

7.1 Determination of moisture

Apparatus

Aluminium moisture cup with lid, hot air oven, metal tongs, desiccator, analytical balance.

Procedure

- Dry aluminium cup in oven at 100°C for 15 to 30 minutes.
- Cool in a desiccator, weigh and record its weight.
- Weigh accurately about 5 g of previously ground sample in an aluminium cup and record its weight.
- Place the cup with sample in hot air oven (Fig. 7.1) maintained at $105 \pm 2^\circ\text{C}$ and dry for at least 2 h.
- Cool in a desiccator and weigh.
- Repeat the process of heating, cooling and weighing until the difference between two successive weighings is less than one mg.



Fig. 7.1 Hot air oven

Calculation

$$100 (M_1 - M_2)$$

$$\text{Moisture, per cent by mass} = \frac{M_1 - M}{M}$$

Where,

M_1 = mass in g of the cup with the material before drying

M_2 = mass in g of the cup with the material after drying and

M = mass in g of the empty cup

Reference: IS 2052-2012, Indian Standards Institution, Specification for compounded feeds for cattle, Fifth revision.