

InBrief31

INSIDE:

**Enzymes for Egg Processing •
Exhibition roundup • SOP Improvements
• Wales Quality Award •**

Welcome to the latest edition of InBrief, as usual, lots has been happening here at Biocatalysts that we want you to know about.

Our 18 month programme of agents' training is well under way and hopefully you, our customers, will benefit from their increased knowledge. Most have now completed Level I and Level II and are embarking on the third and final level which comprises indepth product training in all sectors, delivered by our technical team.

We have included a review of IFT 2005 and also details of FIE 2005 in Paris at the end of November. The usual team of sector experts and sales executives will be attending, so if you wish to book an appointment with anyone during this time, please contact the sales office.

As usual, continual improvement is always on the agenda at Biocats and this time it's the turn of the Operations Team. Take a look at what has been written about the changes.

It's award time again and this time we have won the Wales Quality Award for Leadership, full details and pictures inside.

The technical focus of this issue is the use of enzymes in Egg Processing. One of our most popular food sectors, we have the ability to provide a "one-stop-shop" for all the enzymes you need to process whole eggs, whites or yolks.

Add into this an update on sales order processing improvements currently underway and we have another full issue.

If you have any stories or information you would like to send us for inclusion in the next edition of InBrief, please do not hesitate to contact me.

**Caroline West
Promotions Manager**

Event	Agents Training	FIE 2005	Agents Training
Date	24th - 25th Nov 2005	29th Nov - 1st Dec 2005	2nd Dec 2005
Location	Biocatalysts, Cardiff, Wales	Villepinte, Paris, France Stand M77, Hall 3	Millennium Hotel Paris Charles de Gaulle Airport, Paris
Attending	Various attending	Stuart West, Martin Duff, Deborah Davies, Kelly Lane, Gregg Williams, Andy Ellis, Clare Simpson	Stuart West, Gregg Williams, Andy Ellis

Agents' training update

We have just completed a large agents' training course in Prague attended by KUK, Intsel Chimos and Staerkle and Nagler in early October. However, whilst most people are contemplating the festive season, at Biocatalysts, we are continuing the next phase of Agents Training both here and abroad.

There will be two sessions at Biocatalysts (one directly before FiE 2005 and one after). These will be attended by a variety of agents including our Australian Agent, Salkat. Additionally, various members of the Biocatalysts team will be delivering training in Denmark, Paris (after FiE), the USA and Japan.

We are extremely grateful to all our agents who have committed the time and resources to attending this training and are optimistic that our customers (current and future) will benefit from the improved customer service that will result.



Deborah Davies carrying out Agents' training

Remember it's quality that counts!

Many of you will remember that we take part in the Wales Quality Awards based on the European Forum Quality Management (EFQM) Business Excellence Model. Having previously won both the SME and Manufacturing Prize, this year we won the 'Leadership' award. This award pays tribute to the hard work of Stuart West and his team of Managers in establishing the clear objectives of the Company so that it has an achievable vision for 2010.

As if this wasn't enough, Wales was also hosting the European Forum this year and top UK and international business leaders headed to the Welsh capital in October for an unprecedented three day conference focussed on the key challenges facing companies in an increasingly competitive global marketplace. The event took place from 3rd to 5th October 2005 at the Cardiff International Arena and ended with a gala dinner in the Millennium Stadium where the European competition prize winners were announced. Biocats had received its Leadership award at an earlier event but was entered in the 'Best Welsh Company' final. Unfortunately we didn't win this, but a great evening was enjoyed by all as we joined 1000 conference delegates and competition entrants at the gala dinner for a memorable evening of prizes and entertainment.

