

**MILLERS' TALES** *continued...***Dr Ken Quail: Strategies to replace chlorination of flour for high ratio cakes**

Although heat treatment is used in Europe it seems less effective than chlorination. BRI Australia is investigating the basis for the cake baking quality of various types of flour in order to develop improved treatments for cake flour.

**Dr Ken Quail: The work of the Grain Industries Centre for NIR**

This centre develops calibrations for many types of grains, including whole wheat grains, and is researching the chemical basis of calibrations, such as glutenin/gliadin ratios. It is developing NIR methods to measure starch damage, degree of cooking of extruded cereal foods, development of bread doughs, starch damage, amylose/amylopectin ratios and amylase levels. The centre assists industry with calibration and training.

**Other papers:**

Other papers covered the New Joint Food Standards Code (please refer to the next article), Canada's wheat quality system, heat treatment for pest control, microwave measurements of grain, the Barry Sherris Award winner, wheat breeding, new packaging, the Foundation for Arable Research, and presentations on milling machinery by Buhler, Foss, Satake and GPM Australia.

**Dr Hugh Baber: The new Joint Food Standards Code**

Dr Hugh Baber of ANZFA also addressed the Flour Millers Conference. He explained that the new Joint Food Standards are intended to be minimal, more generic, and much less prescriptive. The emphasis has swung away from writing regulations specific for types of foods with lists of their permitted ingredients. This means that food manufacturers will have to read all the relevant generic sections such as those on labelling, food additives, and processing aids to find those that apply to their food product.

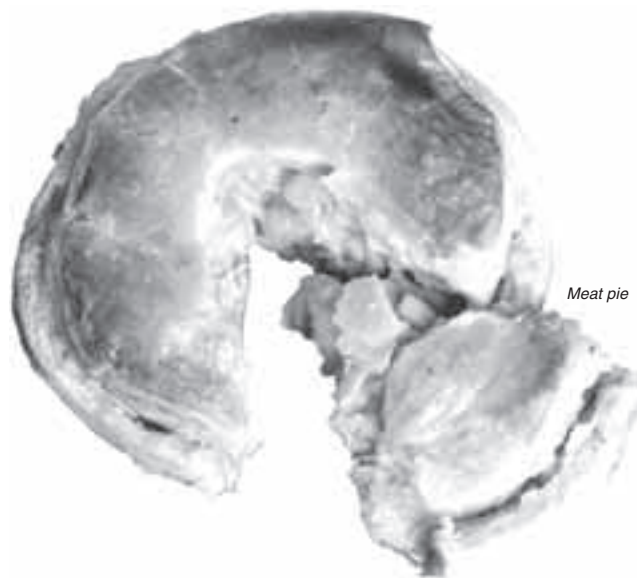
This less prescriptive approach will make it easier for food manufacturers to design new types of products. At the same time, labels will carry more detailed information to help consumers choose the foods they want (informed choice). Labels will state levels of characterising ingredients, such as the percentage of meat in meat pies. Food labels will state the important allergens that they contain, such as eggs,

peanuts, gluten and milk, which will help allergy sufferers. Several food legal requirements are covered by other legislation, such as the Food Act and the Fair Trading Act. In some cases industry education via codes of practice was deemed more effective than regulations. New standards requiring food labels to be legible will replace old regulations that prescribed type sizes for different food label information.

The new Joint Food Standards Code was gazetted on 21 December 2000 and two years later it will become the sole food standard for Australia and New Zealand. In the intervening period, food must be made according to either the New Zealand Food Regulations, or the Australian Food Standards, or the New Joint Food Standards Code. For more information, check out ANZFA's web site at [www.anzfa.govt.nz](http://www.anzfa.govt.nz).

**Addendum**

Since the conference, ANZFA released the following information on 24 November. The ANZFSC Ministers agreed to extend the mandatory nutritional panel to include information on saturated fats and sugars, as well as total fats, protein, energy (kilojoules), carbohydrates and sodium. There will be a two year transition period for companies to implement the changes. Issues still to be resolved by an ANZFSC working party include the threshold at which very small businesses become exempt from the nutrition labelling requirements and whether foods carrying nutrition claims will be required to bear more detailed nutritional information.



