

FOOD TECHNOLOGY CENTRE

Innovation for the Food & Bioresource Industries

Prince Edward Island, CANADA

NEWSLETTER

August 2006

Featured in this issue:

- Manufacturing Meat Pies
- Extraction, Isolation and Purification of Natural Products
- Microfluidizer 110-EH
- Funding Profile: Capital Equipment Acquisition Program
- Food Safety Workshops

Free Preliminary Consultation

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

The **Prince Edward Island Food Products Development Fund** will assist Island businesses with projects carried out at the P.E.I. Food Technology Centre. Support is also available for product development activities carried out at FTC for companies in our neighbouring provinces through the NS, NB, and NL governments. Contact Yaw Dako, Food Technologist (902-569-7699)

FTC provides certified **organic processing** services. Contact Leigh Gao, Food Scientist/Engineer at 902-368-5465.

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.

For further information on our Centre, please visit our website: www.gov.pe.ca/ftc

Manufacturing Meat Pies for Export

by Esther Lee, Food Scientist



The Home Place Inn and Restaurant in Kensington, has been producing and supplying meat pies to local grocery stores in Charlottetown and Summerside, Prince Edward Island (PEI) for the past few years. Now they want to expand their market beyond PEI. To comply with the export regulations of the Canadian Food Inspection Agency (CFIA), they need to produce the meat pies in a federally-inspected meat establishment.

The pilot plant at the PEI Food Technology Centre (FTC) is a federally-registered facility that meets export regulations for food production. The products that are processed at the FTC pilot plant can be sold both nationally and internationally. With assistance from the FTC Food Science Group, the Home Place Inn and Restaurant recently produced their meat pies at the FTC pilot plant which will allow the company to access export markets.

Glenda Burt is the **Home Place Inn and Restaurant** proprietor and can be reached at (902) 836-5686. For further information on services available at FTC, please contact Dr. Ed Charter, Food Science Group Manager at (902) 368-5912.

Extraction, Isolation and Purification of Natural Products

By Dr. Muhammad Yousaf and Dr. Roberto Armenta

Several drugs are based on natural products which can be categorized into four major groups: terpenes (i.e. taxoids, steroids), glycosides, alkaloids, and miscellaneous substances. Global sales of these drugs are estimated to be over \$20 billion/year and are expected to grow at an average annual rate of 6.3% (Business Communication Company, www.bookrags.com/sciences/chemistry/natural-products-woc.html).

To date over 50 commercially available anticancer drugs (excluding endocrines) have been approved by the USFDA. These drugs, based on natural products, represent almost a third of the total approved agents. **Taxol**, a natural product derived from the Pacific yew tree *Taxus brevifolia*, was approved in 1992 (the semi-synthetic form in 1995). Taxol is used for the treatment of ovarian and breast cancer. *Taxus canadensis* (ground hemlock) is found in woodlots throughout eastern Canada. Regulations for the harvest, purchase, and transport of PEI's ground hemlock resource are covered by the [Wildlife Conservation Act](#).

The natural products extraction division of FTC has the knowledge and equipment to extract, isolate and purify natural products of interest from a few milligrams to several kilograms by using a range of techniques such as liquid-liquid extraction, chromatography (i.e. partition, adsorption ion exchange, size exclusion, GC, CC, TLC and HPLC), supercritical fluid extraction, ultrasonics and solvent extraction.

FTC's modern equipments and facilities can be used to develop new methods for the isolation of natural products on an analytical and preparative scale. FTC can provide solutions in **natural products extraction** and nutraceuticals/ functional foods product development.

