A DRYING HOUSE FOR THE RAPID HANDLING OF FORAGE SAMPLES

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In field experiments involving the determination of yields of forage crops one of the difficult problems is to find a method of drying the samples for moisture determination quickly and efficiently. Where facilities are at hand for reducing the samples to a moisture-free basis, this is the most desirable method. However, such facilities are often lacking, since the capacity of the ordinary drying oven is so small that only comparatively few samples can be handled at a time.

Some experiment stations have followed the practise of taking samples at the time of determining the field weights, weighing the samples at that time, and then again after the samples have become thoroughly air dry. From these weights the air-dry yields are calculated. This method is open to the objection that the actual moisture content of the sample, when air dry, may vary somewhat with the humidity of the air.

The use of the actual field weights of forage crops without making corrections on the basis of moisture determinations is very unreliable on account of the varying moisture content of the material being weighed. If the proper time to consider hay as cured is left to the judgment of an individual, the standards are obviously likely to vary between rather wide limits.

The method that was in use at the West Virginia Experiment Station until recently was to take a sample consisting of from 5 to 15 pounds, depending on the material being weighed, at the time that the field weights of the crop were determined. In some experiments the weighings were made immediately after cutting, while in other experiments they were made after the crop was considered sufficiently cured for hay. The sample was placed in a weighed cotton bag and its total weight determined. The bag containing the green or field-cured sample was then hung up in a small drying house where a temperature of as nearly 55°C as possible was maintained with a coal heater. Openings near the floor and an outlet vent provided ventilation. The sample was left in this drying house until it was thoroughly dry, and then it was taken out and hung up in a shed until it had reached a relatively constant weight. The air-dry weight was de-