



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

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COMMENTS OF IDF

IDF and ISO TC34/SC5 have drawn attention in CX/MAS 14/35/3 Add.1X that the revised Kjeldahl method ISO 8968-1|IDF 20-1:2014 for the determination of protein in milk and milk products replaces both ISO 8968-1|IDF 20-1:2001 and ISO 8968-2|IDF 20-2:2001, as these methods have been technically revised. It was pointed out that consequently the new ISO/IDF method may no longer be equivalent to AOAC 991.20.

This CRD provides further considerations which hopefully will help CCMAS in its decision decision-making when determining whether the respective ISO/IDF and AOAC methods are equivalent or not.

WHAT ARE THE CHANGES IN THE ISO/IDF METHOD?

The major change in moving from ISO 8968 / IDF 20:2001 (parts 1 & 2) to the revised version published in February 2014 are as follows:

- Extension of the scope of the method, validated by international collaborative studies, from cow whole milk only to include:
 - Cow whole milk and reduced fat milks
 - Goat's and sheep whole milk;
 - Hard, semi-hard and processed cheeses;
 - Dried milk;
 - Dried milk products including:
 - Milk based infant formula;
 - Milk protein concentrate;
 - Whey protein concentrate;
 - Casein and caseinates.
- The requirement to optimise digestion conditions to obtain the maximum recovery of nitrogen with a sample of similar composition to those being tested.
 - Both the previous standard and AOAC 991.20 only include milk in their scope, and optimisation was only required using a high protein / high fat milk sample. It was demonstrated during preliminary work *and* the collaborative study of dried products that conditions that were adequate for milk often were inadequate for other milk products resulting in significant under-recovery of nitrogen in the dried milk products.
- The revised standard allows the use of alternative catalysts and reagent volumes more suited to the automated block digestion systems and analysers which are currently widely used, provided that the digestion parameters are optimised.

WHICH PRODUCTS ARE NOT WITHIN SCOPE OF THE AOAC METHOD?

It would be appropriate for the following products in CODEX standard 234 to reference only ISO 8968-1 / IDF20-1:2014 as they are now within the scope of the ISO/IDF standard but are beyond the scope of AOAC 991.20:

- Infant formula;
- Milk powders and cream powders.
- Edible casein products

- Whey powders;

WHICH PRODUCTS ARE WITHIN SCOPE OF THE AOAC METHOD?

For “Cheese, unripened including fresh cheese” both the revised ISO/IDF and AOAC standards are applicable as the collaborative study data was produced by methods complying with both. However the AOAC standard referenced should be AOAC Official Method 2001.14 ‘Nitrogen (Total) in Cheese’ rather than 991.23 or 991.20 currently referenced as that was the method quoted in the publication of the collaborative study. *Journal of AOAC.*, [85] 2, 2002 p. 445.

WHAT ABOUT PRODUCTS THAT ARE NOT FORMALLY WITHIN SCOPE OF EITHER METHOD?

For the following products that are not formally within the scope of either the ISO/IDF or AOAC standards, it would also be appropriate to reference only the revised ISO/IDF as the requirement to optimise digestion parameters with a sample of similar composition means that results obtained are likely to be more robust than from the AOAC method:

- Reduced fat blend of skimmed milk powder and vegetable fat in powdered form;
- Blend of skimmed milk and vegetable fat in powdered form.

The following products may be considered close enough to the stated scope of “milk” to remain suitable for testing by AOAC 991.20 in addition to ISO 8968-1 / IDF20-1:2014:

- Blend of evaporated skimmed milk and vegetable fat;
- Reduced fat blend of evaporated skimmed milk and vegetable fat;
- Blend of sweetened condensed skimmed milk and vegetable fat;
- Reduced fat blend of sweetened condensed skimmed milk and vegetable fat;
- Cream and prepared creams;
- Evaporated milks;
- Fermented milks;
- Sweetened Condensed Milks.