FiE 2005

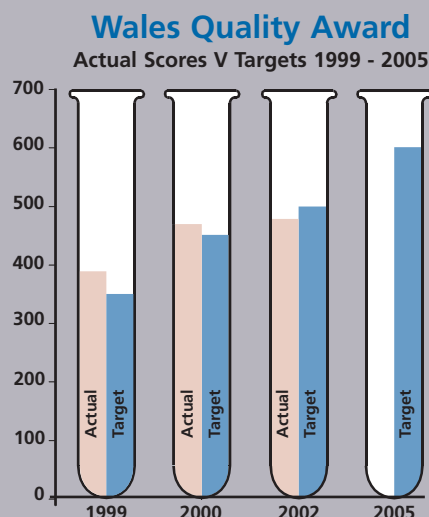
Come and visit us on stand M77 (Hall 3) at Food Ingredients Europe exhibition situated at the Villepinte Expo centre in Paris.

1,100 companies will be spread over three halls including 120 first time exhibitors. Interestingly there has been a recent surge of bookings indicating that confidence has returned to the food industry as a whole and people are keen to attend this key event.

Many of the Biocats team will be present including Managing Director Stuart West, the Sales team, NPd Manager Gregg Williams and sector expert Andy Ellis. Also present will be Clare Simpson, QC Manager. All will be happy to meet you and discuss your processing problems or enzyme requirements. If you would like to book a specific time, please contact Theresa Cannon in the sales office.



Stuart West (2nd from right, back row) with the other winners



Biocatalysts agents getting together at FiE 2003

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IFT 2005 - Shorter not sharper



That was the general feeling after IFT 2005 this year in New Orleans!

The new 3-day format went down well. The last half day has always been a waste of time and the number of enquiries we received didn't indicate that we had suffered at all as a consequence of this action. However, general feedback indicates that New Orleans is not the most popular venue and many companies had cut back on the number of personnel attending or the time they were there for. Where companies have numerous business units spread over large geographical areas, IFT can be a great place to meet up and exchange information effectively.

We did however, meet up with many of our customers, both before and during the event and overall, the show was a big success for us.

This year, for the second time, we had a mixture of sales and

technical staff on the stand which is always a benefit when talking about the problems customers are experiencing. Also present were our North American agents Kaltron Pettibone, including Food Market Manager David Godke, who is responsible for speciality enzymes in the US, in addition to other areas.

IFT can be a great place to meet up and exchange information effectively

Next year, IFT goes orange! Not just because it is in Orlando, Florida (the Orange County) but because fruit and vegetable juices are still going to be big on the agenda. This suits Biocatalysts because our great range of citrus processing enzymes can cover a variety of production processes and we have a Technical Bulletin dedicated to citrus fruits downloadable from our website at www.biocatalysts.com. If you want more information then contact our sales office.

Agents-only area of website

Last year, we ran a pilot scheme on our website enabling two of our agents to have a restricted area of their own, on our website.

The areas have been used to mutual benefit primarily to make certificates and documentation available 24/7 for our agents who can then pass these on to the customer in a timely manner as requested. Anyone who has had to hunt for a Certificate of Analysis in a hurry will appreciate this benefit. This has been used to greatest effect where there are considerable time differences between countries.

This scheme will now be rolled out to other agents who would like to take part in it and we will be contacting them in the coming months to arrange this.



New Sales Order Receipt Process - More efficient than ever!

We have installed new technology that enables customer orders to be received, processed and despatched quicker than ever. The new system is also far more efficient at recognising Customer Special Instructions, with all departments involved in the order fulfilment process getting the right information the minute the order hits the desk (or more likely an inbox!)

The new system means that all the departments involved in the process get the same information from customers faster and in a clearer format and this means we are noticing a really positive impact on turn-around times.

It also means that as soon as an order is completed, our Sales Order Processing department can forward you, the customer, your documents more quickly. We can now even send your documents like Certificates of Analysis (and any other special documents) by

We hope that in the future, the efficiency savings we are recognising during this pilot period of the new process can be incorporated into shorter lead times for customers, so that your orders can be received, processed and despatched even faster than before.

PDF at the same time as the goods leave our premises, so you have up to the minute information rather than waiting for the post. With some of you half way around the world, this is obviously a great improvement.

