Grains & Legumes Nutrition Council
Cultivating Good Health

Application to include Rapid Integrated Total Dietary Fibre method in the Australia New Zealand Food Standards Code

Executive Summary

The purpose of this application is to request an amendment to Schedule 11 (S11-4) of the Food Standards Code (Code), 'Methods of analysis for dietary fibre and other fibre content', to permit the total dietary fibre content in a food to be determined in accordance with the Rapid Integrated Total Dietary Fibre Method (RITDF) AOAC Method 2017.16 [1] and ICC standard 184. It is proposed this method is included in addition to the methods currently listed in the Schedule 11. The purpose of the proposed change is to allow more accurate determination of total dietary fibre as defined in the Code in Standard 1.1.2 (and 1.2.8 -4), which will benefit public health, industry and consumers.

The methods currently approved in the Code were the most appropriate methods at the time of changes to the definition of dietary fibre in the Code in 2001. However, an analytical method has since been developed which more accurately measures total dietary fibre as defined in the Code: the RITDF method [1].

As acknowledged in the Food Standards Code, the total dietary fibre content for some foods is overestimated when using the currently accepted methods AOAC 985.29 and 991.43 together with the methods for fructans, polydextrose, and resistant maltodextrins as these fibres are, in part, accounted for twice. For other foods these methods may lead to an overall underestimation as the current methods do not measure the content of some fibres, such as non-digestible oligosaccharides or resistant starch. The RITDF method is more accurate because it is specifically designed to overcome both potential inaccuracies: the double measurement of some fibres and the lack of measurement of other fibres. Where the RITDF method improves the accuracy of fibre, the determination of available carbohydrate will also be more accurate.

The inclusion of RITDF method in the Code will allow the food industry to provide a more accurate measure of total dietary fibre on Nutrition Information Panels. Dietary fibre is well recognised for its positive effect on health and quality of life, with higher dietary fibre intakes linked to a reduced risk of cardio metabolic disease, colorectal cancer and type 2 diabetes[2]. The Australian Dietary Guidelines and the New Zealand Eating and Activity Guidelines promote the consumption of high fibre foods, in preference to lower fibre alternatives[3,4]. In order for consumers to make informed food choices, it is essential that fibre information provided on pack is accurate.

In some cases the use of the RITDF method may allow a higher level fibre claim. Adopting the RITDF method will also ensure alignment with jurisdictions around the world. Countries that have adopted integrated total dietary fibre (TDF) methods AOAC 2009.01 and 2011.25 include the USDA, EFSA, and Health Canada. Given these countries have previously adopted the integrated TDF method it is reasonable to expect they will adopt the RITDF method.

Native foods are less affected by the change from the currently approved methods to the RITDF method however if a fibre fortifier is used in processed foods such as biscuits or crackers, the difference is far greater. The difference in values between methods will be due to resistant starch (native and phosphate cross linked such as Fibersym) and fructo-oligosaccharide values. Each of these fibres are underestimated by AOAC 2009.01. Any foods to which resistant starch (particularly resistant starch 4) or fructan-oligosaccharides (e.g. Raftilose P-95 or similar) have been added will be underestimated by 2009.01. AOAC Method 2009.01 overestimates isomalyto-oligosaccharides (IMO). The values obtained from IMO with AOAC 2017.16 are very similar to that obtained using the Matsutani modification of the Prosky method (i.e. with oligosaccharides measured by high-performance liquid chromatography).

The adoption of the RITDF method by organisations responsible for providing nutrient content information to inform the AUSNUT and NUTTAB databases, would result in more accurate information about the dietary fibre in the food supply. This would in turn result in more accurate determination of population dietary fibre intakes from studies such as the National Nutrition Survey. Issues may occur if industry takes up the new method but the data are not reflected in databases such as NUTTAB. However, the recent allowance for industry to submit data to FSANZ for consideration and inclusion in NUTTAB may assist in reducing this risk.

Grains & Legumes Nutrition Council recommends RITDF method is adopted into the Code to improve the accuracy of the measurement of total dietary fibre. The RITDF method may appear to incur higher costs than current methodologies, however as this test may replace the need for multiple tests, there are potential savings.