



12200 NW AMBASSADOR DRIVE, SUITE 101 • KANSAS CITY MO 64163 • 800-228-4305 OR 816-464-3500

## **The use of Synbiotics Semen Separating Solution and Fresh Express<sup>®</sup> Extenders for short and long term chilled semen storage**

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The use of Semen Separating Solution (SSS) and Fresh Express<sup>®</sup> Extender from Synbiotics have proven to be an excellent combination when used together for semen used in chilled shipment as well as semen that will be stored multiple days for a future breeding. Surgical insemination and the use of TCI (transcervical insemination) have ushered in the need for much smaller volume inseminates than previously used for vaginal artificial insemination. The use of a 2 cc sample in dogs over 15 kg, and a sample of 1.5 cc or less in breeds smaller than 15 kg is strongly recommended to minimize the reflux through the cervix into the vagina. The ability to concentrate a semen sample is imperative for this type of fertility work.

In our practice, all semen samples are centrifuged using SSS and then extended using Fresh Express Extender to the needed volume for the type of insemination to be done. If necessary, the extended sample may be stored for a future breeding. The sample is centrifuged and the plug is extended to a volume of between 4 and 6 cc. The sample is then placed in a beaker of room temperature water (70-77 degrees F). This is refrigerated at 40° F with initial evaluation every three days. The three day evaluation includes; % motility, speed and quality. When the motility drops by more than 15% and/or the speed drops appreciably, the sample is again centrifuged using SSS and new Fresh Express Extender is added. A standard drop is examined on a pre-warmed slide under a low magnification (10x objective). Percent motility, motility speed, quality of forward progression and percent abnormal motility are recorded. A guideline for assessing motility is:

**Excellent:** Smooth, straight, linear forward progression.

**Good:** Minor degree of deviation from linear, yet still good forward progression.

**Average:** More deviation from linear, yet still acceptable degree of forward progression.

**Fair:** Sperm cells progressing, but showing major deviation from linear.

**Poor:** Sperm cells moving, yet little or no forward progression, such as jiggling in place or spinning.

If the sample is excellent at three days, it may be checked daily until day five. We do not allow a sample to go longer than five days without changing the extender. We have had test samples do well until 14 days without changing the extender, but with a sample that is to be used for breeding we have not found that repeat centrifugation and the addition of new extender has adversely affected the semen. The metabolism of the semen will eventually change the pH and drop the available nutrients to the semen causing possible irreparable damage to the semen. Using this guideline we have had many successful breedings with semen that has been stored as a chilled sample. Many samples will remain viable for up to three weeks. **It is strongly recommended that the male have a test collection and chilled semen longevity check done**



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**before storage of the sample is attempted for a future breeding.** With the changes in counter to counter shipping, we will have Friday or Saturday samples collected for Monday breedings. When packaged properly using Synbiotics Fresh Express<sup>®</sup> Kit, the samples arrive chilled and in excellent shape on Monday morning. The sample is then centrifuged and extended before breeding or chilled storage.

When we have samples extended with other extenders shipped to us, we have found that the ability to centrifuge the semen with SSS and add Fresh Express Extender will work with all currently available extenders from other facilities. This prevents the need to keep proprietary extenders from other companies in stock.

During the week, when the shipment will be overnight, we ask for a 2 cc total sample if the sending veterinarian has the ability to centrifuge the sample and extend it appropriately. Many veterinarians do not know that the sample which contains greater than 3 billion sperm will survive the chilled process and shipment when such a small amount of extender is used. Synbiotics extenders have been excellent when used in this method. The lack of an activating solution is important in keeping the inseminate to such a small volume. For over weekend shipment, we ask for a sample that is extended to 6 ml for the multiple day package duration.

The ability to store samples and to ship over a three day weekend using Synbiotics products has greatly increased our flexibility for breedings. We use this for males that are being shown or when the dogs are being trialed and the owner/handler does not want the male bothered with a collection. We also use the option to collect and then store when the dogs are normally in an area where it is not possible to get to a practice for collection of the sample.

We have also used this method for storing or shipping a sample that will be frozen at a later time. In small breeds, the sample volume and semen count may be quite low. We collect the male over two to three days with the first samples centrifuged and extended using Fresh Express<sup>®</sup> Extender. On the day of the freeze, all samples are centrifuged and the freeze buffers are added. We have also frozen samples that are shipped from off site using this technique. The use of Fresh Express Extender prior to the freeze has not affected the samples and may enhance the potential because of the nutrients available to the sperm cells prior to freezing.

*Will Schultz, DVM, operates a Synbiotics canine semen freezing center in Okemos, Michigan and has been working with Synbiotics since the early 1990's. His freeze center is located at:*

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