

FOOD TECHNOLOGY CENTRE

Innovation for the Food & Bioresource Industries

Prince Edward Island, CANADA

NEWSLETTER

February 2009

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Success Stories

We love to help our clients succeed! A few of their success stories are available on a new feature on FTC's website. See [Success Stories](#).

Free Preliminary Consultation

FTC provides free preliminary consultation services and FTC will help you source appropriate funding for your food development projects.

Microbiology Laboratory Services

- [Sample Submission forms](#)
- [Requirements for the collection and shipping of samples](#)
- [Specific instructions for the collection and shipping of shellfish samples](#)

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

Funding Programs

Links to information about programs available from our funding partners are available on FTC's website. See [Funding Programs](#).

Client Profile: Bio Vision Technology Inc.

By Geoff Ralling, Ph.D., Natural Products Process Scientist



Bio Vision Technology Inc. is an Atlantic Canadian company undertaking the development of a biorefinery designed to convert biomass (e.g. hardwoods, straws) into highly purified, low molecular weight feedstocks. The Food Technology Centre through its Natural Products Extraction group, is one of Bio Vision's strategic partners.

At the FTC, woody plant materials are being processed on a small scale using Bio Vision Technology Inc. equipment and procedures. This technology uses high temperatures and pressures to break down wood and plant fibre into their simpler components hemi-cellulose, cellulose and lignin. FTC scientists can then separate and purify these and other components into much higher value products. This work will help Bio Vision Technology Inc. refine its processes and allow estimates of energy consumption, product yields and product quality.

To learn more about Bio Vision Technology Inc., its process and goals, please visit their website at <http://www.biovisiontech.ca/>

FTC can provide solutions in **natural products extraction** and nutraceuticals/functional foods product development. FTC has the equipment and the expertise to help you develop new products and techniques that will help you to design extraction, separation and purification methods and to reduce your production costs. For further information, please contact Dr. Edward Charter, Manager, Natural Products Extraction, at (902) 368-5912.

How Food Products Grow from Ideas to Items on the Shelf

The article "[How food products grow from ideas to items on the shelf](#)" features an interview on food product development with FTC's Executive Director, Jim Smith. It was published in the November 2008 issue of **Canadian Grocer**.

Detecting and Measuring Allergens in Foods

By Eva van't Veld, B.Sc., Microbiology Lab Technologist



Severe allergies can have crippling effects on a person and can be triggered by minute quantities of allergens in food products. Undeclared ingredients in food products can cause reactions of varying degrees, from physical discomfort to anaphylactic shock and death. There are nine priority substances that are frequently related to food allergies and allergic-type reactions. These substances are as follows: peanuts, eggs, milk, tree nuts, wheat, soy, sesame seeds, seafood and sulphites.

The **Prince Edward Island Food Products Development Fund** will assist Island businesses with projects conducted at the Food Technology Centre. Companies from neighbouring provinces, NB and NS, also have funding support available from their provincial governments for product development activities conducted at FTC. Contact Yaw Dako, Food Technologist (902) 569-7699.

Food Safety Workshops

- [Seafood HACCP-QMP](#) – 3 days workshop, Feb. 11-13, 2009 at Moncton, NB.
- [HACCP \(FSEP\) Workshop](#), 3 days, Moncton NB, in March.
- [Control of Listeria in Food Processing Plants](#) – courses to be held in St. John's, NL, Moncton, NB, Cape Breton, NS, in March.

For further information on these, or if you would like a course held in your area, please contact Jim Landrigan at (902) 368-5772 or by email at jklandri@gov.pe.ca

Course outlines of all our Food Safety Workshops are available on the [Training page](#) of our FTC website.

Prince Edward Island Food Technology Centre

101 Belvedere Ave.
P.O. Box 2000, Charlottetown, PE
C1A 7N8
Tel: (902) 368-5548
Fax: (902) 368-5549
Email: FTCWEB@gov.pe.ca
Website: www.gov.pe.ca/ftc

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At present, it is estimated that up to six percent of children and between three and four percent of adults suffer from food allergies. As the rate of people being diagnosed with food allergies and food intolerances increases, so does the need for reliable and standardized methods capable of food allergen detection and quantification.

Health Canada has evaluated enzyme linked immunosorbent assay (ELISA) based methods to detect even slight traces of allergens such as milk casein, egg and almond, and has assembled a committee whose goals include the investigation and evaluation of other detection methods.

For more information on food allergies, methods and labelling claims please refer to the Health Canada website (<http://www.hc-sc.gc.ca/fn-an/securit/allerg/index-eng.php>).

Algae as a Source of Natural Products

By Stephen Gould, Sr. Extraction Technologist

FTC is prepared to extract compounds of interest from almost every source of biomass possible, each presenting its own individual challenges. Algae can serve as a consistent source of biomass with reproducible and automated harvesting techniques.

Well-researched cultivation techniques for growth and harvest of microalgae have encouraged companies to explore this opportunity. Another reason lies with the multitude of uses for microalgae. One of the most common uses of microalgae has been as a source of feed for fish farming. Algae has also become a commercially viable source for many different chemicals; for instance, astaxanthin (a natural product used in fish feed to give farmed salmon their characteristic red flesh colour) and tocopherol (Vitamin E) are just two chemicals that can be produced by microalgae. Additionally, the composition of chemicals in algae can be controlled by adjusting nutrients and inducing stresses on the cells within the culture. Manipulation of nutrients can significantly change the chemical composition of the final microalgae product. The number of journal articles about extracting valuable components from microalgae is increasing; patents are being filed, and companies are looking to FTC to commercialise this technology.

Bioscience has advanced to grow microalgae cultures indoors that use light, carbon dioxide and a small amount of nutrients in batch or continuous cultivation. Other culturing techniques include the use of fermentors that use sugars instead of light to feed cultures and produce much more microalgae for every litre of volume.

The extraction capabilities of FTC include solvent extraction, cell disruption assisted by ultrasound and supercritical fluid extraction to name a few. With access to locally grown, freshly harvested rather than dry microalgae, new techniques can be developed that could reduce the number of steps required to extract commercial compounds of interest from the algae.

For more information on how we can help extract crude or purified natural products contact Dr. Edward Charter, Manager, Natural Products Extraction, at (902) 368-5912.

Question of the Month – Debut

Please e-mail any question you may have relating to food science or extraction of bioactive compounds to ftcnews@gov.pe.ca. One question will be answered by one of our experts each month and published in this monthly newsletter.