



# U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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## Prepare Mares For Breeding

By: Scott Madill, DVSc, U of M

Not having a mare in optimal condition to conceive results in lower fertility, frustration, and financial losses. Consistent, successful breeding of mares requires planning and attention to detail.

To ensure the mare is cycling regularly, she needs to be at a body condition score (BCS) of 5 or 6 (on a scale of 1 to 9) and be exposed to increasing day length starting 2 to 2.5 months before her breeding date. Mares with a BCS of 5 or 6 cycle earlier, have better fertility, and seem to respond better to artificial lighting schedules. Mares that are thinner (BSC 3 or 4) can also have reasonably good fertility provided they are gaining weight. Mares under natural conditions start cycling between mid-March and May. A supplemental lighting program needs to be started by early in December if the desired breeding date is in February. If the goal is a March or April foal, begin the light treatment in January. Once started, the lighting program needs to be maintained until the natural day length is adequate, or mare may stop cycling. The current recommendation of 14.5 to 16 hours of continuous light a day is easy and highly effective. The supplemental light is added in the evening, which generally means the lights need to be on till 9:30 to 11:00 PM. Automatic timers are simple to install and help ensure sufficient and consistent lightening. The rule of thumb for light intensity is being able to read a newspaper comfortably, from anywhere in the stall. This roughly translates to a 200-watt incandescent bulb, two standard 40-watt fluorescent tubes, or the equivalent in compact fluorescents. If the mare likes to hang her head outside the stall door, then the aisle also needs to be lit. There are some drugs, such as sulpiride, that can help augment the onset of cyclicity in mares that are slower to respond to lights. Treatment periods of several weeks to a month can be needed,

so plan accordingly. Pregnant mares that are due to foal before mid April should also go under lights to ensure they cycle after giving birth. Some caution should be exercised when lighting mares due to foal in early January, especially if your breed society enforces a January 1<sup>st</sup> birth date. The 60 days of light exposure may shorten pregnancy by up to a week.

Mares that failed to conceive or aborted last season should have been examined to determine the cause of infertility. Future fertility is negatively affected by infection during the off-season. Removing the infection several months before breeding also allows residual inflammation in the uterus to reduce, returning her uterine environment to optimum before the season commences. A complete veterinary exam can check not only for infection, but also for injuries and anatomic defects that affect fertility. Diagnostic methods for these mares include palpation, ultrasound, vaginoscopy and swabbing, but may also involve vaginal and cervical palpation, uterine lavage, biopsy and endoscopic examination of the uterus. Older mares with signs of Equine Cushing's disease or metabolic syndrome should be tested, and necessary treatments or dietary modifications began at least 2 months prior to breeding; this time is necessary to return to optimum fertility.

Many stallion owners will require a negative uterine culture (pre-breeding swab) on all open mares before they are accepted for breeding or semen shipment. Check the breeding contract for timing and requirements; most need to be performed within 30 to 60 days of the first service. Maintenance healthcare including hoof care, vaccinations, deworming, and preventative dental work should also be reviewed and updated several weeks before breeding.

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### Upcoming Events

**"Like" us on Facebook** for Forage Mondays, Tip of the Week Wednesdays, and Disease Fridays. Check out upcoming events and other timely information.

[www.facebook.com/UMNHorse](http://www.facebook.com/UMNHorse)

### Looking for a "speaker" for your next equine function?

Consider using our webinar library! There are almost 20 recorded webinars to choose from at

[www.extension.umn.edu/horse/webinars](http://www.extension.umn.edu/horse/webinars)

### Research Collaborators Needed

The U of M Equine Genetics and Genomics Laboratory is investigating the genetic basis of the mealy (or pangaré) coat color.

Researchers are especially interested in Norwegian Fjords, Halflingers, donkeys, and Belgians.

Contact Dr. Jessica Petersen at

[jlpeters@umn.edu](mailto:jlpeters@umn.edu) to participate in the study.

### Minnesota Horse Expo

April 26, 27, 28, 2013

Minnesota State Fairgrounds

[www.mnhorseexpo.org/](http://www.mnhorseexpo.org/)

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## Neurologic Disease in Horses Continued By: Carrie Finno, DVM, PhD, Univ. of Minn.

The examination used by specialists in internal medicine is described below.

Step 1: Examine in the stall/paddock. We begin by assessing your horse in a stall or small paddock, wherever the horse is more comfortable. One of the first things to evaluate is your horse's mentation, which means is your horse behaving normally for the environment that he is in. If your horse is in a new environment, he should be bright and alert and looking around. If your horse is in their stall at home, he/she may be quieter, but still appear bright when someone enters the stall. Next, is looking to see how your horse moves around the area. Does he stumble or bump into things? We assess how your horse stands at rest, or his posture. Horses do not need to stand squarely at all times but they shouldn't rest with one or more limbs out from under their trunk for extended periods of time (Figure 1). Then the resting respiratory rate is taken while your horse is in the stall or paddock before being handled, which may excite him. During this time, your horse's body condition score, which is a score assigned based on your horse's weight (is he too skinny, in good condition, or too fat?) is recorded.

Step 2: Full physical examination at rest. After the initial observation, a routine physical examination is performed, which includes assessing your horse's cardiovascular, respiratory, gastrointestinal and musculoskeletal systems. Liver or kidney disease can have neurologic signs, and some abnormalities might be apparent on a general physical examination. It is always important to perform a basic lameness

examination at the same time that the neurologic examination is performed because they are often difficult to distinguish. In addition, in many horses, there may be both a lameness and a neurologic component to the problem. While your horse is standing for his physical examination, we pay careful attention to his muscle symmetry to determine if there is any atrophy, or loss. Muscle atrophy may be symmetrical or asymmetrical and provides useful information (Figure 2). The hooves are examined for abnormal wear. Horses that drag their hind toes often square the toe off. A basic ophthalmologic examination may be useful if your horse is running into objects as he may have a primary eye problem.

Figure 1. Abnormal stance



Step 3. Full neurologic examination: cranial nerves. The next thing to perform is an examination of your horse's cranial nerves. We begin by performing a menace response, where a hand is "menacingly" moved towards your horse's eye. The correct response is to blink. This response is tested from both the inside (medial) and outside (lateral) approaches to fully evaluate this reflex. While examining the eyes, the pupillary light reflex is tested, where a bright light is shone in your horse's eye and

the pupil constricts. While performing this test, pupil position is also evaluated.

Figure 2. Severe muscle atrophy over the hindquarters



The pupil should be in the center of the horse's eye and should not be moving when the horse's head is held still. Next your horse's facial sensation is tested (does he have sensation up his nostril, along his eyelid and in his inner ear?) and muscle tone to the face (is there any evidence of facial asymmetry, such as a droopy ear or eyelid or a muzzle that deviates to one side?). We also assess muscle symmetry of the masseter (cheek) muscles and the temporalis muscles under forelock. Your horse is carefully evaluated for a head tilt and a temporary blind-fold might be used, where a towel is placed over the horse's eyes to see if this makes it worse. Lastly, your horse gets a treat for being such a good patient and in order to assess his ability to chew and swallow. Your horse thinks this is the best part of the exam!

Next month we'll conclude with the exam process by discussing neck and trunk reflexes, and examination at different gaits.