

## STALLION OWNERS FACT SHEET

With so much information and advice available, it can be daunting for owners who decide to breed from their stallions. This is a quick guide to help understand some of the frequently used terms & some pitfalls to avoid.

### Stallion Fertility

Characteristics of semen that define 'fertility'

- Motility - how many sperm are moving
- Total progressive motility - how many sperm are moving in a straight line
- Morphology – what the sperm cells themselves look like

Other characteristics of semen that are frequently recorded;

- Volume - what is the volume of the raw ejaculate
- Characteristics of the ejaculate - how many times the stallion jumped, how his behavior was, whether there was an abnormal colour/smell/appearance
- Concentration - how many sperm cells per ml are produced per ejaculate
- DNA damage - looks at the level of DNA damage in the sperm cells (less commonly recorded)
- Oxidative stress (less commonly recorded)

What can affect a stallion's fertility?

- Health & nutrition
- Temperature - increased temperature has an adverse effect on fertility
- Disease
- Genetic factors
- Injury
- Overuse

### Sperm Production

Sperm cycle takes 59-63 days from germ cell to mature sperm ready for ejaculation, hence it can take almost two months for adverse effects to be seen.

### Semen Collection

How is semen collected?

- Stallion is teased to become excited and develop an erection
- Stallion is led to dummy and mounts
- Artificial vagina is held for him to ejaculate into
- The sample is taken for processing and the stallion returned to his stable

What are the risks to the stallion?

When using an artificial mount, there is virtually no risk to the stallion. Some stallions refuse to jump onto a mount and may need to jump onto an in-season mare. Here at the centre at Equibreed UK we have several experienced recipient mares that we use as 'jump mares' if this is the case.

How frequently can semen be collected?

Semen can be collected as often as four times a day, but overuse does lead to reduced volume and numbers of sperm. We recommend that stallions be collected once a day, and preferably once every-other-day where possible.

What happens to the semen once it is collected?

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Processing and handling of the semen is best done in the laboratory to ensure no contamination.

The semen is analyzed under the microscope, and the main parameters recorded.

Extender - a mixture of glucose and proteins (and often antibiotics) is also added to help the sperm live as long as possible. If the semen is being shipped, a higher ratio of extender to semen is sent.

For semen sent chilled the sperm is put into straws or syringes, and then placed into polystyrene boxes containing freezer blocks. These containers maintain a constant temperature inside and do not need to be kept in the fridge.

## Selling Nominations for a Stallion

### What needs to be considered?

The price and terms of nomination contract are the first place to start. You will need to include the following details;

- Payment at what stage e.g. semen ordering, mare pregnancy
- Offer of no foal free return?
- Conditions for availability of stallion
- Number of times able to order semen
- Ability of mare owner to change identity of mare
- Will mare owner or stallion owner pay for semen collection?
- Declaration by inseminating vet to ensure correct mare inseminated

Example nomination contracts are available from the Equibreed UK office on request and all the factors above depend on the personal preferences of the stallion owner.

## Shipping Chilled Semen

Semen can be shipped overnight to arrive almost anywhere within UK or EU within 24hrs.

### What difficulties can arise?

- Stallion unwilling to perform
- Poor characteristics of ejaculate
- Poor service from delivery company, failure to deliver semen on time
- Failure of mare to ovulate and second collection necessary
- Bank holidays - no delivery

Dealing with these issues is entirely at the prerogative of the stallion owner and we do our best to ensure mare owners are aware of this.

We recommend that a certain level of understanding of the costs and the distress to the mare owner is shown - this will help encourage repeat business, and goodwill.

In the event that the difficulty is the result of a stallion issue, it can be helpful for the stallion owner to offer to pay for the collection costs, or offer a reduction in nomination fee.

