

Semen Storage

By: George Heersche, Jr., Ph.D.

COOPERATIVE
EXTENSION
SERVICE



All major A.I. firms will deliver frozen sire semen to your farm which has been handled and stored properly. Frozen semen is alive and will only stay alive if it is stored properly. Once the semen is in the farm liquid nitrogen refrigerator the dairy farmer must take responsibility for proper storage and handling.

The most important thing to remember is it must be stored in liquid nitrogen which is -320 degrees F or liquid nitrogen vapor which is -290 degrees F. Semen can be "warmed" to -100 degrees F without causing cellular injury. When one straw is being removed from the storage tank caution must be taken to keep the other straws in the canister as far down in the neck of the tank as possible and limit the amount of time in the neck to a few seconds. Three inches down in the neck is still below -100 degrees F.

The rest of the safe storage story is about proper care of the liquid nitrogen refrigerator. Here are a few things to keep in mind:

- Store your tank in a clean dry location where it can be seen every day. Do not set the tank directly on concrete or where it can be bumped. If it starts to frost on the outside, it has lost vacuum and quick action must be taken to save the contents.
- Routinely check the liquid nitrogen level to make sure the level is not dropping faster than normal which would indicate a tank problem. Also keep track of when your tank should be filled and make sure that has been done.
- If the tank must be moved, handle it very carefully. It is constricted like a vacuum bottle and all of weight of the semen and liquid nitrogen are supported by the very thin neck tube. Do not set the tank on the edge of the bottom as this might crack the supporting neck of the glass liner. When setting the tank down make sure the bottom of the tank is perpendicular to the floor and then gently set it down.