

# FOOD TECHNOLOGY CENTRE

*Innovation for the Food & Bioresource Industries*

Prince Edward Island, CANADA

## NEWSLETTER

December 2006

### Featured in this issue:

- Natural Flavour Compounds
- Staff Profile: L. Suleiman, Ph.D.
- Wireless Thermal Mini Loggers
- Retort Operators Training in January
- Funding profile

### Season's Greetings from the Food Technology Centre

*All of us at the Food Technology Centre (FTC) wish you a Happy Holiday Season and All the Best for the New Year!*

*We look forward to working with you in 2007. Please give us a call if we can be of any help.*

In order for our staff to enjoy a holiday break, the Food Technology Centre will close at noon on Friday, December 22 and will reopen on January 2, 2007. We have made arrangements for our main phone line to be answered, and FTC staff will be available to respond to food safety emergencies.

### 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 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 Dr. Leigh Gao, Food Scientist/Engineer at 902-368-5465.

### Production of Natural Flavours by Microorganisms

*By Dr. Lawan Suleiman, Natural Products Extraction Biochemist*



*Purified natural benzaldehyde*

The generation of natural flavours by microorganisms on an industrial scale is in its infancy, and is still carried out using very complicated and outdated technologies. An increasing number of publications and patents indicates a surge of scientific and economic interest in the use of biotechnology to produce volatile flavours. Many studies have shown that enzyme technologies and microorganisms cultivated in submerged culture may yield complex plant-typical volatiles such as terpenes, aliphatic esters and other carbonyls, phenylpropanoids and lactones.

There is growing fear from the public when it comes to the use of chemically-synthesized flavours compared to those of natural origin. Foodstuffs containing synthetic aromas are often avoided, because the consumer suspects these compounds to be toxic or harmful to health.

To read the complete article, please go to the FTC Natural Products Extraction web page at: <http://www.gov.pe.ca/ftc/index.php3?number=1002026&lang=E>.

### Staff profile: Lawan Suleiman, Ph.D.

#### Natural Products Extraction Biochemist

M.Sc. in Biotechnology, Strathclyde University, Glasgow, Scotland in 1997

- Lawan Suleiman's M.Sc. thesis was on the Assessment of FACSort Flow Cytometer for *Cryptosporidium* and *Giardia* Viability. During post-graduate work at the Science University Malaysia, he conducted supervised research on submerged fermentation processes for the production of benzaldehyde by a locally-isolated *Rhizopus* species.

Ph.D. in Biotechnology/ Microbiology at the Science University Malaysia in 2005

- His Ph.D. research on fermentation and enzyme technology, focused on the production of a novel product using microorganisms. Optimization of various bioreactors to enhance maximum production, and toxicity testing of the purified product was carried out to ensure its safety before being used as a flavour ingredient.
- Dr. Suleiman's early education took place at the Kaduna Polytechnic and the Kano State Polytechnic, Nigeria. Lawan has 10 years experience in laboratory research and he recently left the University of Manitoba to join the team at FTC.

The Food Technology Centre has pilot scale extraction facilities to isolate and purify natural bioactive compounds. Please contact Dr. Lawan Suleiman, Natural Products Extraction Biochemist, to learn more about our extraction services.

Tel: 902-368-5086; email: [lsuleiman@gov.pe.ca](mailto:lsuleiman@gov.pe.ca)

### Featured Equipment — Wireless Thermal Mini Loggers

*By Dr. Leigh Gao and Ebo Budu-Amoako*

Manufacturing thermally-processed products, which have the advantage of a long shelf-life, requires special expertise. The process takes place in pressurized retorts, and temperatures throughout the retort must reach and be maintained at specified minimum levels to ensure that the canned product will be safe. Every process has to be approved and validated by the Canadian Food Inspection Agency prior to commercial production. The

### 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.

A listing of [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 Edward Charter, Food Science Manager at (902) 368-5912.

## Food Safety Workshops

Course outlines of our Food Safety Workshops are available on our website at: [www.gov.pe.ca/ftc/index.php3?number=1016055&lang=E](http://www.gov.pe.ca/ftc/index.php3?number=1016055&lang=E).

We are considering offering a QMP Seafood HACCP workshop in St. George, NB this winter. If interested, please call.

For further information on these, please contact Jim Landrigan at 902-368-5772 or by email at [jklandri@gov.pe.ca](mailto:jklandri@gov.pe.ca)

### Prince Edward Island Food Technology Centre

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To unsubscribe please email [ftcnews@gov.pe.ca](mailto:ftcnews@gov.pe.ca) with "unsubscribe" in the subject line.

**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](mailto:jvdocher@gov.pe.ca)

For further information on our Centre, please visit our website: [www.gov.pe.ca/ftc](http://www.gov.pe.ca/ftc)

Food Technology Centre has been providing thermal process development and process validation service for more than 15 years.



TrackSense® Pro Mini Logger

With the newly acquired wireless thermal **Mini Loggers** from Ellab (Centennial, CO), FTC can offer enhanced services. These miniature loggers are 20mm in diameter and only 16mm long, and can record 14,500 data readings and accurately record temperature from 0-140 °C. The devices can be sealed with the food in a canned product and left to accumulate heating data which is later recovered upon completion of the heating process by uploading onto a computer.

Apart from the ease of manipulation, they are useful in heating vessels where it is impossible to reach with the traditional wired thermocouples. This remote system comes with software which guides the thermal process specialist through the complete thermal validation process. Their use is compliant with CFIA regulatory guidelines for thermal process validation. For further information, please contact Ebo Budu-Amoako, Senior Microbiologist/Laboratory Manager at 902-368-5769, or Dr. Leigh Gao, Food Scientist/Engineer at 902-368-5465.

## Training for Retort Operators

**Jan. 15-19, 2007**, the Food Technology Centre will be presenting a five day retort operator's course entitled **Canned Foods: Thermal Processing and Container Evaluation**. The instructor for the course will be Robert Trenholm of the Marine Institute, NF. Cost of the course is \$750. [Link to registration form.](#)

The course will:

- allow participants to meet employee qualifications for retort operators;
- provide training for employees who have direct involvement with canned foods in hermetically-sealed containers;
- train post secondary students in the subject area; and
- meet training requirements of the personnel section of the Canadian Food Industry code of practice for the heat processing of low-acid and acidified low-acid foods in hermetically-sealed containers.

Registration is limited. For further information, please contact Ebo Budu-Amoako, Senior Microbiologist/Laboratory Manager at 902-368-5769.

## Funding Profile: Atlantic Trade and Investment Partnership

Through the Atlantic Trade and Investment Partnership (ATIP), the Atlantic Canada Opportunities Agency (ACOA) is working with the private sector, academia, provincial governments and other federal departments to develop initiatives aimed at building an export economy and attracting foreign direct investment to the region.

**ATIP includes five key initiatives:**

**Team Canada Atlantic Missions:** offer export-ready Atlantic Canadian businesses the training, partnerships and connections they need to successfully enter international markets, particularly those in the United States and other strategic markets.

**Sector Export Strategies:** support the assessment of export opportunities and the implementation of export development strategies for specific industry sectors.

**Trade Education and Skills Development:** enhances trade awareness and competencies of small and medium-sized enterprises and provides the necessary tools to help them increase their export activity.

**Export Internship for Trade Graduates:** provides employment opportunities for international trade graduates and offers in-house expertise to businesses wanting to capitalize on international markets.

**Atlantic Investment Strategy:** accelerates investment research, awareness and promotion activities that internationally position Atlantic Canada as a profitable place to do business.

For more information, please contact ACOA PEI and Tourism at 1-800-871-2596.