



SPECTRUM - THE SBS CRYOSYSTEM



BY SELECT BREEDERS SERVICES AND MINITUBE INTERNATIONAL

SBS and Minitube present to you the Spectrum equine semen freezing extenders, based on formulations developed by and employed at SBS labs worldwide.

Spectrum equine semen freezing extenders combine to form the SBS CryoSystem

The SBS CryoSystem consists of a range of freezing extenders which are paired with complementary freezing protocols. The SBS CryoSystem allows the clinician to identify the best freezing extender for each individual stallion.

Spectrum extenders are used to freeze stallion semen at SBS labs worldwide. Horse breeders have trusted in the expertise of SBS for decades and veterinarians recognize and appreciate SBS labs as a source of high quality frozen semen.

Spectrum extenders feature various cryoprotectants and specific egg yolk or milk content that combine to protect sperm cells from damage caused by freezing, and protect the fertilising ability of the semen after thawing.

With Spectrum extenders and the SBS CryoSystem it is now possible to achieve pregnancy rates with frozen-thawed semen which are comparable to cooled semen.



Select Breeders Services (SBS) and Minitube International signed an agreement in May 2014, aimed to focus on research and product development for equine reproduction.

With 30 years of experience in equine reproduction, over 4000 stallions in their database, 55000 ejaculates frozen, and 440000 insemination doses prepared, SBS contributes with outstanding expertise to the development of the equine frozen semen industry.

Minitube has been serving clients worldwide with reproduction technology products for more than 45 years and is engaged in product development and in-house manufacturing. Minitube provides products of uncompromised quality and safety.



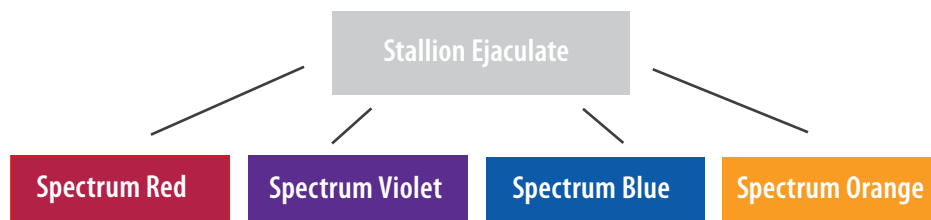
Why is it important to have a range of freezing extenders available?

Unlike production livestock, stallions are generally not selected based on fertility testing. Within the breeding population exists high variability in the ability of sperm from individual stallions to survive cryopreservation. This is likely due to differences in the lipid composition of sperm membranes. Use of a single extender or freezing protocol for all stallions may result in less than optimum results for many stallions.

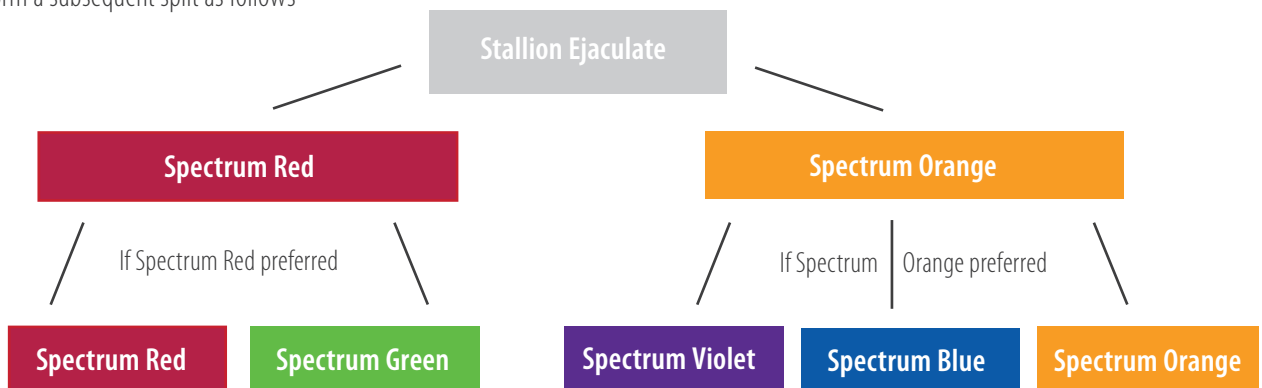
How do we identify the best extender for each stallion?

Minitube offers a Test Freeze Kit, containing the main Spectrum extenders in smaller quantities, plus centrifugation medium and CushionFluid for centrifugation. With the help of the split ejaculate trial outlined below, it is possible to find the best Spectrum extender for each stallion. Two approaches are recommended depending upon the amount of semen available.

1. Approach: If sufficient sperm are available (approx. 10 billion) - compare four of the extenders in a split-ejaculate test freeze



2. Approach: If < 10 billion sperm are available, split between Spectrum Red and Spectrum Orange first, then based upon this result perform a subsequent split as follows



Test Freeze Kit

REF. : 13572/0000

Contains:

- 2 x Spectrum Orange, 15 ml
- 2 x Spectrum Red, 15 ml
- 1 x Spectrum Blue, 15 ml
- 1 x Spectrum Violet, 15 ml
- 1 x Spectrum Green, 15 ml
- 2 x CushionFluid, 30 ml
- 2 x SBS Centrifugation Medium, 120 ml



The SBS CryoSystem

All Spectrum extenders are produced in Minitube's GMP certified media production facility. Spectrum extenders are pH and osmolarity balanced and clarified. The chemicals are reagent grade, and bioassays of each batch are performed.

All Spectrum extenders are presented as ready to use solutions. There is no need to source individual components or to add antibiotics.

Spectrum extenders are presented in convenient package sizes. Transport and storage at -20°C.

Key factors of Spectrum extenders:

Spectrum Red

- High egg yolk content
- No milk
- Best combined with rapid cooling and freezing

30 ml

REF. : [13572/0030](#)

Spectrum Orange

- Complex formula
- Low in milk and egg yolk
- Best combined with slow cooling and freezing

30 ml

REF. : [13572/0020](#)

Spectrum Blue

- Complex formula
- Low in milk and egg yolk
- Best combined with slow cooling and freezing
- The cryoprotectant is highly membrane permeable

30 ml

REF. : [13572/0050](#)

Spectrum Violet

- Complex formula
- Low in milk
- Best combined with slow cooling and freezing
- Contains a balanced combination of cryoprotectants

30 ml

REF. : [13572/0060](#)

Spectrum Green

- Milk-based
- Low in egg yolk
- Best combined with rapid cooling and freezing
- Beneficial for certain stallions only

30 ml

REF. : [13572/0040](#)



The unique SBS CryoSystem, consisting of Spectrum extenders and freezing protocols, has been tested on thousands of stallions, demonstrating that pregnancy rates can be achieved with frozen-thawed stallion semen which are comparable to those of cooled semen.

Your benefits

- More ejaculates can be frozen successfully
- Overall higher quality of frozen semen
- Produce more commercial doses per ejaculate
- The Test Freeze Kit allows identification of the best semen freezing extender and protocol for each stallion
- The Test Freeze Kit contains all media needed to freeze split ejaculates and a comprehensive manual
- While use of a programmable freezer will yield more consistent results, vapour freezing or programmable freezer can be used
- You can profit from the experience of SBS



THE SBS CRYOSYSTEM AND SPECTRUM EXTENDERS....
WHEN ONLY THE BEST WILL DO!



minitube