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Specialized Tests for Food and Water Now Offered in an ISO-Accredited Testing Lab

PAULINA P. NEBRIDA, DOST-1

The food and feed industry based in Region 1 need not go to Manila anymore for important chemical and microbiological tests of their raw materials and finished products.

The Regional Standards and Testing Laboratory (RSTL) of the Department of Science and Technology Region 1 (DOST 1) is now offering the analysis for calcium (Ca), magnesium (Mg) and copper (Cu) in water and mercury (Hg), lead (Pb) and cadmium (Cd) in raw fish and fish products. New microbiological tests offered in the lab include commercial sterility, enumeration of enterobacteriaceae and vibrio parahaemolytics in food and water.

The above tests are made possible with the acquisition of new testing equipment such as atomic absorption spectrophotometer and gas chromatograph.

The other upcoming tests are trans fat, dietary fiber, and cholesterol in food products.

Major renovation of the RSTL was done complying with the requirements of ISO 17025. The Philippine Accreditation Organization (PAO) has recently renewed the accreditation of RSTL with ISO 17025.

For more information on food and water testing you may write or call the Department of Science and Technology Region 1, DMMMSU-MLUC, City of San Fernando, La Union at telefax (072)888-33-99 and fax number (072)700-23-72.

Appropriate Technologies bag guapple bugs

PAULINA P. NEBRIDA, DOST-1

City of San Fernando, La Union - Do you know that the guapple farms in Bauang, La Union is being bugged by several production problems? Mari Cor Ramos, President of the Guapple Farmers Association of Bauang, together with other guapple farmers revealed that they are having a hard time in controlling the insect pests and diseases infesting several guapple farms in Urayong and nearby barangays.

"White grubs or *abal-abal* almost completely devastated my farm", lamented Mr. Amado Pulanco of Urayong, Bauang. White grubs attack the guapples by eating the tips of the roots causing wilting and eventual death in heavily infested plants. White grubs or June bettle is destructive during the 7-months larval stage living underneath the soil.

The Department of Science and Technology Region 1 (DOST 1), introduced appropriate technologies in a bid to help the Bauang guapple industry and the farmers thru the Consultancy for Agricultural Productivity Enhancement (CAPE) program. Director Elsa Chan said thru the CAPE a team of entomologist, plant pathologist and crop production specialist were deployed to the guapple areas to validate the claims of the farmers and identify appropriate interventions.

The experts identified the other insects pests such as stem borer, fruitflies, leaf folder, aphids, mealy bug, white flies, and fruit piercing moth.

The experts also found that the guapples are also infected with fungus particularly attacking the fruits causing rotting in ripening and immature fruits. Leaves infected with fungus have rusty spots or black areas.

A Training on Pest, Disease and Fertilizer Management for Guapples was conducted recently for 22 guapple farmers in Urayong and DOST 1, respectively. The participants were taught the life cycle of the insects, when they are harmful, and the appropriate prevention and control practices like, insect trap or baiting, proper application of clorpyrifos to control borer and *abal-abal* and detergent sprays to control mealy bug, aphids and white flies. Appropriate pesticide use was also presented to avoid build-up of resistant insect population.

On the other hand, fungal diseases can be controlled thru clean practices like burning of infected fruits and leaves. The kind of bagging material is presently being tested to come out with better bagging practice which could reduce fruit rotting.

Fertilization management was also taught to the farmers to improve the guapple stand and productivity.
The appropriate technologies are expected to improve the incoming harvests and income of the guapple farmers in La Union.

CAPE is funded by the Technology Application and Promotion Institute (TAPI) of the DOST.

Couple's Sweet Success in Muscovado

PAULINA P. NEBRIDA, DOST-1

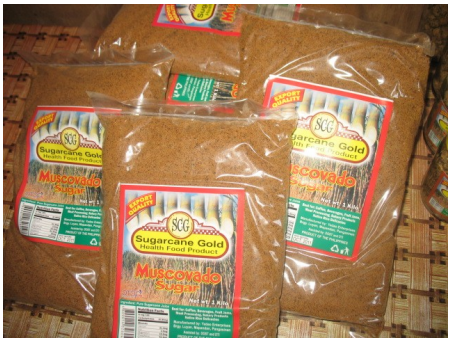
Yadao Enterprises in Luyan, Mapandan, Pangasinan has been in the production of sugar cane vinegar and wet muscovado , locally known as pulitipot, since the late 90s. The products were sold to walk-in clients and in the wet markets in Mapandan, Laoac, Lingayen and Manaoag, Pangasinan particularly to bocayo and kakanin makers.

The increasing demand for table muscovado, due to the renewed interest in the consumption of healthier food alternatives in the local and international markets, caught the attention of the owners of Yadao Enterprises, retired military Colonel Jaime T. Yadao and wife Natividad D. Yadao. In 2006, they decided to shift from wet muscovado to table muscovado sugar production. However, their facilities were bare and not compliant with the requirements of good manufacturing practices.

"I learned that DOST 1 is helping small and medium enterprises (SMEs) to be more productive, so I approached Engr. Felipe Andrada, the Provincial S&T Director of PSTC Pangasinan for assistance in producing table muscovado sugar", quipped retired Col. Yadao.

Yadao Enterprises got the assistance from DOST in 2006 through the Small Enterprise Technology Upgrading (SETUP) Program. The financial assistance of P530,700 was used in acquiring facilities to increase capacity and improve the quality of musco-

Couple's Sweet Success in Muscovado *(continued)*



vado. Bigger and more efficient cooking facilities were installed. Transfer pump, bigger settling tanks, working tables, stainless steel containers for sugar and juice and other resources were acquired to facilitate production and be compliant with good manufacturing practices (GMP). DOST 1 also assisted the firm with appropriate label design.