Meat pie

Ideas and information from milling and baking research

# Milling & Baking News

  
NEW ZEALANDPLEASE CIRCULATE TO:  General Manager  Bakery Manager  Sales  Staffroom**INDUSTRY TO GO LIVE**

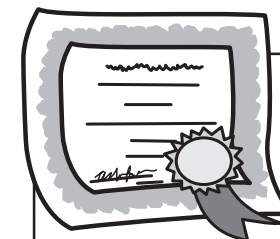
The Flour Milling and Baking Industry in New Zealand can look forward to a new era in communication when a website developed especially for the industry goes live later this year. A contract has been signed by the Flour Milling Industry Research Trust (FMRT) and the Baking Industry Research Trust (BIRT) to fund the Milling and Baking Industries Information Project for the next three years.

Industry is committing a total of \$270,000 to the project, which is run by Crop & Food Research. The project aims to make scientific and technical knowledge readily available to those in industry and to promote the industry as being attractive and of a high technical standard to customers and potential employees. A special goal for the period 2000-2003 is to

move from paper to electronic media as the main form of communication for the many services offered by the project. These services include: the Info Centre, a fast response technical information service for industry; the Schools Project, which provides educational resources about the industry and its products to schools and supports annual science fair entries; this newsletter, and the new website. The last two facilitate the research and knowledge mining activities of the industry trusts.

The project is being managed by Belinda Jeursen and carried out in the Education, Information and Training Group of the Nutrition and Health Team at Crop & Food Research.

Please send your email address to  
**millbakeinfo@crop.cri.nz**  
so that you can receive this publication electronically.



FIRST

**The search for the top bread baking apprentice**

The New Zealand Association of Bakers is calling for bakeries to nominate trainees for the Hawker Award which is given to the top bread baking apprentice.

The Hawker Award winner will be selected at an interview on 7 March in Auckland on the basis of his/her academic record, work experience and attitude, practical skill, technical knowledge, communication ability and presentation. Please read the L.A. Judge Award guidelines because the judges will select the candidate who can best represent New Zealand at this competition in Sydney, Australia, in May. Previous winners of the Hawker Award have an excellent record in the Australian competition.



Presented in recognition of the first apprentice to complete a National Certificate in Food Production - Baking (Craft Baking, Level 4)

Back row: Marcel Vincent (Bakery Assessor), Philip Folter (Montana Bakery Baking Society), John Broadhead (CEO of Competenz)  
Front row: John Lee (Store Owner), Grant Hickman (Bakery Manager), Kerry Kirk (1st Apprentice to receive National Certificate in Baking), Doug Budge (Regional Manager of Competenz), Leon Middleditch (Christchurch Polytechnic Institute of Technology), Yvonne Osbourne (Crop & Food Research Institute)



Mana Kai Rangahau

The Flour Milling and Baking Industry Research trusts publish this newsletter with Crop & Food Research to present the results of levy-funded research and other information relevant to New Zealand industry.

**Address mail to:**

IAN WATERS,  
Editor of New Zealand Milling & Baking News,  
Crop & Food Research,  
Private Bay 4704,  
Christchurch,  
NEW ZEALAND

Ph: (03) 325 6400  
Fax: (03) 325 2074  
Email: [watersi@crop.cri.nz](mailto:watersi@crop.cri.nz)



The New Zealand  
Association of  
Bakers Inc.



New Zealand  
Flour Millers  
Association Inc.



# Labelling GM foods

On 24 November the Australia New Zealand Food Standards Council (ANZFSC) agreed to new labelling rules for genetically modified (GM) foods. These are amendments to Standard A18 of the Food Standards Code – Food produced using gene technology. The labelling provisions achieved legal status when they were gazetted on 7 December 2000 and will take effect 12 months later. The intervening period will give food manufacturers and importers time to revise their labels and, as they do so, GM labels will appear on foods.

The new labelling provisions will require foods containing genetically modified ingredients (novel DNA, novel protein or with altered characteristics) to be labelled as genetically modified in ingredient lists, for example, “contains genetically modified soy flour”. Labels of single-ingredient GM foods, such as soy beans, will contain “genetically modified” in the name

of the food. Although there are few GM food ingredients, they are used in such a wide range of food products that it's difficult to estimate how this change will affect the processed food market.

If there is evidence that a food product contains no GM ingredients, additives or processing aids then it may be labelled “GM-free”. Foods that will be exempt from GM labels will include:

- those prepared for immediate consumption at point of sale, such as takeaways,
- highly refined foods, food additives and food processing aids where processing destroys or removes the GM material, e.g. sugars and oils,
- foods containing GM flavours at concentrations less than or equal to 0.1%.

