



Name of Solution:

CIRG-Dyl: A ready to use semen dilutor and preservation medium for fresh and cooled goat semen

Submitter: ICAR

Solution Overview:

CIRG-Dyl is a ready-to-use, Tris-based semen dilutor developed by ICAR-Central Institute for Research on Goat. It is designed for the dilution and preservation of fresh and cooled goat semen for Artificial Insemination (AI). It maintains functional parameters of goat semen for up to 3 days, and with 20% egg yolk, for up to 5 days at refrigeration temperature.

Key Features & Benefits:

- Ready-to-use goat semen dilutor.
- Tris-based dilutor containing Tris, Citric acid, fructose, and antibiotics.
- Maintains functional parameters of goat semen, including post-chilled semen.
- Preserves sperm to enable fertilization for up to 3 days.
- Addition of 20% egg yolk extends keeping quality up to 5 days at refrigeration temperature.
- Maintains and preserves sperm metabolic processes.
- Controls pH (at 6.8-7.2), provides energy, and prevents bacterial contamination.
- Reduces cryogenic damage.
- Can be stored at room temperature and used within two months of manufacture.
- Enables use in AI, in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), and research studies.
- Provides an inexpensive and practical alternative to frozen semen for field AI.
- Improves reproductive efficiency and economic profit in the goat industry.

Where It Works and Where It Can Work:

- **Existing:** Developed and used by ICAR-CIRG, Mathura, U.P..
- **Potential:** Widely applicable in goat breeding centers, research institutes, and by AI practitioners for enhancing goat reproductive programs, especially in rural areas where access to cryopreservation is limited.

Evidence & Impact:

Key Outcomes:

- Maintains pH at 6.8-7.2.
- Keeping quality of diluted semen is 24 hours at refrigeration temperature, extending to 5 days with 20% egg yolk.

Scalability & Adoption Support:

- **Low-cost:** Liquid semen storage is less expensive and more practical for field conditions than frozen semen.
- **Adaptable:** Reduces the need for expensive tools and highly trained personnel required for frozen semen AI.
- **Partner-ready:** Suitable for commercial production and distribution to veterinary services and livestock farmers.

Partners & Contact Info: *Who's involved and how to connect? List of key contact and partners + email / phone.*

Contact Info:

Dr. Raghavendra Bhatta: Deputy Director General (Animal Science) Division of Animal Science, Krishi Bhavan, New Delhi - 110 001, INDIA
Phone: +91-11-23381119,

Email id: ddgas.icar@nic.in

