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Moisture Measurement — Meat and Meat Products



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Corresponds to Moisture Measurement Standards 39.1.02 and 39.1.03 of Association of Official Analytical Chemists; proposed by ASAE Physical Properties of Agricultural Products Committee; approved by the Electric Power and Processing Division Standards Committee; adopted by ASAE March 1972; reconfirmed December 1976; revised editorially and reconfirmed December 1977; reconfirmed December 1982; reconfirmed by the Food and Process Engineering Institute Standards Committee December 1987; reaffirmed December 1992, December 1997, February 2003; revised editorially March 2003; reaffirmed February 2008, December 2012, November 2017.

Keywords: Meat, Moisture

1 Purpose and scope

1.1 This Standard establishes a common procedure for determining the moisture content of meat and meat products to which all other moisture content determination procedures should be correlated, and provides a basis upon which all reported moisture content values can be correlated.

2 Preparation of sample

2.1 To reduce moisture loss during preparation and subsequent handling, the use of small samples is not recommended. Keep ground material in glass or similar containers with air and water tight covers. Prepare samples for analysis in the following manner:

2.1.1 Fresh meats, dried meats, cured meats, smoked meats, etc. Separate as completely as possible from any bone; pass rapidly three times through food chopper with plate openings less than or equal to 3 mm (1/8 in.), mixing thoroughly after each grinding; and begin all determinations promptly. If any delay occurs, chill sample to inhibit decomposition.

2.1.2 Canned meats. Pass entire contents of can through food chopper, continue as described in paragraph 2.1.1.

2.1.3 Sausages. Remove from casings and pass through food chopper, continue as described in paragraph 2.1.1.

3 Moisture content determination

3.1 Drying in vacuum. Dry quantity of sample representing approximately 2g dry material to constant weight at 95 to 100°C under absolute pressure not greater than 13.3 kPa (100 mm Hg) for about 5 hours. Use covered aluminum dish at least 50 mm in diameter and not greater than 40 mm deep. Report loss in weight as moisture. This procedure is not suitable for high fat products such as pork sausage. For these products, use one of the air drying methods.

3.2 Air drying

3.2.1 With lid removed, dry sample representing approximately 2g dry material for 16 to 18 hours at 100 to 102°C in air oven (mechanical convection preferred). Use covered aluminum dish at least 50 mm in diameter and not greater than 40 mm deep. Cover, cool in desiccator and weigh. Report loss in weight as moisture.