Food Safety Workshops

Several courses are being planned in cooperation with the New Brunswick Food & Beverage Processors Association:

- [Introduction to ISO 22000:2005 Food Safety Management System Workshop](#), Moncton, NB; Sept. 12, 2006.
- [Food Plant Sanitation Workshop](#), Moncton, NB; Sept. 13, 2006
- [Getting Ready for a Customer Food Safety Audit Workshop](#), Moncton, NB; Sept. 19, 2006.
- [Food Safety for Managers and Supervisors](#), Moncton, NB; Sept. 20, 2006
- [HACCP Food Safety Workshop - FSEP](#); Moncton, NB; Oct. 17-19, 2006
- [Seafood HACCP Workshop \(QMP\)](#), Moncton, NB; Nov. 7-9, 2006

These courses will also be offered in other areas if there is enough interest. For further information on these and other available courses, please contact Jim Landrigan at 902-368-5772 or by email at jklandri@gov.pe.ca

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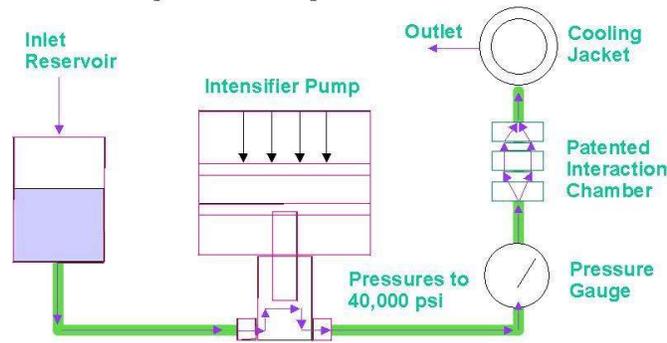
Feedback: If you have ideas for future newsletters or any comments we would love to hear from you. Please call Janet Docherty at 902-368-5226 or email jvdocher@gov.pe.ca

For further information, contact Dr. Muhammad Yousaf, Organic Purification Chemist at (902) 368-5795; Dr. Roberto Armenta, Natural Products Biochemist at (902) 368-5086 or Stephen Porter, Chemical Engineer at (902) 368-4233.

Featured Equipment – Microfluidizer 110-EH

The Model M-110EH microfluidizer is a fluid processor used for cell disruption, particle size reduction to nano-sized particles for dispersions, emulsions, liposomes and de-agglomeration. Below is a schematic showing the principle of operation (*courtesy of Microfluidics Corporation*).

Principle of Operation



In food applications in particular, this high shear technology results in very stable and homogeneous emulsions due to the extremely small droplet size (and therefore very high specific surface area) that can be achieved, and the narrow size range relative to conventional technologies.

FTC has done some preliminary work with this unit on various emulsions, and the potential for this technology is great. We look forward to working with many more clients in the future in applying this approach to the generation of high quality stable emulsions.

A listing of other [food processing equipment](#) is available on our website. Most pieces of equipment are mobile, permitting operators to customize processing lines. A range of pumps and auxiliary equipment is also available. For further information, contact Dr. Edward Charter, Food Science Manager at (902) 368-5912.

Funding Profile: Capital Acquisition Support Program

The **Capital Acquisition Support Program** provides financial assistance to Prince Edward Island businesses in acquiring the infrastructure needed to develop from start-up through to international exporting. Manufacturers, processors and providers of exportable services in the food development, diversified manufacturing, information technology, and life sciences sectors may apply. Applicants who provide services to primary industries are eligible for assistance for expansions only, provided the activity clearly contributes to import replacement.

In order for a project to be eligible for assistance, it must provide economic benefit to the province and similar businesses cannot be jeopardized as a result of the proposed project. This program will cover up to 25% of the associated costs for eligible projects, up to a maximum of \$10,000 in assistance. Applicants must be sole proprietorships, partnerships, cooperatives or limited liability companies with well-developed business and marketing plans.

[Prince Edward Island Business Development Inc.](#) provides businesses with the resources they need to succeed. Services include: entrepreneurial training, counselling, financial assistance, trade and export development and marketing advice and support. If you would like more information on the **Capital Acquisition Support Program** or other business development programs offered by government agencies across the Island, please contact the Business Development Officer located at an Access PEI site, by telephone 1-800-563-3734, or by email business@gov.pe.ca