13.5 Determination of TCA precipitable nitrogen

TCA precipitable nitrogen is the nitrogen coming from the true protein because by adding trichloroacetic acid, only proteins are precipitated. These precipitated proteins are analyzed further for nitrogen contents by Micro Kjeldahl method.

Procedure

1. Take 5.0 ml rumen liquor in a centrifuge tube.
2. Add 5.0 ml of 20% TCA
3. Leave the tubes overnight.
4. Centrifuge the tubes at 2,000 rpm for 10 min.
5. Transfer the whole precipitate with repeated washings of distilled water in Kjeldahl flask.
6. Proceed for digestion, distillation and titration as described above.

Soluble nitrogen

TCA precipitable nitrogen subtracted from total nitrogen gives soluble nitrogen contents of rumen liquor.

Ammonia nitrogen

In alkaline medium, ammonia is released from the rumen liquor and the released ammonia is analyzed for nitrogen contents by Micro-Kjeldahl method.

Procedure

1. Take 5.0 ml strained rumen liquor in the distillation assembly and 5 ml of 40% NaOH.
2. Proceed for distillation and titration as described above.

Reference: Laboratory manual of animal nutrition. IVRI, Izatnagar, U.P. – 243 122.