



EXCELLENCE IN EQUINE NUTRITION

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Horse Sense, in association with



Top tips for inseminating your mare

Choosing the right lubricant is crucial. Non-spermicidal lubricants are the obvious choice, but even within this cohort some are better than others.

Contrary to common practice, a recent study looking into the effect of different lubricants on equine sperm quality showed that KY Jelly was the most detrimental to equine sperm quality.

In light of the Covid-19 pandemic, we estimated that exported/imported chilled semen was delayed in transit 25% of the time throughout the 2020 breeding season. We estimate that under normal circumstances, it is delayed in transit 10-15% of the time.

Where possible, we encourage you to have a backup dose of frozen semen. Should the chilled semen not arrive in a timely fashion following ovulation induction, you have an alternative which will avoid missing the mare's cycle. Stallion AI Services has a depot in Cork which promises same day delivery of frozen semen should you need it.

Finally, the WBFSH suggests that semen from each dose is assessed at insemination. Your veterinarian should be able to correctly assess semen under a microscope with heated slides and preferably a heated stage. If something has affected the semen's viability during transport, then this will normally be detected at the post insemination check.

In summary, adhering to the guidelines set out by the WBFSH, such as paying attention to the relevant paperwork, not splitting semen doses and implementing best practice procedures will inevitably gain you better pregnancy rates more rapidly during the season.

The initial perceived additional costs associated with best practice will be more economical overall by providing better conception rates over fewer cycles. Finally, particularly in the current climate, ignore basic biosecurity at your own peril!

Calculating the total number of progressively motile sperm

An example dose of frozen semen comprises of eight 0.5 ml straws.

- The concentration provided on each straw is 200 million per ml.
- The pre-freeze total concentration of the dose is therefore 800 million sperm in total.
- The percentage motility in the dose at the time of insemination is 35% (deduced via microscopy or the iSperm).
- The dose therefore contains 280 million PMS at the time of insemination.

We now know that this dose fits the industry standard.

Should you choose to split this dose (into two doses of four 0.5 ml straws), you will then have two doses containing less than 250 million PMS, the industry standard. This may well impact your pregnancy rates.

Some stallions freeze exceptionally



well, and their post thaw results reflect this.

It may be possible to use less frozen semen than the original recommended dose for these stallions, however this should only be done once the stallion has proven pregnancy results using the industry standard of 250 million PMS.

In these cases, the dose size is often modified at the processing/shipping centre before it arrives to you.

The take home message is don't split your doses, you probably have the optimal minimum dose already and splitting doses will only reduce pregnancy rates.

Why is accompanying paperwork so important?

Semen being transported between European countries must be collected at an EU approved centre and must be shipped with specific paperwork. This paperwork allows for traceability and shows that the stallion has been tested for sexually transmitted diseases (STDs) in an ultimately biosecure environment.

The STDs of concern are CEM, EVA and EIA:

1. Contagious equine metritis (CEM): CEM is caused by three organisms;

Taylorella, Klebsiella and Pseudomonas. The CEM organism Taylorella caused massive losses to the breeding industry in the UK and Ireland in 1977. Infected stallions do not usually show clinical signs but infection in mares can cause endometritis and infertility. It can be transmitted via mating, teasing, contaminated equipment and artificial breeding.

2. Equine viral arteritis (EVA): EVA is spread via the respiratory route and via insemination of semen from shedding stallions. The fertility of the shedder stallion will not be affected, but the mares he infects are at risk of abortion. It can survive in chilled and frozen semen and is unaffected by antibiotics added during processing.

3. Equine infectious anaemia (EIA): is spread by insects, blood and contaminated objects. Ireland experienced a severe outbreak in 2006. EIA can cause severe illness as well as abortion in pregnant mares.

These diseases are not only sexually transmitted but employ a variety of other modes of transmission, highlighting the importance of biosecurity when collecting and processing semen. To qualify a stallion's semen for ex-

port, the stallion must pass a sequence of STD tests including CEM at four sites, EVA and EIA.

The testing protocol chosen will depend upon factors such as the residency status of the stallion and whether his semen is destined to be frozen or chilled for export.

All testing protocols are performed under regulated bio-secure conditions. Semen transported between Ireland and the UK is not exempt from these processes and must be accompanied by the relevant paperwork.

Why do I need this paperwork when I have been told that the stallion is STD free?

Firstly, it is illegal to inseminate EU/internationally sourced semen without the correct paperwork. Without the correct approval paperwork, you don't truly know the disease status of the sample and this could seriously compromise your stud and the fertility of your mares. At this time, biosecurity is the biggest threat to our industry.

EVA appeared in the UK in 2019, for the first time since 1996, while an EVA outbreak caused an enormous and devastating abortion storm in Germany in 2020.

Pseudomonas is more regularly found in breeding stock while EIA is endemic in some European countries.

Taylorella is endemic in the non-thoroughbred population in mainland Europe. It was transmitted by an imported stallion in the UK in 2002 and isolated in another in 2005. This justifies the protocols which are only guaranteed at approved EU collection centres. Qualifying semen must be accompanied by the correct paperwork.

Although semen transported domestically for artificial breeding purposes is not required to have the same accreditation, it remains desirable that the stallion has a full STD check at least at the start of the season. If he is also covering mares naturally, he should be checked much more regularly, as should his visiting mares.



The WBFSH suggests that semen from each dose is assessed at insemination

Biography

Tullis Matson has over 30 years of experience in the field of stallion management. He regularly visits clients in Ireland to advise on how to optimise stallion fertility. He runs one of Europe's most successful EU/international accredited equine semen collection, processing and shipping centres: Stallion AI Services. Recently, it opened a storage centre in Cork to continue providing an excellent service to clients in Ireland, especially in the face of Covid-19 and Brexit.

Dr Susan Salter is an equine veterinarian who specialises in reproduction. She has extensive experience in the breeding industry, having completed numerous breeding seasons in Ireland, the UK and Australia. She has held resident vet positions on farms including Australia's largest artificial breeding centre and thoroughbred farms standing stallions such as Zoustar and Cable Bay.