

GUIDELINES
ON ARTIFICIAL
INSEMINATION (AI)

Introduction

These guidelines supplement the information contained in the Code of Practice for each specific disease. Please refer to the disease Code for detailed advice and use this section for additional recommendations specific to AI in horse breeding.

All veterinary practitioners and horse breeders who use artificial reproductive techniques are recommended to read the British Equine Veterinary Association (BEVA) Guide to the use of Artificial Insemination in Horse Breeding for further practical advice and information (www.beva.org.uk).

Checklist for the use of artificially inseminated semen

All of the bacterial and viral venereal diseases which may be transmitted during natural mating can also be transmitted in artificially inseminated semen, be it fresh, chilled or frozen. Owing to the large number of mares that can be inseminated by an infected stallion and the fact that the diseases are endemic in many countries from which semen may be imported, the potential for disease transmission via the use of artificially inseminated semen is significant. It is therefore essential that all semen is accompanied by certification provided by the sender confirming the disease free status of the stallion at the time of collection. It is also essential that no semen is artificially inseminated unless the person performing the insemination can verify the following:

I. For semen originating within the UK (fresh, chilled or frozen)

A. Each dose of semen must be clearly labelled with:

- i. The name of the stallion;
- ii. The time and date on which the semen was collected;
- iii. The insemination dose per mare;
- iv. The progressive motility of the semen;
- v. The concentration of the (extended) semen.

B. Each dose of semen must be accompanied by a certificate available to download at www.beva.org.uk, stating that:

- i. The stallion has been tested for the CEMO, *Klebsiella pneumoniae* capsule types 1, 2 and 5, *Pseudomonas aeruginosa* and equine infectious anaemia according to the current HBLB Code of Practice, with negative results after 1st January of the current year.
- ii. The stallion has *either* been tested seronegative for Equine Arteritis Virus according to the current HBLB Code of Practice after 1st January of the current year or has been vaccinated against EVA having been tested seronegative prior to vaccination or has been tested seropositive, is not vaccinated against EVA but has been proven by virus isolation test not to be shedding the Equine Arteritis Virus in his semen.

II. For semen originating outside the UK (fresh, chilled or frozen)

A. Each dose of semen must be clearly labelled with:

- i. The name of the stallion;
- ii. The time and date on which the semen was collected;
- iii. The insemination dose per mare;
- iv. The progressive motility of the semen;
- v. The concentration of the (extended) semen.

B. Each and every consignment of semen being imported into the UK from within the EU must be accompanied by a completed intra-community trade certificate (INTRA), specifying the name of the stallion whose semen the certificate relates to and by an **original, valid health certificate** issued in the country of origin.

C. Each and every consignment of semen being imported into the UK from outside the EU must be accompanied by a completed Common Veterinary Entry Document (CVEDA) and by an **original, valid health certificate** issued in the country of origin.

D. It is an option to have a shipment of chilled semen tested by PCR if there is any doubt about its status. Laboratories registered for testing by PCR are listed at www.beva.org.uk. This does not substitute for the correct paperwork accompanying the shipment, which will still be required.

Use of artificial insemination is not permitted where the progeny is to be registered with the Weatherbys General Stud Book. However, disease spread via AI has the potential to impact on Thoroughbred breeding operations through Thoroughbred/non-Thoroughbred cross breeding.

Full details of the legal requirements for equine semen imported into the UK are available at: <http://archive.defra.gov.uk/foodfarm/animaltrade/imports/iins/genetic/genetic-a11.htm>

Biosecurity protocols for AI/semen collection

Stallions

Collection of semen

1. When collecting semen, the stallion handler, the person in charge of collecting from the stallion and anyone else in the area (for example someone holding a teaser mare) should be suitably clothed including secure shoes/boots, a hard hat, back protector and clothes that cover the arms and the legs. Footwear must be readily disinfected.
2. Stallions must have proof of negative testing for infectious disease (CEM, EVA and EIA) according to the HBLB Codes of Practice prior to

mounting the phantom mare. If semen is to be exported, you must ensure that you are aware of and conform to the import requirements for the countries concerned with respect to collection facilities and health testing.

3. Stallions should demonstrate that they have no evidence of clinical disease prior to collection.
4. The entire phantom mare and surrounding collection area, including the floor area, must have the ability to be fully disinfected between stallions. The dummy must be disinfected between stallions.
5. A clean, sterilised artificial vagina (AV) should be used for each collection. Ideally, each stallion should have its own AV and lubricant. Separate AVs should be used for collection of semen for UK distribution and for collection for EU/worldwide export. See British Equine Veterinary Association Guide to the use of Artificial Insemination in Horse Breeding for more details (www.beva.org.uk).
6. Clean, sterilised collection jars should be used during each collection process.
7. DEFRA has a list of minimum requirements for DEFRA approved semen collection centres. This status is essential if semen is to be collected for export from the UK. Information on EU trade is at: <https://www.gov.uk/government/publications/livestock-and-equine-semen-collection-approved-premises>

Semen handling

1. Semen should be handled carefully to reduce external contamination.
2. Gloves, and clean clothing/lab coat should be worn when handling semen.
3. Extenders added to semen should be from a reputable manufacturer and should be used within the 'use by' date of the product.
4. Semen extender ingredients must comply with international regulations if semen is to be shipped internationally.
5. If semen is to be shipped outside the UK, then a separate handling area and a separate AV preparation/cleaning area to the main collection area is required and these areas must be in separate air spaces.

Semen processing

1. All equipment used in the processing of semen must be easily cleaned and disinfected between semen samples to prevent lateral spread of disease.
2. All stored samples or samples for transport must be sealed in a manner, which will prevent contamination and spillage.

3. Processing of all semen samples must be documented and such documents must be included in all transported samples.
4. A log of semen processing, storage and transport should be kept to ensure quality control.
5. Semen for export must not be processed in the same laboratory at the same time that non-export semen is being processed and must be processed prior to non export semen.
6. For international export, all stored semen must comply with the import regulations of the country of destination and original health papers must accompany the shipment.
7. Semen stored for export must be stored in a separate room to that being stored for UK distribution.

Mares

Preparation of mares

1. Every mare should be tested for CEMO according to the recommendations of the HBLB Code of Practice before being inseminated.
2. It is recommended that mare and stud owners familiarise themselves with the HBLB Codes for EVA and EIA and discuss any testing requirements with their veterinary surgeon.
3. The mare must be well restrained, preferably in stocks.
4. The vulva and perineum should be thoroughly cleaned to prevent contamination and the tail bandaged.
5. All relevant paperwork of semen to be checked including ORIGINAL health papers if from outside the UK.
6. All semen samples must have proof of negative testing for infectious disease according to the HBLB Codes of Practice as a minimum requirement.

Insemination of mares

1. Use sterile/unused disposable rectal gloves to reduce contamination.
2. When handling semen, be careful not to contaminate hands or facilities with semen.
3. If using frozen semen, care should be used when handling liquid nitrogen. Gloves and eye protection should always be worn when handling liquid nitrogen, as well as a long sleeve top to protect arms.
4. Keep all containers upright to avoid spillage.
5. Wear gloves and use appropriate forceps to handle frozen semen straws.

6. Use fresh water in clean receptacle to thaw straws.
7. Use clean paper towel to dry straws and minimise risk of contamination.

All equipment should be cleaned and disinfected or disposed of after each use.

Further reading

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