



BAKING INDUSTRY  
RESEARCH TRUST



# Bulletin

Spring edition



## WHO IS BIRT?

The BIRT team is made up of representatives from the plant bakeries, the smaller bakeries belonging to the New Zealand Society of Bakers, the biscuit manufacturers, those companies supporting the industry with ingredients, the major research provider (Crop & Food Research) and the flour millers.

The key contacts for the Trust are Annette Campbell, who chairs the Trust and Marcia Dunnett, the executive officer. Their contact details are on the back page.

Most of the Trust members have had extensive experience in the baking industry, (quite a few have been around more than 20 years) so are familiar with the requirements of the Industry both now and in the future.

## WHAT DOES BIRT DO?

The terms of the Wheat Levies Act requires the levy money to be spent on research that will benefit the industry. It does not allow for money to be spent on training unless that training has a specific research focus.

In general the Trust aims to fund two or three large research projects per year, an information site ([www.bakeinfo.co.nz](http://www.bakeinfo.co.nz)), and a number of smaller research projects that are a result of research grant applications.

The current business plan has identified four key areas of research:

- Processing improvements
- Consumer health & wellbeing
- Regulatory compliance
- Raw material research

Reference to the website noted above will allow you to see the wide range of projects that the Trust has funded over the past 10 years.

Current or recently completed projects the Trust is involved in:

### 1. Major projects:

- Lifestyle Foods (a \$20 million research programme that runs over 6 years and is largely funded by the government).
- Future Energy Efficiency project (a 3-year project, costing \$150,000 per year).

### 2. The information website

### 3. Research grants

- Side wall & top wall collapse – a project conducted by Duane Trotter of Goodman Fielder.
- Alternative starch evaluation – meat pies – a project by Valarie Wong from George Weston Foods.
- Implications of mandatory folate addition for the industry.
- Healthy baked goods – a project in progress with the Christchurch Polytechnic.
- Rapidojet investigation – an evaluation of a new mixing technology.

In this bulletin I would like to draw your attention to the information website: [www.bakeinfo.co.nz](http://www.bakeinfo.co.nz) and one of the research grant projects just completed – the evaluation of tapioca starch for use in pie fillings.

Following industry requests, the Baking Industry Research Trust (BIRT) is back in a bulletin format, so that the work the Trust does can be more readily available to the wide range of bakers we represent.

Many of you old timers will remember the Milling & Baking news produced a few years ago and hopefully most of you will have visited our website – [www.bakeinfo.co.nz](http://www.bakeinfo.co.nz). This bulletin builds on this work and looks to develop more knowledge of our industry by the people working in it.

For those of you who are new to the industry, this “first” edition will give you a brief background to the Trust, why we exist, what we do, and who we are.

In this edition you will also get an insight into a couple of the areas in which we are currently involved and you will get to hear more about our work over the next year with this bulletin arriving at your site on a quarterly basis.

## SO WHAT IS BIRT?

The Baking Industry Research Trust is a sub-committee of the New Zealand Association of Bakers, the group that represents the interests of all the plant bakeries in New Zealand.

In 1928, an Act of Parliament set up the first levy system for the baking industry which was tied to flour use and designed to provide money for research that would ensure the ongoing success of the baking industry in New Zealand. As a result of this Wheat Levies Act, the Trust gained the responsibility of spending the research levies collected off every tonne of flour used in bakeries within New Zealand and the Bakers Association (NZAB) was given a governance role to ensure that the Trust invested the levy funds wisely.



The Trust committee today has the responsibility of ensuring around \$300 to \$350,000 per year is spent on research to benefit the flour-using industries of New Zealand. In more recent times (since 1989) the Trust has also had a very active role in determining how the government will spend their research dollars and now, as well as our own investment in research, we are part of a much bigger (\$3 million per annum) research project called Lifestyle Foods that benefits flour users.



# Research grant

## - Tapioca starch evaluation

The Trust has, in the past 2 years, made available funds for use by industry and their support agencies to complete small (less than \$20,000) research projects than can benefit their own organisations and can also be shared with the wider industry. These research grants can also be used to develop research skills within these organisations.

In this edition of the bulletin I would like to highlight an excellent project recently completed by Valarie Wong, a young food technologist working for George Weston Foods in Auckland.

Valarie conducted research into the use of tapioca starch with the purpose of the project to produce a pie filling using tapioca starch as a substitute for maize starch to improve pie filling performance (particularly for steak or chicken). This was done to produce a pie that would have reduced moisture-loss, retained/improved freeze-thaw/textural characteristics, possible improvement to process and cost reduction.

### Results from the study showed:

#### Benefits of changing from maize to tapioca:

- Less moisture loss from fill to pastry (even when temperature-abused).
- Clear, glossy gravy shows appealing steak chunks in filling.

#### Challenges of changing from maize to tapioca:

- Substitution ratio not 1:1 indicated on specs, hot-fill needed 3% to match maize starch consistency before depositing.
- More starch needed for mince compared to steak > process dependent.
- Different texture at hot-fill affects amount of waste & rework.
- More time & lower temp for complete pasting > process dependent.
- Texture of tapioca starches vary, especially in finished product.
- Need to change formulation and change product labelling.

It is important to trial tapioca with current process & batch size, as results vary with finished product.



Valarie gave an excellent presentation to the Trust and copies of this presentation are available from the Trust committee.

This project was an excellent example of useful work that developed both industry knowledge and developed greater skills in one of our members. The Trust congratulates Valarie on her work and looks forward to seeing more projects being pursued.

# Bakeinfo – the Baking Industry web site

The bakeinfo website has been designed as a tool for both consumers and industry personnel to learn more about the baking industry and some of the foods produced within it.

It is user-friendly and designed to be a quick reference tool covering not only the science of bread making but also career profiles, nutrition and work that the Trust has conducted over the years.

In 2005 a new nutrition section was introduced and you can now find out more about the breads you produce, how carbohydrates fit into your diet and even which breads can help you look good!

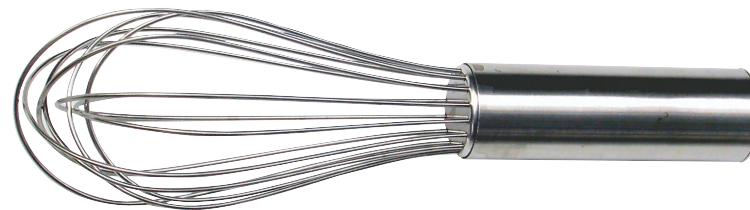
In the past few months all of the school information previously produced in information sheets and on CD has been upgraded for today's school children and placed on this website.

The information covered is a result of numerous requests from schools and children over the years. It is extremely diverse, with topics ranging from sandwich ideas to how bread is made from the wheat grain. It explains the whole baking process and even some of the interesting science behind the process.

It is designed to be fun to use; there are numerous pictures and even some videos to keep children entertained.

Check it out and provide us with some feedback.

[www.bakeinfo.co.nz](http://www.bakeinfo.co.nz)



Another excellent project by Duane Trotter, who is working at Goodman Fielder, will be reviewed in the next edition.

The system for applying for research grants is simple – it is a 2-page form! So if you are interested in applying, please contact Annette.

Well that's it for this time. I hope you have learnt a little more about the industry you work in. There will be more next quarter – look out for it.



Annette Campbell  
Chair



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