



ON FARM LIQUID NITROGEN UNIT MANAGEMENT

Liquid Nitrogen is a dangerous good and needs to be handled and stored carefully.

Your unit has a MSDS attached (material safety data sheet). You should take the time to read it. If you are not able to locate the MSDS please contact CRV Ambreed Customer Services on 0800 262 733.

As the customer, you are responsible for managing this unit on your farm.

While designed to be sturdy and dependable, liquid nitrogen units are a little more fragile than they appear. They require regular care and attention to ensure they function properly for many years. Failure to do so can lead to lost inventory, or reduced pregnancy rates because semen quality is compromised.

Checking the Liquid Nitrogen Level

- Monitor the liquid nitrogen level every week. There is a dipstick in the bag with the Material Safety Data Sheet. Insert the dipstick for 5 seconds, remove and then wave it till you see a frost line on the dipstick. Close the unit as soon as possible.
- Failing units can happen slowly or quickly. If your unit's nitrogen level falls below 10 centimeters, please contact your rep asap. Regular monitoring of nitrogen levels important.
- How often you open your unit will affect the level of liquid nitrogen in your unit. If your unit is used quite frequently, check your unit level more regularly and expect a shorter holding time.

Where to store the unit

- Store your unit in a well-lit, clean, well ventilated and dry environment with easy access, so you can keep an eye on it, even when not extracting straws from the unit
- Do not store in the milking shed or anywhere with high moisture levels and the use of sanitation chemicals, chlorine or solvent fumes such as petrol. These will cause corrosion, lead to unit failure and interfere with the semen quality
- Use a wooden pallet or a couple of 4x2 boards to raise your unit off the floor

Units Are Best Kept Still

- Avoid moving your unit unless necessary. Any time you move it you risk damage to key unit components, especially the neck tube.
- Always pick up the unit with both hands and set it down carefully and squarely. Ensure your unit remains upright always and is not tipped sideways.

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- Never tap the unit on its neck to extract straws that may be trapped on the bottom. The neck tube is made of fiberglass and is the only part of the inner unit that comes in contact with the rest of the unit and the outer environment and is fragile
- Stress to the neck may lead to hairline cracks or microscopic pinholes or break the tube. This can cause loss of **unit vacuum and insulating capacity**
- Cracks or pinholes can be extremely small and not visible to the naked eye. Your only clue may be frosting on the outside of the unit near the top. These leaks can allow liquid nitrogen to escape in a few hours, or more slowly, but there is no way for you to know which is going to happen. Either way, you need to move your inventory to an undamaged unit as soon as possible if frosting has occurred

Frost is bad

- If you notice frost on your unit contact your rep immediately. Frost is one of the key external warning signs prior to unit failure. A properly functioning unit will not develop frost on the outside.
- Frost buildup around the outside top of your unit, particularly around the neck, indicates a vacuum loss and results in rapid volatilization of the liquid nitrogen. Semen quality can be compromised under these circumstances.
- Keep in mind that this frosting usually happens quickly and doesn't last too long because the liquid nitrogen has escaped. Some situations may last longer than others, but all require vigilance on your part. When humidity levels are low, you may not notice any frosting, even though the unit has failed. Other signs your unit may have failed are no vapour when you open the unit, and the unit feels lighter than usual when lifted.
- Keep your unit as dust- and dirt-free as possible. It will be easier to notice frosting on a clean unit.

Cork seal care

- A shiny cork should be replaced as soon as possible. Poor cork integrity significantly increases the boil off or evaporation rate of liquid nitrogen. You can tell when your cork has been used too long when it becomes shiny.
- Only remove the cork when removing semen from the unit and immediately replace the cork when you're done. Exposing an open unit to the environment and wind can multiply the boil-off rate by up to 8 times the normal amount.
- Do not let water get into the unit and ensure the cork is dry before placing it in the unit. This will avoid the cork icing and causing an explosion.

Return Units Clean

- Please ensure your unit is returned clean. This can be done by using a scrubbing brush with warm water and mild detergent to clean the outside of the unit to ensure any dirt is removed. If the unit is completely empty also wipe under the cap and inside the neck with a clean cloth.
- The units should not be water blasted or hosed.
- Please note charges will apply for units returned with visible contamination

If you have any questions or concerns, please contact CRV Ambreed Customer Services on 0800 262 733

In case of emergency contact 111.