Any one ingredient in a food may accidentally contain up to 1% of GM material. Some of these issues are quite complex so all companies that apply labels to food should check the explanations in the Compliance Guide to Standard A18 and the bread example on ANZFA's web site. Food additives are usually pure substances added to food in very small amounts to improve qualities such as appearance,

taste, texture or storage life (e.g. ascorbic acid). Processing aids are pure substances that are used to achieve a technical function during production and are not present or active in the final food (e.g. approved enzymes).

Before ANZFSC approves GM foods for consumption in New Zealand and Australia, ANZFA will evaluate their safety. Information on GM foods' toxicity, content of allergens and nutritional value will be required. Companies intending to market GM foods and ingredients are required to provide ANZFA with scientific information from audited laboratories for this safety assessment. ANZFA found that the GM foods submitted so far had the benefits of conventional foods, with no additional risks, that the consumption of GM components in a normal varied diet is very small and that some have been in our food supply for several years without any credible scientific evidence to suggest that they have caused health problems. Following ANZFSC's November approval of a further five GM foods, the approved list now includes: Roundup Ready soy and Ingard cotton, insect protected (Bt) corn, glyphosate-tolerant cotton, glyphosate-tolerant corn, glyphosate-tolerant canola and high oleic acid soybeans. However, if you receive any enquiries from concerned customers you will be able to reassure them that labelling requirements in New Zealand and Australia will be among the most rigorous in the world.

As an aside, the media have recently provided extensive coverage of GM StarLink corn, with headlines such as “Ministry scrambles to identify GM foods” (Christchurch Press). The background to this story is that StarLink is genetically modified corn that was approved for animal consumption. It was not approved for humans because of fears that it might cause allergic reactions. In spite of the ban, traces of StarLink corn were found in a baking mix imported into Japan after the GM corn was “accidentally commingled with other corn” (The Washington Post). The Ministry of Health admitted it did not know the GM content of food products imported from the US – “It could be in all sorts of things.” The Green Party called for the testing of the GM corn in US food products. US groceries recalled some corn products while US manufacturers tested foods containing corn for StarLink. Kraft called for the scrapping of the partial approval of GM crops for animal use only and for an approved testing procedure to identify StarLink GM DNA. However, the StarLink issue may be less serious than some of the headlines suggest.

FoodIngredientsOnline reported that biotechnology companies are submitting new scientific data to support a case for the approval of StarLink in human food.

## MILLERS' TALES

15-17 November 2000 at Rotorua

The New Zealand Flour Millers' Association Technical Conference presented an excellent variety of speakers with interesting topics.

The conference proceedings are available from Belinda Jeursen, at Crop & Food Research, Private Bag 4704, Christchurch.

### SOME HIGHLIGHTS WERE:

#### Tony Evers: The problems of ash measurements

Ash content of flour is used to indicate its content of impurities that decrease product quality. However, ash values depend on other factors such as the wheat cultivar and the soil where it was grown. Wheat aleurone contains large amounts of mineral, so it has a high ash value, but it also has high nutritional value. Wheat brush hairs (trichomes) have low ash values but they have a strongly detrimental effect on bread volume. Therefore, selecting flour stocks on the basis of ash values does not necessarily improve product quality and can reduce nutritional quality. In his second paper Tony reviewed information on the use of other measurements of wheat flour purity tri-stimulus colour measurement, Branscan and autofluorescence.

#### Associate Professor Lynnette Fergusson: The fates of different bran layers during digestion

Professor Fergusson, Head of Nutrition at the University of Auckland Faculty of Medical and Health Science, startled some millers with her provocative suggestion that instead of purifying white flour and discarding the bran, they should do the opposite for nutritional reasons. On a serious note, she explained an investigation of two wheat bran components, aleurone and pericarp, and their fates during digestion and roles in nutrition.

#### Lyall Simmons: The millstream project

Lyall Simmons of Crop & Food Research explained progress on the millstream project, parts of which are funded by the Baking Industry Research Trust, the Flour Millers Research Trust, and the Foundation for Research, Science and Technology. This project is analysing mill flour streams (stocks) to find their detailed chemical compositions. The results and correlations of compositional data with data from product testing should suggest ways to improve product value. When the results are available we will explain them in a newsletter or research bulletin.

#### Annette Campbell: The Baking Industry Research Trust's research programme

Annette Campbell outlined BIRT's research programme and emphasised the necessity of continued collaboration between bakers' and flour millers' industry groups.

Copied from the ANZFA Compliance Guide.

For an explanation of each point please refer to the guide at [www.anzfa.gov.nz](http://www.anzfa.gov.nz).

### When to label foods as 'Genetically modified'

