

BREEDING**Semen Storage and Handling**

Semen should be stored at a constant temperature of 17°C +/- 2°C to maintain semen viability and maximise shelf life. Semen is extremely temperature sensitive: shelf life is shortened at temperatures above 20°C; while temperatures below 15°C are likely to reduce sperm viability. Semen doses should always be treated carefully to prevent damage from rough handling and protected from exposure to light.

Storing and handling semen correctly at all times will help to improve reproductive performance.

Equipment/info required

- Temperature controlled cabinet**
- Min/max thermometers**
- Temperature records**
- Semen doses inventory**
- Portable temperature controlled box or insulated container (with gel packs) for transfer to service area**

Checklist for appropriate storage

- A specialist temperature controlled cabinet (TC cabinet) to store all semen doses within the required range (17°C +/- 2°C)
- The TC cabinet should be located where it can operate effectively and where it will not be exposed to temperature extremes
- The TC cabinet must have sufficient capacity to hold all the semen doses placed horizontally, ie flat. (Semen doses should be placed horizontally to ensure maximum contact between sperm and the diluent in which it is preserved, in order to prolong the viability of the sperm)
- The semen doses should be placed in the TC cabinet within plastic trays which will allow air to circulate around the semen doses and help to maintain the recommended temperature
- Ensure that all batches are organised logically in the TC cabinet and are clearly identifiable, ie by type and "use by" date
- Place the semen doses horizontally ie flat in the trays in the TC cabinet
- Different coloured trays can be used to store semen doses delivered on different dates and to give a quick visual indication of semen to be used first
- Do not exceed the capacity of the TC cabinet
- Ensure that the door or lid of the TC cabinet is securely closed at all times, in between putting in or removing doses
- Gently rotate or agitate stored semen doses twice a day to help to keep the semen suspended in the protective diluent and maximise sperm viability

Outline of the work – storage

- Arrange for the semen to be delivered directly into the TC cabinet or into an appropriate thermal area
- Contact your semen supplier if you are concerned about the semen temperature at delivery
- Log all deliveries in the semen doses inventory, recording the delivery date, type (if more than one type is used), quantity, shelf life for each batch ("use by" date)
- Complete the semen inventory on a daily basis to record doses used or thrown away
- Remove any semen doses which have exceeded the use by date
- Monitor how much semen is being used towards the end of its shelf life, or not used at all and wasted. Re-organise deliveries to coincide with peak usage if this is not already the case



Do not exceed the capacity of the cabinet or obstruct the fan



Use a temperature controlled, portable, semen storage box to store semen doses in the service area.

Outline of the work- temperature

Use a good quality min/max thermometer to monitor the temperature of the TC cabinet

- Keep the min/max thermometer in the TC cabinet on an ongoing basis
- Check and record the temperature within the TC cabinet on at least a daily basis
- Take remedial action to reset the thermostat, repair or replace the TC cabinet if the temperature fluctuates above or below 17°C +/- 2°C
- Preferably discard any semen that has been stored outside this temperature range if you are in a position to do so. If it is essential that you must use it be aware that the viability may have been adversely affected and note this in the service book

Outline of the work – usage

- Restrict the number of doses of semen taken out of the TC cabinet at any one time for use, to reduce the risk of unnecessary and prolonged exposure of semen to temperature fluctuations and avoid the need to return unused and potentially damaged semen to storage
- Check the labels and only use semen within its specified shelf life
- Always use a temperature controlled box or insulated container to take the semen doses to the service area
- If an insulated container (rather than a temperature controlled box) is used to transfer the semen doses to the service area use gel packs (which have been stored in the TC cabinet) to buffer the ambient temperatures within the insulated container
- Monitor the temperature levels in the temperature controlled box or insulated container to ensure that the air temperature is within the acceptable range of 17°C +/- 2°C

- Only remove semen doses from the box or container as they are required for actual insemination
- Replace the lid of the box or container promptly and securely after taking out any semen doses, to protect the remainder from temperature fluctuations and exposure to light
- Only return unused semen doses to the TC cabinet that have not been compromised by either fluctuating temperatures, rough handling or exposure to light
- Clearly identify any semen doses subsequently returned from the service area to the TC cabinet in the semen inventory

Other

- Ensure that the TC cabinet, and temperature controlled box or insulated container are in good condition, well maintained and regularly cleaned

Further information

For more help or advice contact your regional KT manager.

Telephone 0247 647 8794 or email kt@bpex.org.uk