



by Juan C Samper DVM, MSC, PhD
www.vetreproservices.com

Breeding Management of the Warmblood Stallion

The warmblood or show horse breeding stallion is unique compared to other stallions because they frequently compete from age 3 through 15 years or more. The breeding demands of warmblood stallions frequently peak at the same time as the horse's show career. It is not unusual for the warmblood breeding stallion to be in a regular, daily training program, compete in numerous 3-7 day long shows during the year, and be transported hundreds of miles during the course of the breeding and nonbreeding seasons. Frequently, the warmblood stallion is located at a training stable or small farm that is less well-suited for natural mating or on-farm artificial insemination. The use of fresh, cooled semen and frozen semen has become commonplace and accepted by most warmblood breed registries.

Ideal management of the warmblood breeding stallion needs to be tailored to the individual horse with respect to his training schedule, show date commitments, transportation, adequacy of the farm and its personnel for breeding activities, and the stallion's innate fertility. Most stallions will have fertilities over 60% per cycle when they are properly collected and managed if their semen quality is good.

Managerial factors that must be considered for the warmblood or sport horse stallion include nutrition, exercise, training of the stallion for semen collection and routine health care including aspects such as deworming, vaccinations, foot care etc.

The warmblood breeding stallion should remain athletic and fit even if he has been retired from active competition. First or second cutting grass or first cutting grass-alfalfa mixed hay should be available to the horse throughout the day. This maintains healthy intestinal function, minimizes boredom, and reduces the incidence of undesirable stall behaviors. The addition of grain or a vitamin and mineral supplement may be necessary to balance the nutrients supplied by hay and pasture.

The feeding program should be closely associated with a daily exercise program. If individual stallions do not run and play when turned out, they may need to be exercised on a walking machine, lunged in-hand or free for 30 minutes per day, or ridden under tack. The goal of the exercise program is to keep the horse alert, athletic, and content.

When a new stallion is brought to a farm, the farm personnel should be informed about the horse's habits concerning feeding and exercise during the previous month. Management should also be made aware of any physical limitations or conditions affecting the horse, such as

prior history of laminitis, tarsitis, navicular syndrome, colic, and objectionable habits. If the new farm management is aware of a stallion's propensity for nipping, stall kicking, running the paddock fence-line, stall walking, weaving, etc., procedures for correcting some of these behaviors may be successful now that the horse's environment has changed. However, some of these behaviors may also begin with the environmental changes. It may take a stallion 1-2 weeks to acclimate to a new farm, personnel, feeding schedule, and other horses.

The routine health care of the warmblood breeding stallion is quite similar to that of the other horses on the farm. The stallion should be dewormed at regular intervals based on farm needs. Dental exams should be conducted on all stallions once per year, or as needed, for each horse. If tranquilization is needed to safely conduct dental exams and procedures, promazine tranquilizers should not be used due to risk of penile paralysis. The stallion's feet should be evaluated at regular intervals of 6-8 weeks. Horses that have laminitis, hoof wall cracks, or flat soles, may require regular shoeing to remain comfortable. The vaccination program for warmblood stallions should be similar to the immunization program established for the other horses on the breeding farm. Horse population density, age of the horse, degree of non-resident horse exposure, and incidence of specific diseases on a farm are important considerations in development of an immunization program for the stallion.

Equine arteritis virus can be spread from stallions to mares via respiratory secretions and through the semen. Approximately 30 percent of horses previously exposed to EVA continue to shed EVA virus in their semen. Some of these stallions continue to shed the virus in semen for life. EVA virus infection can cause upper respiratory infections and abortion. The virus from shedding stallions can be passed to seronegative mares during live cover or artificial insemination with fresh, cooled or frozen semen. The seropositive stallion that does not shed EVA virus in his semen can be safely used to breed seropositive or seronegative mares without risk of inducing viral infection in the mare.

Seronegative stallions can and, in most cases, should be vaccinated against EVA before the onset of the breeding season and boosted annually. This will prevent the stallion from becoming infected with EVA and eliminates the risk of the stallion becoming a shedder of the virus in his semen. Stallions that shed EVA virus in their semen are usually excluded from export to other countries. Additionally, fresh or frozen semen from virus shedding stallions cannot be exported.

