

## Natural Service or Artificial Insemination

Advances in reproductive technology over the past decade have greatly improved Artificial Insemination (AI) pregnancy rates. It is now practised widely throughout the UK in many different breeds, the most notable exception being the racing

Thoroughbred (TB). Natural service remains the best option in some situations, though, depending on the type of mare, and has proved successful since Eohippus roamed the earth 50 million years ago!



### Artificial Insemination

#### Advantages:

- much wider choice of stallion, including those standing abroad;
- less risk of introducing infection to mare or stallion;
- improved pregnancy rates with some problem mares;
- reduced travelling for mare and foal;
- safer for the mare, stallion and handlers.

#### Disadvantages:

- closer monitoring of the mare's cycle by ultrasound scanning is necessary;
- extra veterinary, collection and transport costs;
- not accepted by the racing TB breeding industry;
- fees for AI normally cover a fixed number of doses of semen and do not guarantee a pregnancy;
- some stallion semen is unsuitable for chilling or freezing;
- frozen semen is associated with slightly lower pregnancy rates, so may not be suitable in mares with reduced fertility.



### Semen options

**Fresh semen** The mare and stallion are resident at the same premises and semen is transferred to the mare shortly after collection.

**Chilled semen** For UK based mares this is only practical when stallions reside in the UK or some parts of mainland Europe. Semen is collected, extended, chilled, and delivered within 24 hours of collection.

**Frozen semen** may be obtained from stallions standing anywhere in the world. The semen is concentrated and preserved in straws, virtually indefinitely, stored in liquid nitrogen.

### KEY POINTS

- A pre-breeding assessment will indicate which breeding methods are most suitable for a particular mare.
- AI has the benefits of wider stallion choice and reduced risk of injury and infection for the mare and stallion.
- Natural service is the most cost effective option if a suitable stallion is available locally and is associated with good pregnancy rates for most mares.
- Pregnancy rates are around 60% for natural service, chilled and fresh semen AI.
- Pregnancy rates are slightly lower (40-50%) with frozen semen AI.

### Natural service

#### Advantages:

- cost effective and good pregnancy rates;
- stud fees are often on a “no foal – free return” basis.

#### Disadvantages:

- mares with young foals need to travel and be resident at the stud often turned out in groups;
- not offered by all stallions due to injury risk;
- increased risk of injury to stallion, mare and handlers.



### Choosing the right option

Most mares are suitable for AI with chilled semen, but frozen semen is unlikely to be suitable for mares over 15 years of age, those being bred on the foal heat or mares with a history of reduced fertility. Once a stallion is selected, check whether chilled or frozen semen is available and discuss the suitability of your mare with your vet following a pre-breeding assessment.

Chilled AI may be carried out on your own premises, although if stabling is available at your veterinary practice, this may be more convenient and cost effective. Due to the need for frequent scans when frozen semen is used, it is almost essential that mares are resident at a clinic for this procedure. For natural service the mare will travel to the stud and may need to be resident there.

### Costs of AI

It is generally more expensive to breed a mare using AI rather than natural service due to the intensive labour involved. The following costs should be considered:

- cost of the semen itself;
- charge made by the stud for collecting and processing the semen;
- transportation costs (including hire of Equitainer or dry shipper, liquid nitrogen tank for frozen semen);
- veterinary costs, including scanning, lab tests, drugs and other treatments;
- livery at clinic or veterinary call-out charge.

### Pregnancy rates

The pregnancy rates using natural service and fresh or chilled semen in young healthy mares are around 60%. Frozen semen pregnancy rates are slightly lower (40-50%).

It is important to note that about 40% of young healthy mares bred naturally or using fresh/chilled semen AI, or 50-60% using frozen semen, will not get into foal on the first cycle. Two or more cycles may be needed and some of the costs listed above will then be repeated for each cycle. A few mares may remain barren despite all efforts.



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