

ITI SCIENTIST DEVELOPS A MOSQUITO REPELLENT CREAM FOR PERSONAL PROTECTION

ITI has obtained the patent rights, and the ensuing royalty payments for a mosquito repellent cream developed by Dr. Radhika Samarasekara, a Senior Research Officer at the Herbal Technology Division. This mosquito repellent cream is based on plant derived chemicals which have very low or no adverse effect on the users.



This product and the production process had been long experimented upon by the researcher. As the first step, the active ingredients were identified from a series of essential oils from local plants. The functional groups of these active components were then changed to enhance their effect. The change of the functional groups of the active

compounds displayed an array of different types of effects on mosquitoes. Some compounds were found to be having a knock-down effect while others killed or repelled the mosquitoes. The research project was mainly aimed at three vector mosquitoes of dengue, chickengunya, filaria and malaria. The first two are rampant even at present in the country. This work was funded by the National Science Foundation.

The oils, active compounds and the active compounds with changed functional groups were formulated into coils, creams, lotions etc. and their efficacy was tested under natural

conditions. Some of the formulations were found to be highly effective. Further developmental work was carried out with the successful formulations.

The technology was transferred on the basis of 1% royalty for five years to a client, who now supplies the mosquito repellent cream developed by

Dr Samarasekera, to the local and foreign markets. This mosquito repellent cream is now used by the Sri Lanka and Bangladesh armed forces and available in the Maldivian market.

This will be released to the local market once the green light from the Pesticide Registrar is obtained.

In order to ensure the continued authenticity of the product, the producer is bound to adhere to the specified quality standard set by the ITI and random samples taken from the market are checked for its quality.

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INDUSTRIAL METROLOGY LABORATORY COMMENCED CALIBRATIONS FOR OVERSEAS CUSTOMERS

The Industrial Metrology Laboratory of the Industrial Technology Institute (ITI) is the first Metrology Laboratory in Sri Lanka having International accreditation as per ISO/IEC 17025 in the areas of thermometry, mass, dimensional, electrical and volumetric which assists local as well as export oriented industries to maintain the quality of their products acceptable to international standards. This accreditation was awarded by Swedish Board for Accreditation and Conformity Assessment (SWEDAC).

Since calibrations performed by Internationally Accredited laboratories are recognized globally a request was received from Medical Health Laboratory, Male of the Food and Drug Authority of Republic of Maldives to calibrate their laboratory equipment that are used for testing purposes which includes ovens, water baths, autoclaves, incubators, top loading balances and refrigerators. The calibrations were performed by two officers of the Industrial Metrology Laboratory using ITI equipment having traceability to International Standards. In addition a presentation was also made to the staff of the Medical Health Laboratory to create awareness on the services available at ITI. This is the first overseas calibration that the laboratory has undertaken after obtaining international accreditation from SWEDAC and hope to serve the neighboring countries by providing internationally accepted calibration services in the near future.



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PRODUCTION OF ITI 'WEATHER MASTER' ON A SEMI-MASS SCALE

The first version of the automated weather station the 'WeatherMaster' that senses, measures and disseminates accurate real-time weather data was developed by the ITI in collaboration with the Department of Physics of the University of Colombo under the Mahinda Chinthana crash program during the first quarter of the year 2006 and was installed at ITI premises to check for field conditions. Subsequently several requests have been received and the product quality is now been improved to meet international levels and also to produce the 'WeatherMaster' on a semi-mass scale. Collaborations have now been established with Dialog -University of Moratuwa- Mobile Communication Research Laboratory that specializes in GSM communication system development and the Department of Computer Science and Technology, University of Uwa Wellassa that specializes in microprocessor and data acquisition system development, to develop a final prototype and then produce the systems on a semi-mass scale with Intellectual Property rights being maintained with the ITI. It has been agreed that a 20% royalty from the net turnover will be distributed amongst the three partners with 40% to ITI and 30% each to the other two partners.

ITI is also proud to record that they have been awarded a public tender worth Rs. 4.9 Mn for supplying, installation and commissioning of 20 automated rain gauges for the Department of Meteorology. Once the data collection is started the rainfall data will be available on the Internet.

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EQUIPMENT CORNER

HEAVY DUTY SCANNER AT THE ISC

The Information Services Centre has received an Epson GT15000 heavy duty scanner in which an A3 size paper could be scanned at once. The scanned images which are of high quality could be saved as JPEG, TIF, PDF, or BITMAP file. Further the scanned documents could be saved as a Words file allowing changes in the text that are required using the ABBYY FineReader 5.0 software. The target size or the size of the scanned image could also be changed.

At present the News Digest is prepared using the scanner. The scanning service is available at the ISC for a nominal fee.

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ITI TRANSFERS TECHNOLOGY ON HIGH PROTEIN HIGH ENERGY SOYA DRINK

Soya is considered to be a miracle bean gifted to mankind by Mother Nature, since it is full of essential nutrients such as proteins, fats, complex carbohydrates, vitamins and minerals. It is also rich in phytosterols, which is useful in combating noncommunicable diseases such as cancers, cardiovascular diseases and diabetes.

In Sri Lanka, Soya is consumed mainly in the form of textured Soya protein, which is commonly referred to as Soya meat. Soya is also added to complementary foods such as Thriposha and Samaposha.

Proteina Foods (Pvt) Ltd is marketing a Soya milk powder in Sri Lanka which is imported from China and they are interested in getting assistance from ITI to develop technologies for Soya products to be manufactured in Sri Lanka. As the first step towards this, the Food Technology Section of ITI transferred the technology for manufacturing a high protein, high energy, Soya milk powder with chocolate flavour to be introduced to the Sri Lankan market. The first few batches were prepared at ITI laboratories for a market survey. ITI has recommended

the machinery required for the process and these new products will be launched to the Sri Lankan market in the near future.

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NATURAL ANTI-OXIDANT DRINKING WATER

Dr. G. A. S. Premakumara, Head of the Herbal Technology Division and his team, have obtained the patent rights for the invention of natural anti-oxidant drinking water developed using anti-oxidants found in cinnamon. The inventors have been successful in the preservation of the crystal clear texture of drinking water, keeping its aesthetic value intact, while mixing the hydro distillate of cinnamon.

Anti-oxidants play a major role in protecting the human body from oxidative damages due to various free radicals which lead to aging and fatal diseases such as cancer, cardiovascular problems etc. Within the human body free radicals are formed due to various biochemical and physiological reasons and are also received exogeneously. Vitamin E is the natural anti-oxidant found in the body, but vitamin E alone cannot fight the oxidative stress exerted by the free radicals. Natural anti-oxidants are also found in various foods and beverages and still this amount of anti-oxidants cannot cope-up with the damages caused by the free radicals. Thus water is an ideal medium to introduce anti-oxidants to the body in a regular manner.



Other than the load of anti-oxidants received by the body there are several other benefits of the cinnamon anti-oxidant water. This drinking water may reduce bad breath, provide protection to teeth and also give a refreshing mouth feeling. According to the inventors the refreshing feeling is enhanced when the water is cold.

For further inquiries, please contact:

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ERRATUM NOTE

In the article “Wood preservative using cashew nut shell liquid” line 2 which appeared in the ITI Bulletin, Volume 16, issue , should read as ‘developed by the Materials Technology Section’. The members of the team involved in the research project were Mr. J. T. S. Motha, Mr. Saman Weeraratne, Mr. D. S. Samarawickrama and Mr. A. S. K. de Alwis. We apologize for the misrepresentation made.

Compiled by Dilmani Warnasuriya and Thushara Abeysekere

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