Application Note 234

Method for Determination of Nitrogen in Meat Samples

Introduction:

The CE440 Elemental Analyzer can perform direct automated elemental analysis of total nitrogen with a minimum of sample preparation.

Sample Preparation

1. Weigh out 100 - 200 grams of meat sample into an aluminum weighing pan. Record the weight.
2. Place the sample in a drying oven at 90°C for 12 hours. For fresh meat a higher temperature and a shorter drying time may be used. As a guideline try 120°C for 7 hours.
3. Re-weigh the sample. The weight difference reflects the dry matter of the sample. Dried weight / original weight x 100 = % dry matter.
4. Grind the dried sample to a 35 mesh size, or a particle size of roughly 0.5 mm
5. Weigh out 1 - 3 mg of the ground sample into a tin capsule. Calibrate the instrument and run the sample as normal.
6. Multiply the % Nitrogen result as determined by the CE440 by the % dry matter to reflect the drying procedure. The initial result will be artificially high due to the moisture being driven off. Therefore Result % x Dry Matter % / 100 = Correct Result.

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