express or by an airline. Once the semen arrives at the destination, the veterinarian evaluates it for viability and inseminates the mare.

Now that you know what is required for the mare owner, we should discuss how the stallion owner gets the semen ready.

The facility which is responsible for collecting the stallion should have special lab equipment including containers for semen shipment, an instrument that will quickly and accurately count the number of sperm per milliliter, a good microscope and an incubator. The commercially available container for shipment is produced by Hamilton-Thorn, and is called an "Equitainer." The Equitainer has a precise thickness and a properly insulated core which allows a very specific cooling rate. The design of this container permits the initial cooling rate of the semen to controlled limits and prevents the semen from becoming "too cold." The Equitainer gradually cools the semen to 4 degrees centigrade or 39 degrees Fahrenheit. This temperature can be maintained for approximately 36 to 48 hours if the Equitainer is not opened.

The Densimeter (produced by Animal Reproduction Systems) quickly and accurately estimates the number of spermatozoa per milliliter. This is essential information since each breeding the mare should be inseminated with one billion progressively motile spermatozoa. The Densimeter allows the veterinarian or person handling the stallion to determine how many mares can be bred with each collection (or ejaculate) from the stallion.

The microscope is required to determine the progressive motility of the semen sample. A qualitative estimate is made of the percentage of sperm moving in a forward or progressive manner. This is termed the percent of progressively motile sperm. This calculation is also required to determine the number of sperm needed to inseminate the mare.

Each stallion has to be trained to be collected with an artificial vagina or "A.V." The collection can be performed either utilizing a phantom (breeding dummy) or a mare. Most veterinarians and stallion owners prefer to train the stallions to a phantom. This method is much safer than utilizing a mare.

Each time the stallion is collected the number of sperm and motility must be determined. Once the semen has been collected and analyzed, an "extender" is added to it. Each stallion's semen should be tested with different extenders to determine which extender is best for a particular stallion.

An extender provides the proper balance of ions, minerals, electrolytes, and nutrients to support the sperm cell. It should also have ingredients to minimize damage to the sperm as well as to stabilize the sperm membranes. A good extender will maintain the quality of the spermatozoa for a longer time than they would survive in the seminal plasma. The seminal plasma is the clear fluid that is ejaculated with the sperm.

Once the appropriate extender is selected, the semen should be tested to determine how well it does in an Equitainer. The longer the stallion semen can be stored and retain fertility, the more flexibility stallion owners have in collecting and shipping semen. This flexibility will help the mare owners select a sire and also help synchronize breeding with ovulation.

The final step is to have your mare checked for pregnancy 12 to 15 days following ovulation. Early pregnancy detection is accurately accomplished via ultrasonography. It is important to have your mare checked for pregnancy even if she comes back into heat. Approximately 20% of all mares can have a false heat even though they are pregnant.

Another question mare owners ask is "What are the costs involved in transporting semen?" On the "mare end," the mare owner is responsible for the veterinarian palpating to determine heat and the best time to breed, medications used to bring the mare into heat, uterine cultures and insemination/evaluation of the shipped semen. On the "stallion end," the mare owner is responsible for the breeding fee/booking fee, the veterinarian collecting the stallion, processing and packaging the semen (approximately $100-200), use of the Equitainer ($50-60), refundable deposit on the Equitainer (approximately $250), shipping charge (Federal Express or airlines approximately $60), the breeding farm transporting the container to the airport and next day return of the Equitainer via Federal Express. These charges are approximate charges and can vary around the country. Remember, even though these charges appear costly, the shipped semen method may still be more economical than sending your mare to the stallion.

Breeding your mare with shipped semen carries approximately a 50% to 70% success rate. The key is having your veterinarian prepare your mare and determine the best time for breeding. ❑

We would like to thank all of the stallion owners who supported us with their advertising in our first annual Stallion directory. Call us if you would like to be included in the 2007 edition of The Stallion Connection. (928) 636-8651