# BIO | FOOD | TECH

## CONCEPT TO PILOT TO MARKET

August 2013

*At BIO|FOOD|TECH, we provide free preliminary consultation services and will help you source appropriate funding for your projects.*

**Inside this issue:**



# Novel Drying Process for Beta Glucan

***BioFoodTech has pioneered in PEI the use of carbon dioxide as a "green" extraction solvent for the last decade. This supercritical fluid extraction technology (SFE) is part of a successful Atlantic Innovation Fund project completed in 2010 that led to the creation of BioFoodTech's latest Division. The Division of Bioscience Technology was initiated almost two years ago and is active in extraction, fermentation, purification and microencapsulation. This case study was provided by David Fielder, Chief Scientific Officer of Ceapro Inc.***

BIO|FOOD|TECH has been playing an essential role in the scale-up work of novel SFE drying technology, which can be used to generate dry powders, fibres and granules from water soluble biopolymers at moderate temperatures and pressures.

Heading up the project for Ceapro is Dr. Bernhard Seifried, the primary inventor of this novel technology and recent PhD graduate from the University of Alberta. BIO|FOOD|TECH's twin 12 L SFE system has been modified for the drying technology. BIO|FOOD|TECH scientists and technologists worked with Ceapro on the modifications to equipment and process necessary for the scale-up trials.

***Pictured in BioFoodTech's supercritical pilot plant are Dr. Bernhard Seifried, Ceapro Inc. (foreground) and Dr. Geoff Ralling, BioFoodTech.***

A key component is the spray nozzle, which has been successfully scaled-up to produce dry beta-glucan sponge and powder in a semi-continuous manner, helping to minimize processing time, solvent use and energy requirements. The drying technology can be applied to a broad range of aqueous solutions of biopolymers to generate dry powders and fibrils with unique properties. These can be used for cosmetic, pharmaceutical, nutraceutical, biomedical, food and other technical applications. This unique patented process offers benefits where heating can damage sensitive materials or compounds.

The next step in the development process will be to ascertain what other compounds can be dried using this unique technology, while continuing to scale-up this process to further show its capabilities at a larger semi-continuous pilot scale. One key objective in 2013 has been to focus on designing semi-automated components that will be incorporated into a full-size commercial drying unit. Ceapro would welcome discussions with strategic partners interested in this technology.

***". . . the main reason this scale-up work is so successful is thanks to the tremendous support by the staff in BIO|FOOD|TECH (Geoff Ralling, Mitch MacRae, Stephen Gould, Gosia Zawadzka, Ed Charter, Susan Corbett, and other supporting staff)"*** **— David Fielder, CSO, Ceapro Inc.**

## Lab Services:

To obtain swabbing supplies and sterile bottles, or for further information about our laboratory services, please call our microbiology laboratory at (902) 368-5937.

**Links to Sampling Instructions:**

Sample Submission form

Requirements for the Collection and Shipping of Samples

Requirements for the Sampling and Shipping of Shellfish

### *SUCCESS STORIES*

***BIO|FOOD|TECH*** *is committed to the security and confidentiality of our clients' information. Project information, reports and study results belong to the client and are not developed for publication. Consent to reveal general activities has been received from some of our clients. These are published within our newsletters and on our website.*

*See* ***Success Stories***

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SCC Accredited LAB

## BioTalent Canada's Career Focus Wage Subsidy Program

When achieving your business goals needs a growing team, the last question you want to be asking is: "Can we afford a new hire?"

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## New Equipment at BioFoodTech: AquaLab 4TE water activity meter

Water activity is a measure of the availability of water in a food. For example, pure water has a water activity of 1, honey has a water activity between about 0.5 and 0.7 and dried fruit a value of about 0.6. It is important to measure water activity during product development to make sure products have adequate shelf-life, avoid mould growth and remain safe and keep their quality during storage. The **AquaLab 4TE water activity meter** is a recent addition at BIO|FOOD|TECH. The temperature-controlled measurement chamber, four decimal place display, internal data memory and 21CFR part 11 compliant administrator login features make this the leading water activity instrument, as well as the fastest and most accurate water activity device on the market.

## Food Safety Workshops

(Registration forms are available on the www.biofoodtech.ca website)

**Upcoming Courses:**

HACCP and the Control of *Listeria* Workshop (3 days); Sept. 23-25, 2013, Baddeck, NS (Daily 9:00 am to 3:30 pm.) Contact Jim Landrigan at (902) 368-5772; E-mail: jklandri@biofoodtech.ca for further information.

If you would like a food safety course held in your area, please contact BIO|FOOD|TECH at 902-368-5548.

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