

## Collection of milk sample from small ruminants (goats and sheep)

Recommended instructor to student ratio: 1:15

### Category

1. Observation Involving minor interference

### Objective

To collect colostrum or milk sample from lactating small ruminants.

### Alternatives to animal use

A milk sample can only be collected from a lactating doe/ewe. For teaching purposes, photographs or video may be sufficient to explain the technique, but handling of an animal is required if students are to become experienced in application of the technique.

### Equipment

Overalls, Gloves, Collection container, Milking Machine if required, paper towel, clean water, teat antiseptic, cooler with ice or freezer packs.

### Safety and Risk considerations

The dams may be very protective of their lambs/kids.

### Drugs, chemicals or biological agents

Teat dip (antiseptic)

Oxytocin injection may be used in case of poor let down of milk.

### Procedure

- The dam should be milked in safe, stress-free environments. Milking areas should be quiet, peaceful, clean and dry.
- The operator must ensure that the dam/offspring have bonded prior to milking
- During milking the offspring should be kept in a safe environment. If they are left with the dam care should be taken to ensure they do not injure themselves or are injured inadvertently by the dam.
- Operators will have clean hands and wear disposable gloves. The sample tube will be labelled using a waterproof marking pen. The date, the animal ID, and other information needed will be clearly recorded.
- Any loose manure, dirt or bedding particles will be brushed off from the udder and teats. The teats will be pre-dipped with an effective germicidal teat dip and the dip will be left for 30 seconds. (If the udder and teats are extremely dirty, thorough washing and drying will be needed before pre-dipping.)
- Each teat will be wiped dry with a single-use paper or cloth towel, making sure there is no teat dip left behind on the teat, as it will kill the bacteria in the milk sample.
- Milk will be collected from one side of the udder only to ensure some colostrum will remain immediately for the kid, where sampling is conducted on the day of birth.

- One teat will be gently squeezed using fingers. Compression is applied first to the teat where it exits the udder and fingers are moved sequentially towards the end of the teat to effectively move milk down the teat. 3 to 4 streams of milk will be discarded to minimize risk of contamination of the sample with bacteria in the teat canal. After that the milk will be expelled into the container avoiding touching the ends of the teat with hands or container. A 50 ml sample may be collected.
- After collection, the teats will be dipped in a suitable teat dip (antiseptic) to minimise the risk of teat infection.
- Immediately after collection, the sample tube will be put in the ice and then will be transferred to - 20°C freezer and will be kept there until needed for analysis.

## **Impact on wellbeing of animals**

There should be no significant impact on the well-being of the dam or offspring. If the offspring are left with the dams then the operator should confirm that bonding has not been affected, resulting in mismothering/abandonment etc.

## **Animal Care**

No special care is required, other than safe, stress-free environments and gentle stress minimising handling.

## **Pain Relief**

None required

## **Reuse and repeated use**

Samples may be collected from the same doe twice daily for research purposes, throughout lactation. For teaching purposes, a new animal should be used for each sample, with the same animal only collected twice per day, and not more than twice per week.

## **Qualification, experience or training necessary to perform procedure**

Demonstrator: Extensive experience in small ruminant handling and milking. Depending on species and breed the skills required for handling may vary e.g. some breeds of sheep and goat may be less amenable to handling. Some handlers find goats more challenging than sheep.

Experience in small ruminant handling. The technique should be clearly demonstrated before students attempt it.

## **References and relevant links**