

Do you know what you're eating?

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Plant & Food Research are working to build a better food composition database. You can help.

The New Zealand Food Composition Database (NZFCDB), and its underlying data is a valuable resource, allowing a wide range of users both in and outside New Zealand to understand the composition of the food they're eating. A new dataset is being launched in the next few months – the 20th edition since it was first printed in the 1980s. Since 2011, the database has also been available online, with more than 9,000 people accessing the data each year.

Data and information on the composition of the food and beverages produced, sold and consumed in New Zealand and exported to other countries have a wide range of applications and uses. The information is most often used for product formulation and labelling, menu and meal planning, and the provision of dietary and nutritional advice. In addition, food composition data are also essential for diet and health surveys, public health programmes, policy development, understanding and protecting biodiversity, running breeding programmes, and in supporting research, science, developing resources for educators, the development of technology and the international trade in food.

The NZFCDB, jointly owned and funded by Plant & Food Research and the Ministry of Health (MoH), provides access to nutrient information for more than 2600 foods commonly eaten in New Zealand, fresh produce, raw ingredients, home-cooked recipes and manufactured products specifically for the New Zealand market. The database contains information on 83 core nutrients, including carbohydrate, protein, fat, vitamin and fibre concentrations, and up to 277 other nutrients, verified by independent laboratories. Each year, approximately 100 foods – a combination of new products and updates to products already listed – are added to the database.

Data from the NZFCDB are also used in the analysis of the MoH nutrition surveys to translate food consumption data into nutrient intakes and to identify dietary sources of nutrients. Knowledge of New Zealanders' food and nutrient intake ensures that the Ministry's policies, programmes, and health education resources have a sound technical basis.

New data available

The latest version of FOODfiles 2016 (the full dataset from the NZFCDB) and an update of the handy Concise Tables will be launched later this year. Whilst FOODfiles contains information on the 2600 foods in the database, The Concise New Zealand Food Composition Tables (12th Edition) contains information on 34 food components for approximately 1000 foods and drinks widely consumed by New Zealanders.

Currently, both FOODfiles and the Concise Tables are available to interested users directly via the www.foodcomposition.co.nz website.

The New Zealand food composition data are also used by FoodWorks

(<https://www.xyris.com.au/>) for applications designed for use by dietitians, nutritionists, researchers and food technologists, and Zubi (<https://zubi.co.nz/>) for preparing food labels' Nutritional Information Panel (NIP) and ingredient lists.

An internationally recognised team

The NZFCDB and team follows the FAO/INFOODS (Food Agricultural Organisation of the United Nations/International Network of Food Data Systems) guidelines and have been recognised internationally, for example, the NZFCDB won the INFOODS Success Story award at the 11th International Food Data Conference in Hyderabad, India. The team takes a leadership role with Sivalingam Sivakumaran as the OCEANIAFOODS coordinator for FAO/INFOODS, a forum for international harmonisation and support for food composition activities in the region and internationally. This activity assists countries in implementing the Rome Declaration, the follow up for ICN2 (Second International Conference on Nutrition) and the UN Decade of Action on Nutrition. Subathira Sivakumaran is the New Zealand representative on the IUNS/UNU/FAO INFOODS Task Force and is on the Working Group for the FAO/INFOODS evaluation framework and criteria on the quality of published food composition databases, which sets the international standards for composition databases.

Plant & Food Research provides a commercial, confidential, analytical and database option to the food industry and for fresh produce, to analyse their products, and track the composition over the seasons and across varieties. The NZFCDB reflects their latest offerings and most accurate information, and can also be used to promote produce in New Zealand and for export. The NZCDB team can also provide a service in submitting compositional data to the USDA food composition database or the EuroFIR (European Food Information Resource) database.

Enhancing usability of the NZFCDB

Currently, the NZFCDB is accessible in two different ways. The Concise New Zealand Food Composition Tables provide a small dataset and allow users to look up selected data, although there is limited ability to manipulate these. FOODfiles provides data in the form of a large Microsoft® Excel spreadsheet and is extremely comprehensive – but it may not be easy to find and manipulate data unless you are a master of Excel! Finding and printing data for a particular food or ingredient is not straightforward. As the datasets currently stand, the data are just raw numbers without the wider context of what they may mean nutritionally or for labelling purposes.

Plant & Food Research has recognised that to offer full value and application, the comprehensive food composition data need to be easier to access and answer a user's questions. Plans are therefore



The Food Composition Database team at Plant & Food Research – (l-r) Irene Ho, Lee Huffman, Subathira Sivakumaran, Claire Redman, Siva Sivakumaran and Dawn Harvey

under way to upgrade the existing web interface so that users will be able to interrogate the database and manipulate the information with greater ease for their own purposes. Ultimately, the team want to make New Zealand food composition data more readily accessible to users, including the food industry, the fresh food sector, the Ministry for Primary Industries (MPI), Food Standards Australia New Zealand (FSANZ), MoH and the Health Promotion Agency (HPA) staff, dietitians, nutritionists, educators, students, researchers, and the public, as well as providers of nutrition calculators, tools and apps.

We plan to provide a series of tailored web interfaces that meet the specific needs of different user groups, although behind-the-scenes, the tools will be accessing exactly the same database. This means that the outputs can be framed in different ways and appropriate language used. For example, an industry user may want to know if a food can make a nutrition content claim or pre-approved health claims. For example, does it deliver at least 10% of the Recommended Dietary Intake (RDI) of a vitamin or mineral? Parents or caregivers may be interested in knowing how well their dinner contributed to their family's daily requirements for particular food components that may be of concern for their health needs, e.g. calcium if they have been identified at risk from osteoporosis. The web interface would also allow them to identify those foods that are high in calcium and, more specifically, if they have a dairy allergy, what foods are good non-dairy sources of calcium.

Initial work has started on identifying requirements and collating information that does not currently exist in the NZFCDB. This includes information on Dietary Intakes (DIs), RDIs and Estimated Safe and Adequate Daily Dietary Intakes (ESADDIs) as prescribed in the FSANZ Standards. There are also plans, at a later date, to include the wider Nutrient Reference Values (NRVs) for different sectors of the population, for example, separation by gender, age, and other needs such as pregnancy and lactation. Information on serving size is also

being collated as it is important to express DIs or RDIs 'per serve' rather than 'per 100 grams'.

NZIFST recently identified that integrated nutrition calculators and food composition data are required to enable the food and beverage industry to assess and comply with food and labelling requirements more easily. Developing integrated tools would result in more efficient product development and new products with better nutrition and information for consumers. As the provider of New Zealand food composition data we support and look forward to contributing to NZIFST's initiative to integrate these tools.

Please contact us if you would like to contribute

The first part of our redevelopment initiative is to gain a better understanding of how current and potential users use food composition data, the additional data they would like, and how they want to access and use food composition data in the future. Based on this feedback and with sufficient support, we plan to enhance our food composition products, services and data further to meet these needs. We're keen to hear from anyone who would like to be involved in the project, or would like to talk about what they'd like the NZFCDB to deliver.

We'll be at various events over the next few months asking these questions, including the Dietitians Association of Australia Conference in May and the NZIFST Conference in July, as well as getting in touch with key stakeholders directly.

If you would like to talk about your needs and what you'd like by way of enhanced food composition products, services and data, please contact Carolyn Lister carolyn.lister@plantandfood.co.nz or Lynne Scanlen lynne.scanlen@plantandfood.co.nz.