Add this service to the new Agents' only area on our website (detailed separately) and you will understand how seriously we take keeping our customers informed.

Customers are requested to contact Nicola James or Angela Halls if you would like us to provide any of your documents via PDF, or if you have any special instructions you would like added to your customer files.

Special news

Many of you have spoken to Theresa on the phone, she is the recognisable 'Voice of Biocatalysts'.



And from the comments you make, I know lots of you find her efficiency and professionalism a pleasure to deal with, as we all do here. It therefore is a great pleasure to announce that Theresa has been

promoted to Office Manager in recognition of her hard work and commitment to the Company. She took up the post on 1st October and we wish her every success in her (long!) future with the Company.

Continuous improvement in the Biocatalysts Operations Division

This summer was the first birthday of the new factory. Now that we have been in the new factory and warehouse facilities for a full 12 months, it is time to start looking to the future. Continuous improvement is fundamental to the Biocatalysts's ethos, and so we decided to undertake an improvement project to look at enhancing our Operations processes.

The project we decided on uses local Welsh consultants SA Partners, and is sponsored by the Welsh Assembly. It is using a quality assurance technique called 'Lean', and is aimed at cutting out waste in processes in order to make them more efficient. This also reduces the opportunity for error and as such, we hope that it will reduce the number of customer complaints we receive.

The first phase of the project was to draw out a 'Big Picture Map' of our order fulfilment process. This was far more complicated than we thought! Although in absolute terms, Biocatalysts' operates a simple production process, the surrounding processes are many and varied - this has to be the case in order to control the specialised requests that many of our customers make. The ability to be flexible in terms of packaging, labelling, certification and delivery is of course, one of our core competencies! The Big Picture Map shows in one diagram all of the interaction between different departments, and information flows during the processing of an order.

The second phase was to work on those areas where the information could be simplified, and identify projects for departments to work on. You may have already noticed we can now email despatch advice and certificates of analysis – this is a consequence of identifying that our paper trail could be followed much more efficiently in electronic format.



Workplace Organisation To deliver Business Benefit

A major part of the Lean principles is Workplace Organisation. This involves reclassifying all items in a workplace and arranging them according to their usage frequency, using visual display techniques to identify status.

A day spent in the Biocatalysts warehouse in September resulted in real improvements in both organisation and stock control processes. The process of taking a step backwards from day-to-day work and evaluating materials proved immensely valuable.



The completed warehouse

Materials were re-organised based on their usage, allergenicity, stock levels and status. We can now visually flag finished product stock, crucial raw materials stock and rework, in order to maintain the flow of materials through the factory. Dedicated storage bays allow us to monitor critical stocks of both finished product for key accounts and key materials for our top selling goods.



The team at work

Improvement is a continuous process, and several projects are now planned for the next 12 months, using the same Lean methodology. If you would like to know more about our warehouses, or learn more about Lean techniques as a business improvement tool, please contact Clare Simpson, Quality Control Manager at Biocatalysts.

Enzymes in Egg Processing

Eggs are extremely useful food ingredients and have a variety of functional properties including foaming, gelation, emulsification and texturisation used to produce, cakes, meringues, batters and mayonnaise.

The main components of egg are proteins and lipids and these are responsible for the functional attributes. Other components are present in small quantities.

EGG PROCESSING OVERVIEW

Traditionally, egg ingredients were supplied in the form of whole (shell) eggs. Today however, various processes are used to produce liquid, frozen, dried, whole eggs, whites or yolks. Both liquid and dried egg products can be treated with enzymes to improve functionality. Dried egg products have the advantage that they can be easily pasteurised, have excellent shelf life and stability, are easier and cheaper to ship due to reduced volume and can be tailored with specific functionality.

Eggs are usually processed in a semi-continuous operation (see flow diagram). The entire process is best run in a chilled room to reduce to likelihood of microbial growth. Eggs are washed, cracked and the egg and white separated if desired. The liquid egg is pumped into a tank where enzymes can be added to improve the functional properties of the egg. It can then be pasteurised and spray-dried if dried egg products are desired.