BREEDING CONSIDERATIONS

A thorough breeding soundness evaluation should be performed on the warmblood stallion prior to purchase. If the stallion is purchased as a competition horse, but some of the value of the horse is residual value as a breeding stallion, the horse should undergo a complete breeding soundness exam. If the stallion is being purchased for breeding, or for both breeding and competition, an evaluation of his breeding soundness should be conducted. A breeding soundness examination should also be performed prior to use of the stallion for breeding in his first year at stud. Specifically, the stallion owner needs to determine the suitability of the stallion for use in a fresh, cooled semen shipment breeding program before this service is advertised or offered to the public. In general, this determination will be based on the stallion's ability to produce adequate numbers of morphologically normal sperm that have the ability to remain progressively motile for 24-72 hours when diluted in an acceptable semen extender and stored at approximately 5°C.

A thorough examination of the horse and his semen should assist the stallion owner in efficiently managing the breeding career of the

stallion. The examination should help determine any limitations in the size of the stallion's book, acceptability for use in a cooled, shipped semen or frozen semen breeding program, and selection of appropriate semen extenders.

A breeding soundness evaluation should also be performed at the start of each breeding season to determine if any changes need to be made in the breeding management of the horse to maintain maximal reproductive efficiency. In some stallions it may be necessary to collect and evaluate numerous ejaculates until semen quality stabilizes when the stallion has been sexually rested for weeks or months.

The most efficient and safest method of breeding the warmblood stallion is by semen collection using an artificial vagina. Because many warmblood stallions are in training or competition during the beginning of their performance careers, safety of the stallion during mating is a prime concern. Semen collection is most often done on an estrous mare or on a phantom or dummy. Collection of semen from the stallion while the stallion is mounted on an estrous mare is a common and acceptable method of obtaining semen from the warmblood stallion. However, many risk factors associated with live cover are not eliminated. Maintenance of the mount mare is an added expense to the farm and still requires the stallion to mount a live horse. The more suitable option for semen collection from the warmblood stallion is to train the stallion to mount a "phantom" or "dummy" mare. Training the novice breeding stallion to mount a phantom or dummy mare as a sexual object is usually a rewarding process. Because these stallions have not been allowed to live cover mares, they are easier to train to the phantom than most experienced stallions. Some stallions are exposed to the dummy and immediately will mount without reservation. A person with an appropriately prepared artificial vagina should be ever-ready to collect an ejaculate following successful mount.

BREEDING SEASON CONSIDERATIONS


The owner, breeding farm manager, and veterinarian should develop a coordinated plan for the sporthorse breeding stallion that takes into consideration the horse's show and training schedule, availability of the stallion for semen collection, site of semen collection, number of mares to be bred, quality of the stallion's semen, and other factors. These factors will be important for the farm manager or owner to relay to individual mare owners wishing to breed to the stallion. Mare owners need to be informed of the availability and quality of stallion semen when they commit to a fresh, cooled semen breeding program. The informed mare owner can help optimize the chances for successful pregnancy despite certain limitations on semen availability or quality. For example, if the stallion's sperm longevity drops rapidly

24 hours after semen collection, it may be necessary to inseminate the mare as soon as possible after receiving the semen and not rely on sperm survival in shipping containers at 36-72 hours after semen collection. Most stallions will have good pregnancy rates with cooled semen and as in most artificial insemination breedings the limiting factor is proper mare management. Each collection (or at least periodic collections) of stallion semen used in a fresh, cooled semen shipment program should be monitored, by the breeding farm, for sperm longevity and semen quality throughout the breeding season. The results of these tests should be compared to replies by mare owners concerning the semen quality of shipments they receive. Farm management may be able to make adjustments in their semen collection and shipping protocol, such as extender selection, dilution ratio, or semen collection frequency to improve the overall quality of semen sent to mare owners.

Many sporthorse stallions breed a very limited book of mares each breeding season. The interval between successive semen collections may be too long to maintain optimal semen quality for a fresh, cooled semen shipment program. The effect of infrequent semen collection in some stallions is so dramatic that sperm longevity is reduced to zero within 12 to 24 hours of semen collection and extension. Stallions affected in this manner may need to be put on a collection schedule even if no mares are to be bred. Maintenance of optimal semen quality in most stallions can be achieved with a semen collection frequency of 2-3 semen collections per week. The breeding farm should maintain a record of the semen collection dates for the stallion. The record should include the volume of semen collection, total sperm collected, initial sperm motility, extender used, and mares bred with each ejaculate. Periodically, the longevity of sperm motility in extender, sperm morphology, and bacterial culture of extended semen should also be evaluated and recorded. This information may help identify the early onset of semen quality problems.


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Box 688 Mayerthorpe AB T0E 1N0
Tel: 780 786 4337 Fax: 780 786 4262
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