

Sample Collection Guide for Bovine *Campylobacter* sp. and *Tritrichomonas* sp. Testing

Tritrichomonas sp. and *Campylobacter* sp. are sexually transmitted diseases which have a profound impact on cattle. *Tritrichomonas foetus* leads to Bovine Trichomoniasis, resulting in infertility, spontaneous abortions, and pyometra, with bulls often being asymptomatic carriers. *Campylobacter foetus* leads to Vibriosis, causing Bovine Genital *Campylobacteriosis*, similarly induces infertility, early embryonic death, and occasional abortions, transmitted during breeding with bulls as carriers. Both diseases disrupt herd productivity and breeding programs, necessitating regular diagnostic testing, culling of infected animals, and stringent biosecurity measures to manage and prevent spread.

Materials Required per Animal

- *Campylobacter* Culture Kit (each kit containing the following)
 - 1x *Campylobacter* Enrichment Media (CETM) (Stored 5°C +/- 3°C)
- Tricamper™ Culture Kit (each kit containing the following)
 - 1x *Trichomonas* medium (TFEM) (Stored 5°C +/- 3°C)
- 1x Tricamper™ sampling tool



- Sterile Water
- 3ml Phosphate Buffer Solution (PBS) in 5ml yellow cap screw top universal containers
- Sterile pipettes or syringes

Preparation of Prepuce or Vulva

The area around the preputial orifice and vulva should be cleaned with warm sterile water to remove any dirt, debris, or contaminants. Pat the area dry with sterile gauze or clean towel to remove any contaminants or moisture capable of contaminating or diluting the sample.

**N.b. It is important to minimise contamination of debris in sample by also clipping/trimming the hair around the preputial orifice or vulva. Do not wash with disinfectants or dirty water as it may impact diagnostic testing sensitivity.*

Sampling Collection ([Link Available Here](#))

***N.b. the video link shows wet and dry method. VLS recommends the dry method.*

Dry Collection Sampling Procedure

Bulls

1. Allow enrichment media to come up to room temperature before adding sample.
2. Whilst holding the anterior sheath with one hand, using a fresh Tricamper™, insert the into the prepuce with the end adjacent to the penis.
3. Move the Tricamper™ back and forth so that it scrapes across the preputial mucosa of the penis.
4. Block the end of the Tricamper™ with a finger to prevent any collected material to suction out and remove the Tricamper™ from the prepuce.
5. Hold the Tricamper™ horizontally and insert the tip of the Tricamper™ into the PBS container. Cut off the place tip of the Tricamper™ and agitate the tip in the solution to ensure all collected samples is mixed thoroughly in the solution.
6. Leave PBS for 1 minute then remove Tricamper™ and discard.
7. Using a sterile pipette or syringe add ~1ml of sample PBS into CETM and ~0.5-1ml of sample into TFEM.
8. Close and invert media gently.
9. Secure lid tightly and send samples to laboratory within 24-72 hours. Delays in sending samples to laboratory reduce the sensitivity of the test and the ability to recover the sample. The laboratory may choose to request a resubmission of the sample should the sample quality be compromised or unacceptable.

Cows

1. Allow enrichment media to come up to room temperature before adding sample.
2. Open the vulva with one hand, using a fresh Tricamper™, insert the tip into in a dorso-cranial direction with the leading edge in contact with the dorsal vagina.
3. Once there is no risk of entering the urethra, push the edge of the Tricamper™ until it hits the cervix.
4. Move the Tricamper™ back and forth so that it scrapes across the mucosa of the cervix.
5. Block the end of the Tricamper™ with a finger to prevent any collected material to suction out and remove the Tricamper™ from the cervix.
6. Hold the Tricamper™ horizontally and insert the tip of the Tricamper™ into the PBS container. Cut off the place tip of the Tricamper™ and agitate the tip in the solution to ensure all collected samples is mixed thoroughly in the solution.
7. Leave PBS for 1 minute then remove Tricamper™ and discard.
8. Using a sterile pipette or syringe add ~1ml of sample PBS into CETM and ~0.5-1ml of sample into TFEM.
9. Close and invert media gently.

10. Secure lid tightly and send samples to laboratory within 24 hours. Delays in sending samples to laboratory reduce the sensitivity of the test and the ability to recover the sample. The laboratory may choose to request a resubmission of the sample should the sample quality be compromised or unacceptable.

Transport Requirements

The samples are to be clean and sealed tightly to avoid cross-contamination or leakages during transport. The samples are to be shipped with no ice packs and must remain between 15°C-37°C during the transport. Samples must be labelled correctly with the identical information on both Tritrichomonas and Campylobacter samples for each animal.

****N.b. It is important to remember that the rate of successful culture from C. fetus subsp. venerealis- infected bulls is estimated to be 35-40%, despite the use of Campylobacter enrichment transport media (CETM)1. Therefore, submitters should anticipate a high rate of false-negative results for C. fetus subsp. venerealis culture. In cases when C. fetus subsp. venerealis infection is highly suspected, multiple samplings taken at different time points may be required in order to confirm infection in a bull by a positive culture.*

Reference:

1. Chaban, B., García Guerra, A., Hendrick, S. H., Waldner, C. L., & Hill, J. E. (2013). Isolation rates of Campylobacter fetus subsp venerealis from bovine preputial samples via passive filtration on nonselective medium versus selective medium, with and without transport medium. American Journal of Veterinary Research, 74(8), 1066-1069.
2. Charles Sturt University (2017, April 28). Sampling Processes For Obligate Venereal Pathogens in Cattle (<https://www.youtube.com/watch?v=LUhUkg4jB-8>).

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