## Semen Freezing & Semen Freezability

### How is stallion semen frozen?

- Collected semen is processed and analyzed
- Once the concentration of the semen calculated, a required amount of 'freezing extender' is added, which dehydrates the cells
- Semen is then drawn up into 0.5ml straws printed with the stallion's name and passport number on
- The straws are cooled on a rack, before being placed into liquid nitrogen vapor
- After 10minutes in vapor, the straws are submerged in liquid nitrogen
- A test straw is then defrosted to check the post-thaw characteristics of the semen
- The number of straws needed per dose of the frozen semen is then calculated

### Post-thaw characteristics of my stallion semen are poor. What does this mean?

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Some stallions unfortunately are 'poor freezers' and their semen does not freeze well. As yet, scientists do not understand the reasons behind this. In the first instance, we will try to use different extenders and different cryoprotectants in order to find the combination that works best for your stallion.

### How long can it be stored for?

Technically it should be possible to store indefinitely. Studies show there is some degeneration after 20+ years.

### What are the costs of storing semen?

Depends on how much semen is stored, and also on the fertility characteristics of the semen. Give our Office team a call to help provide you with a more accurate quote depending on your requirements.

### How much semen can I store from my stallion?

Entirely up to you! In a working stallion, owners often like to store a small amount in case of injury or unforeseen circumstances. If stallions are about to be castrated or unable to cover, a higher number of doses are often frozen.

### How can I sell frozen semen?

You will need a nomination contract and decide on pricing;  
- cost per dose, per straw or per pregnancy?

You will also need a declaration by the inseminating vet to ensure correct mare inseminated, and correct number of straws used. Organization of transport and shipping containers are also an important consideration.

### What is the difference between the number of doses and the number of straws in a dose?

Semen is usually frozen at a concentration of  $400 \times 10^6$  per ml. A dose is the necessary number of semen moving in a forward progressive manner in order to give the highest likelihood that the mare will get pregnant. A usual dose is between  $300-500 \times 10^6$  sperm cells. Hence the number of straws needed per dose depends upon the concentration that the semen was frozen at in the first place and on the motility of the sperm post-thaw. We tend to recommend not reducing the number of straws needed per dose from the number suggested by the centre that froze the semen, but are willing to do so on writing instruction from the owner of the semen.

### Export of Semen & Associated Requirements

To export semen within the EU or globally the stallion has to undergo testing for venereal disease and meet certain quarantine conditions. Different sampling regimes exist depending on the country of destination and whether the stallion is resident in the collection centre or not. The cost of sampling and maintaining stallions with high health status' also need to be considered.

### Marketing of Stallions

We are happy to advertise any stallion standing at Equibreed UK free of charge on our website and Facebook page. Any further marketing of specific stallions needs to be addressed by the stallion owner.

### Common Questions

#### My stallion has always covered naturally in the past. Can we collect from him?

Maybe! Most stallions can be persuaded to collect on a dummy (or on the back of a mare if necessary). In a minority of cases, they will not, and dislike the feeling of the AV intensely.

#### I would like to provide both natural cover and AI to mare owners. Is this possible?

We recommend that if stallions are being collected to send shipped semen that they do not also cover naturally. Some stallions do cope with doing both, but the majority become increasingly reluctant to be collected when also covering naturally. This leads to a difficult situation when mare owners have ordered semen and the team is unable to collect from him. We recommend that you talk to one of our veterinarians before making a decision.

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#### My stallion is unable to jump onto a mount

It is possible to teach stallions to collect on the ground, some are quick to learn and do not have a problem.

#### I would like to compete my stallion and also breed from him.

There are various ways to organize this, either;-

- Collect and freeze semen before the start of the competition season
- Allow him to be collected whilst competing at the same time (dependent upon stallion temperament & discipline, best to publish dates in advance of possible situation when he may not be available)
- Determine which months the stallion is able to jump outside of competition season

#### How much notice do I need to give the collection centre in order to organize a collection?

We need to know by 5pm the day before you need the stallion collected.

#### How old does my stallion need to be before I can start collection from him?

Colts can be collected from at the age of 2, but are often not reproductively mature until the age of 3 or 4. Hence if the goal is to store frozen semen, it is preferable to wait until their sperm characteristics improve.

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