

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 937

MEAT AND MEAT PRODUCTS

DETERMINATION OF NITROGEN CONTENT

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 937, *Meat and meat products – Determination of nitrogen content*, was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, the Secretariat of which is held by the Magyar Szabványügyi Hivatal (MSZH).

Work on this question by the Technical Committee led, in 1966, to the adoption of a Draft ISO Recommendation.

In April 1967, this Draft ISO Recommendation (No. 1233) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	Romania
Bulgaria	Iran	South Africa, Rep. of
Colombia	Ireland	Thailand
Czechoslovakia	Israel	Turkey
France	Korea, Rep. of	U.A.R.
Germany	Norway	United Kingdom
Greece	Poland	U.S.S.R.
Hungary	Portugal	Yugoslavia

Two Member Bodies opposed the approval of the Draft :

Netherlands
New Zealand

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1969, to accept it as an ISO RECOMMENDATION.

MEAT AND MEAT PRODUCTS

DETERMINATION OF NITROGEN CONTENT

1. SCOPE

This ISO Recommendation describes a reference method for the determination of the nitrogen content of meat and meat products.*

2. DEFINITION

By *nitrogen content*, is meant the quantity of nitrogen corresponding to the ammonia produced and determined under the conditions described.

3. PRINCIPLE

Digestion of the product with concentrated sulphuric acid, using copper (II) sulphate as a catalyst, to convert organic nitrogen to ammonium ions, addition of alkali, distillation of the liberated ammonia into an excess of boric acid solution; titration with hydrochloric acid to determine the ammonia bound by the boric acid, and calculation of the nitrogen content of the sample from the amount of ammonia produced.

4. REAGENTS

All reagents should be of analytical quality.

Water should be distilled water or water of at least equal purity.

4.1 *Copper (II) sulphate*, ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$).

4.2 *Potassium sulphate*, (K_2SO_4), anhydrous.

4.3 *Sulphuric acid*, $\rho_{20} = 1.84 \text{ g/ml}$.

4.4 *Sodium hydroxide solution*, carbonate-free, containing approximately 33 g of sodium hydroxide (NaOH) per 100 g of solution. Prepare by dissolving 500 g of sodium hydroxide (NaOH) in 1000 ml of water.

4.5 *Boric acid solution*. Dissolve 40 g of boric acid (H_3BO_3) in water and dilute to 1000 ml.

4.6 *Hydrochloric acid*, 0.1 N standard volumetric solution, the normality being recorded to four places of decimals.

* See also ISO Recommendation R . . . , *Agricultural food products – General directives for the determination of nitrogen by the Kjeldahl method* (at present at the stage of a draft proposal).