DRY MATTER DETERMINATION

OF FEEDS WITH AN AIR FRYER

The air-fryer drying method for on-farm dry matter (DM) testing of wet feedstuffs like silage or total mixed rations (TMR) is simpler and more repeatable than the traditional microwave drying method.

THE AIR-FRYER METHOD:

1. Tare your scale with the bucket of the air fryer, including the mesh. Use a scale with at least 1 g accuracy, but 0.1 g is preferred.
2. Weigh a **100 g wet (as-is)** feed sample into the bucket.
   - *In the case of grass or oats silage, ensure that the particles do not stick out at the top of the basket and touch the element. Long particles can be given further trimming to improve the way they fit into the bucket.*
3. Set the temperature of the air fryer to **130 °C**.
4. Set the air fryer's timer to **30 minutes**. (Note: For very dry samples, e.g. if the expected DM is >50%, and for fine particles of dry grass, this time can be decreased to 20 mins.)
5. Leave the air fryer in a well-ventilated area to run for the time you have set.
   - *For very wet feed, and especially a dense sample of small particles, e.g. finely cut wet maize silage, you could consider stirring and/or turning the sample halfway through the above timed cycle. Take care not to spill any particles.*
6. At the end of the timed period, weigh the bucket. If 100 g was used, the grams displayed on the scale are the percentage of DM.
7. This concludes the official method, which produces an answer with an accuracy that deviates approximately 2–3% from the real DM.
8. For increased accuracy, run the air fryer for a further 5 minutes:
   - *If the weight is the same, the sample is completely dry.*
   - *If the weight decreases by another 1 or 2 grams, let it run for a further 5 minutes and record the weight again. This produces an answer with an accuracy that deviates by about 1-2% from the actual weight.*
9. Once the weight is stable, you have measured the DM content of the sample successfully.
10. Clean the basket with a brush.

The drier a sample is initially, the sooner the process will be finished; the opposite holds good for very wet samples.

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