowledge of whether your mare has a normal reproductive tract and cycle which aids in preparing her for breeding, as well as providing her with the best chance for conception. Blood tests and vaccinations Equine Infectious Anemia (EIA) is an infectious disease that can be tested for easily using the Coggins test. It is required that all mares are tested prior to movement within and between states within the United States. This test should be performed according to state requirements and updated prior to breeding. Equine Viral Arteritis (EVA) is a sexually transmitted infection; it can cause abortion, and can cause flu like symptoms. Mares should be tested if exposed to infected mares or prior to breeding if they are to be bred to a positive stallion. If they are negative and are to be bred to a positive stallion then vaccination is required prior to breeding. If the mare is positive, then exposure to positive semen should not affect the mare. Anytime a mare is bred to a positive stallion, she should be isolated so that other mares are not exposed by shedding.

### **Clitoral Swabs**

Clitoral cultures are usually performed if mares have chronic uterine bacterial or fungal infections since it is a warm, dark environment in which for them to grow. Contagious Equine Metritis (CEM), a sexually transmitted disease caused by a specific bacterial pathogen is not endemic in the USA, therefore clitoral cultures prior to the breeding season are not routinely required, however mare's that have been imported into the United States from CEM affected countries do have to undergo CEM testing following a specific protocol. In addition, any mares exhibiting signs of infection or that have been potentially exposed to CEM should be cultured.

### **Uterine Culture and Cytology**

Uterine culture and cytology are important in identifying infection and inflammation. A culture provides evidence that bacteria, fungal or yeast infections are present. Cytology helps determine

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if inflammatory cells are present, in addition to bacteria, fungus, yeast, debris and mucous. A mare can have endometritis (inflammation of the uterus) with or without infection. It is important to identify inflammation since causes of inflammation alone can decrease a mare's ability to conceive. Whether a culture or cytology is required prior to breeding, is determined by the stud/farm requirements, stallion contracts, and most importantly by the mare - if she has a poor reproductive history, any evidence of abnormalities on reproductive examination, or problems foaling, then these procedures are highly recommended.

#### **Uterine Biopsy**

Uterine biopsies aid in determining the underlying health of the uterus. It provides information with respect to what problems need to be addressed and the probability of the mare carrying the pregnancy to term. Endometrial biopsies are recommended for mares that have a poor reproductive history or a history of fetal loss or abortion.

#### ***WHAT CAN BE DONE IF MY VETERINARIAN FINDS A PROBLEM AT THE PRE-BREEDING EXAM?***

Many problems can be resolved, for example:

- If the mare is too fat or too thin this can be addressed prior to service.
- Vulvar confirmation can be improved by means of a Caslick's operation - this is where part of the vulva is stitched shut to improve the vulvar seal and reduce the risk of contamination from fecal material.
- Abnormal cycling can be resolved by using different hormonal drug therapies - these are given to the mare to induce normal cycling.
- Mares that have intra-uterine infections or inflammation determination of the cause can then be treated with appropriate therapy such as antibiotics, or uterine lavage.
- If abnormal fluid is seen within the uterus, treatment can be initiated once the cause has been identified.

#### ***HOW SHOULD MY MARE BE PREPARED FOR MATING?***

Once your mare has undergone her pre-breeding reproductive exam, and any recognized problems have been addressed, she can be prepared for breeding. The chances of her conceiving are higher if mating is timed to coincide with ovulation. It is a good idea to keep a record of when your mare is in heat, as this will help your veterinarian determine whether she is cycling normally. Palpating and ultrasounding her ovaries, uterus and cervix will enable your veterinarian to track follicle development and uterine edema with cervical softening, to help predict when she will ovulate. Once ovulation is imminent the mare can either be taken to the stallion or the semen can be ordered. It is important to know how long in advance stallion managers need notification for semen to be shipped. In addition, making sure frozen semen is accessible when needed is imperative. It may be necessary to examine the mare twice to three times daily prior to ovulation if frozen semen is used and only a single dose is provided.

#### ***WHEN DO I FIND OUT IF MY MARE IS PREGNANT?***

It is possible to detect a pregnancy using ultrasonography as early as 11 days after ovulation. Most veterinarians recommend ultrasound examination at 14 or 15 days post-ovulation, prior to fixation when embryos are still able to move within the uterus. This allows identification and resolution of twin pregnancies if they are present. It is recommended to have your mare ultrasounded again between day 28-30 and day 42-45 to check for a heartbeat and to assess fetal viability. Unfortunately, if the mare loses the pregnancy after day 40 it is highly unlikely that she will cycle again normally and therefore will not be able to be bred again that season. Fetal sex determination can be performed between 58-70 and 110-120 days if desired. Gestational length is incredibly variable in the mare ranging, on average, from 320-340 days.