If whole egg is desired, the liquid egg is homogenised and pumped in to a collecting tank. If separated egg white and egg yolk are desired, the eggs are cracked in a separator.

The speed of the separator is critical to the quality of the egg white, the faster the separator is run, the more yolk will contaminate the liquid egg white. A small amount of yolk lipid contaminating the egg white can significantly reduce its foaming capacity which can be removed using Lipomod™ 34P. Foaming ability can also be improved by a minor modification of the egg white proteins using Promod™ 194P. (Full details of these processes are available in the full version of this technical bulletin (TB101) downloadable from our website).

If the liquid egg is to be stored for extended periods or at warmer temperature, hydrogen peroxide may be added to prevent microbial growth. The hydrogen peroxide can then be removed with Catalase 641L immediately prior to pasteurisation.



IMPROVEMENT OF EMULSIFYING PROPERTIES WITH LIPOMOD™ 699L

Egg yolks have extremely useful emulsifying and gelation properties due to the presence of various lipid and protein types. Lipomod™ 699L can be used to improve this functionality, producing enzyme-modified yolk with enhanced emulsification characteristics or to manufacture speciality emulsifiers such as lyso-lecithin giving the benefit of less yolk being required to produce a firmer emulsion. Also, the emulsion is more stable and can be heated (e.g. during pasteurisation) without separating out.

Lipomod™ 699L might be dosed at 10,000 to 20,000 units (1 to 2 ml) per litre of egg product. The pH should be checked and adjusted to pH 8.0 if necessary. The reaction takes 2-4 hours at 40 - 60°C with gentle mixing.

MAYONNAISE**

Yolk treated with Lipomod™ 699L makes a superior mayonnaise that can be pasteurised at higher temperatures without separating out achieving better results using less yolk, saving money and resulting in a firmer mayonnaise as shown below**.

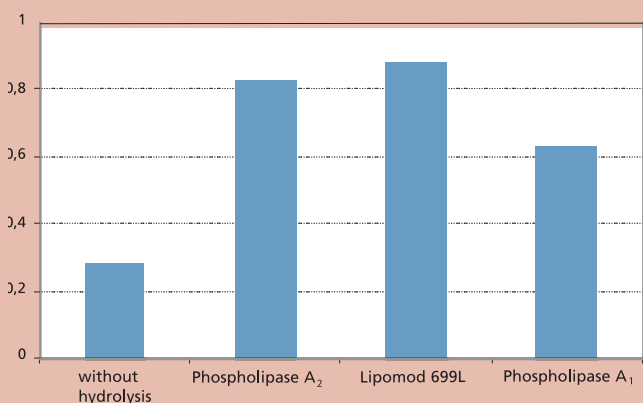


Figure 7: Firmness of mayonnaise made from non hydrolysed egg yolk and egg yolk hydrolysed by different phospholipases

Biocatalysts Ltd produces a complete range of enzymes for use in all aspects of egg processing

Lipomod™ 699L	Improve emulsification properties by modifying yolk phospholipids
Lipomod™ 34P	Improve foaming properties of egg white by removing contaminating yolk lipids
Promod™ 194P	Improve foaming properties of egg white by modifying protein
Catalase C641L	Remove peroxide used to pasteurise egg
Glucose Oxidase 168L	Prevent browning by removing sugar

Acknowledgements

We would like to thank **Sanovo Engineering** for provision of the diagram showing the egg processing process.

** These results originate from independent studies carried out at the German Institute of Food Technology (www.dil-ev.de).

Readers Reply

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I would like to receive further details on the following products

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SAMPLE PRODUCT REQUIREMENTS:

I would like to receive a sample of the following products:

- Catalase 641L
- Glucose Oxidase 168L
- Lipomod™ 34P
- Lipomod™ 699L

What application is the requested sample for?

.....

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CUSTOM TAILORED PRODUCTS:

My special application for enzymes is:

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