



The Cold Facts for Mare Owners

Commonly asked questions about breeding with frozen semen.

Q. What kind of results can I expect with frozen semen?

A. Although some stallions have similar results with frozen and fresh semen, AI with frozen semen from most stallions results in slightly lower fertility per cycle than similar inseminations with unfrozen semen. When stallions are selected for AI programs based on post-thaw semen quality, and mare management is controlled, per cycle pregnancy rates of 50 - 55% can be expected on average. This compares to 55 - 60% for cooled semen and 60 - 70% for immediately inseminated fresh semen.

Q. How do I know if my veterinarian is qualified to perform inseminations with frozen semen?

A. The actual process of thawing and inseminating frozen semen is quite simple. One must follow specific thawing instructions precisely in order to obtain maximum post-thaw survival. This will require careful attention to detail and a properly temperature controlled water bath. However, the most important attribute to look for in selecting a veterinarian is extensive experience in equine reproduction, broodmare management, and artificial insemination. To obtain the best results your mare will need to be examined regularly during her heat cycle. The use of ultrasonography is also helpful to monitor follicular development and accurately predict the time of ovulation. Technical experience and a commitment and interest in properly managing the inseminations are crucial.

Q. Do I or my vet need special tanks to hold the frozen semen?

A. No. Select Breeders Service will ship enough frozen semen to manage the mare through one complete heat period. The shipping tanks are specially designed cryogenic vessels which maintain the frozen semen at -197°C for at least 10 days. This allows SBS to ship the semen to your vet well in advance of the anticipated insemination date avoiding the last minute "mad rush" to schedule semen shipments associated with cooled transported semen breeding. Also, if the mare fails to ovulate when predicted, no further shipments are required. There are sufficient doses of frozen semen in the tank to inseminate the mare again as needed. SBS Distribution

Q. Is it true that frozen semen doesn't live long in the mare compared to fresh semen?

A. That is a common belief of many veterinarians and breeders. The fact is that no one really knows what the lifespan of frozen vs. fresh semen is. The types of damage that can occur to sperm membranes during the freezing and thawing process theoretically could reduce the time of survival in the mare's reproductive tract. However, no experimental fertility trials have been conducted to address this question and there is evidence that daily inseminations with frozen semen can yield

results equal to those obtained by labor intensive inseminations that are timed to coincide within a few hours of ovulation. It is likely that the single biggest factor affecting conception rates and sperm survival in the mare is the different response of individual stallions to freezing and thawing and their inherent sperm longevity. In other words, sperm from some stallions probably do have a reduced longevity in the mare as a result of their response to freezing. It is equally apparent that sperm from other stallions respond well to freezing and have similar longevity in the mare whether fresh or frozen semen is inseminated.

Q. I've been told that my mare has to be examined every 6 hours when breeding with frozen semen. Is this true?

A. Numerous studies have demonstrated that the optimum time for insemination of frozen semen is in the period from 12 hours prior and up to 6 hours after ovulation. Traditionally, frozen semen has been marketed in a manner which is very unfair to mare owners. Imported European frozen semen has for years been sold in three dose lots for a breeding fee with no live foal or return service guarantee. Under this system, it was also possible to register more than one foal for this fee if more than one conception could be obtained with the three doses. Of course, this put tremendous pressure on the inseminating veterinarian to use only one dose per cycle. The most reliable way to do this was to inseminate post-ovulation. It is known that post-ovulation inseminations must be made within 6-8 hours of ovulation due to the lifespan of the ovum in the oviduct. Obviously, the closer to ovulation the insemination is made, the better the results. This is true for fresh and frozen semen. However, the misconception that all frozen semen lasts only six hours has persisted as a result of this marketing system. Select Breeders Service currently recommends inseminating most mares twice per heat cycle using a timed insemination protocol. This protocol involves once daily examinations of your mare when she is in estrus. Once a pre-ovulatory follicle (≥ 35 mm) is detected in the estrous mare an ovulation inducing agent (hcG or Deslorelin) is given to synchronize ovulation. The mare is then re-examined and inseminated at 24 and 40 hours after the agent is given. Using this protocol, mares that ovulate any time 18 to 52 hours after the ovulatory agent is given will have had semen deposited in the uterus during the critical period of 12 hours before or 6 hours after ovulation or both. Details of this protocol and our recommendations for management of mares inseminated with frozen semen are available on our website.

Q. Are there any special fees associated with frozen semen breeding?

A. That depends on the details of the stallion service contract. The distribution fees charged by Select Breeders Service vary between laboratories within the Network. Please inquire with the lab that is storing the semen you are interested in.