

8 feet off the floor will provide the necessary 12 to 15 footcandles at head height. The mare requires at least 60 to 90 days with this regimen to pass from winter anestrus through transition and establish a normal cycle. Starting artificial lighting by November 15 should bring the mare into an approximately normal cycle by February 15. For breeds recognizing the January 1 international birthdate, breeding can begin February 15.

See the table on page 23 for more information on artificial lighting.

**Q. Is teasing important on the breeding farm?**

A. Teasing is the cornerstone of the breeding program. It needs to be done every other day throughout the breeding season on all mares. Exceptions to that rule would be mares that are more than 40 days pregnant and mares with young foals. The latter group may not tease as well because they are more anxious and protective of their foals in the presence of the stallion.

**Q. What is teasing?**

A. Teasing is the exposure of the mare to a stallion and the evaluation of her response to his advances. A mare that teases positive (in heat) will lift her tail, passively urinate and be reluctant to move away from the stallion. A mare that is out of heat, or negative on tease, will generally rebuff the stallion with ears back, switching tail, kicking, etc.

**Q. What is the importance of foal identification?**

A. Recording early foal markings or freeze-branding foals can prevent later mixups. Mares in a large paddock may trade foals or permit more than one foal to nurse them. Later bloodtyping (if required by a breed association) may pick up this mixup. Customers may take the wrong foal home. Also, at 2 to 3 months of age, as foals shed out, their permanent markings become obvious, and these may be significantly different from early recordings of color.

**Q. Should a stallion be checked for fertility before the breeding season?**

A. Yes. Because all infertility is not associated with mare problems, it is a good idea before the breeding season to be sure that the stallion is fertile. If a stallion will be advertised and a "book" established, the exam should precede this expenditure to be certain he can cover the mares. At least by November preceding the breeding season, it is necessary to collect semen from the stallion and evaluate it not only for volume and color, but also for motility of the individ-

ual sperm, concentration (million/cc) and morphology (percent of normally shaped sperm).

**Q. Why should a breeding soundness examination (fertility evaluation) be done on a stallion?**

A. The first consideration for a horse that is already in a breeding program is to determine if he is fertile before the breeding season. But a second, almost more important, consideration is to be sure a horse that is to be used for breeding is fertile before you purchase him. If you are buying a stallion and it is impossible to get the fertility evaluation done before purchase (a buyer's expense), consider making the sale contingent on that fertility evaluation being satisfactory.

**Q. How do age and testicular size affect fertility?**

A. Generally, we like to wait until stallions are 3 years old before entering them into a breeding program. Two-year-olds, especially in the Arabian breed, are usually immature. The size of the testicle is related to the sperm production of the stallion. Stallions with small or soft testicles commonly have fertility problems.

**Q. Is there a difference among breeds in sexual maturity rate?**

A. Yes; the Arabian breed, for example, matures slower than some other breeds.

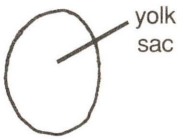
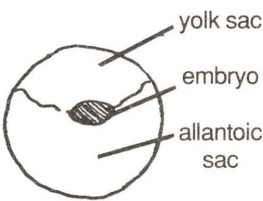
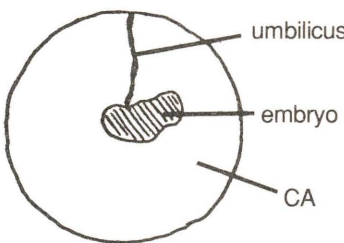
**Q. What is the influence of anabolic steroids on breeding stock?**

A. The influence is negative. Long-term, frequent or high doses of anabolic steroids can reduce fertility. Recovery after steroids are eliminated is variable and may require a year or more.

**Q. Are two testicles necessary for optimal fertility?**

A. Breeding stallions with one testicle (a condition called cryptorchidism) can certainly be fertile. Sperm are produced by the one descended testicle, not by the retained testicle. This particular problem is considered to be hereditary, so cryptorchid stallions should not be used as breeding stallions. Regulations in Michigan require that any stallion breeding "outside mares" (mares other than those owned by the stallion's owner) have two fully descended, normal testicles. If one testicle has been removed (after a testicular torsion, for example), the stallion is still acceptable for breeding use.

## EARLY PREGNANCY EXAMINATIONS & USE OF ULTRASONOGRAPHY

Days after ovulation	Palpation/ultrasound findings
<p>17 - 19</p>  <p style="text-align: center;"><b>18 DAYS</b></p>	<p>Only yolk sac visible. Fluid appears black on the viewing screen of the machine. It is a small sphere, 20-25 mm in diameter, like a circle in cross-section. Practitioners who do a great deal of equine reproduction work develop the palpation skills to detect signs of pregnancy at this early stage. The cervix and uterus in particular can be quite distinctive.</p>
<p>22 - 23</p>	<p>Not usually examined at this time unless an abnormality was noted at the first exam. This is the first time the embryo will be visible within the yolk sac.</p>
<p>25 - 26</p>  <p style="text-align: center;"><b>25-26 DAYS</b></p>	<p>Yolk sac regressing, chorioallantois enlarging, embryo present. Heartbeat should be present within the embryo (real-time ultrasound); total vesicle size is usually 25-33 mm in diameter. A distinctive ventral bulge should be present in the pregnant uterine horn by this time. The cervix should be closed, narrow and elongated.</p>
<p>35 - 45</p>  <p style="text-align: center;"><b>35-40 DAYS</b></p>	<p>Ultrasound is not necessary at this stage. By this stage, the umbilicus is well developed and the yolk sac regressed, the chorioallantois defined and the amnion evident (portions of the placenta). The bulge in the pregnant horn is much larger, losing its round shape, beginning to elongate.</p>
<p>75 - 100</p>	<p>Usually called the "fall check." During a transrectal palpation, the pregnant uterine horn at 90 days gestation is just about out of reach, beginning its descent into the abdominal cavity as it enlarges.</p>

**NOTE:** Most mare abortions/pregnancy losses occur by 50 days of gestation; this is the best justification for early checks. If a mare is found to be not in foal, the opportunity exists within the season to rebreed her. By the same token, if a mare is in foal at 100 days gestation, she will have a good chance of reaching term, provided she is maintained on a good vaccination program.