Sugarcane Gold table *muscovado* sugar came out of the production plant of the Yadaos in 2007. About seven (7) tons of *muscovado* sugar was produced in the initial year. Production of table muscovado sugar grew over the last three years to an average of 35 tons/year with gross sales climbing to 116% higher than when producing wet muscovado.

Table *muscovado* sugar accounts for 80% of the total products of Yadao Enteprises. The other Sugarcane Gold products, produced side by side with muscovado sugar, are the *pulitipot* and the sugarcane vinegar. Col. Yadao disclosed that these are by-products of table muscovado sugar production.

One hundred percent (100%) of Yadao products are now being marketed in all branches of two (2) big malls in Pangasinan, and in known supermarkets in Urdaneta City and Baguio City.

Yadao Enterprises graduated from a category of micro scale enterprise with an asset valued at P2,237,000 in 2007 to small enterprise with asset of P3,248,000 in 2009. The Yadaos put in additional capital investment to buy a heavy -duty sugar cane crusher and cooking facilities to increase production capacity to meet the growing demand for their products. All the efforts of the Yadaos generated an employment for six (6) additional regular workers in the plant totaling their workers to 35.

Col. Yadao said that at the moment, 40% of the sugarcane produced in the 40 hectares he is tilling is still sold to the sugar millers in Tarlac and Pampanga. He envisions though that three years from now, 100% of the sugarcane he is producing is processed inside Yadao's plant. Mr. Yadao believes that DOST will still be the enabler in making his vision of producing more sweet muscovado happen.

ANNOUNCEMENT

Application to the 2012-2013 PSHS Scholarship is Now Open

JENNIFER V. PERALTA, DOST-1

The Search for the Philippine Science High School (PSHS) Scholars for SY 2012-2013 is now open for application. The one-time screening is composed of scholastic aptitude test, known as National Competitive Examination (NCE), which is designed to measure Scientific Ability, Quantitative Ability, Abstract Reasoning, and Verbal Aptitude. The NCE will be administered on September 10, 2011 at designated testing centers nationwide. Deadline for filing of application is on July 15, 2011.

The scholarship is open to all graduating elementary pupils from duly recognized schools by the Department of Education (DepEd), who meet the following criteria:

- *He/ she belongs to the upper 10% of the graduating class as certified by the School Principal, or have special aptitude in science and math as supported by the report card and letter of recommendation, with at least a grade of 85 in all subjects on the 5th and 6th grade;*
- *A Filipino citizen with no pending application as immigrant to any foreign country;*
- *Born on or after June 1, 1997;*
- *In good health and fit to undergo a rigorous academic program;*
- *Be of good moral character; and*
- *Has not taken the PSHS National Competitive Examination (NCE) previously.*

Application forms may be secured and filed at any of the following Offices: PSHS Campuses, DOST Regional, and Provincial Offices. It is also available for download at the PSHS website, www.pshs.edu.ph.

For more details, you may contact PSHS at these numbers (02) 924-0639 and (02) 926-5701 or DOST Regional Office No. I at tel. no. (072) 888-3399 or email at dostro1@dost.gov.ph .

Wood Handicraft, Furniture Maker-Exporter Adopts Furnace-Type Lumber Dryer, Briquetting Technos

IMMANUEL C. QUIBAN and PAULINA P. NEBRIDA, DOST-1

The RM Tree Woodworx, producer and exporter of wood handicraft and furniture in Pindangan, Alcala, Pangasinan adopted the furnace type lumber dryer technology developed by the Forest Products Research and Development Institute (FPRDI) of the Department of Science and Technology (DOST). Engr. Reynaldo Mecias, owner of the RM Tree Woodworx, said that they will also use the carbonizer and briquettor technologies to convert the wood wastes into charcoal briquettes.

The FPRDI and DOST Region 1 conducted the test run of a 3,000 board feet capacity furnace type lumber dryer at the RM Tree Woodworx recently. The company financed the construction of the dryer while the FPRDI provided the technical assistance and experts. FPRDI will also monitor the effectiveness and utilization of the dryer.

FPRDI experts mentioned that the use of furnace type lumber dryer is to reduce the moisture content of the wood to a stable level to avoid cracking, warping and other malformations of the products. Drying is an important component in the export of the woodcraft since these products are exported in various humid countries.

Felicidad Tan, Head of the Pangasinan Science and Technology Center Satellite Office in Urdaneta, saw that RM Tree Woodworx generates heaps of sawdust and wood shavings. This prodded her to request the FPRDI to introduce charcoal briquetting using carbonizer and briquettor technologies. A team of experts from FPRDI, led by Engr. Belen Bisana, Supervising Science Research Specialist, conducted the training on charcoal briquetting in-plant RM Tree Woodworx.

Charcoal briquettes can be made from agro-forest wastes, like coconut shell, coconut husks, coffee bean and rice hull, sawdust and other kinds of wastes. Chaorcoal briquettes are compacted charcoal powder mixed with starch and molded under pressure. Charcoal briquettes can be used in homes, restaurants, and other industries and is an effective substitute to the ordinary wood charcoal.

Use of charcoal briquettes is cheaper that LPG (liquefied petroleum gas) and it is also environment friendly due to lesser smoke emission compared to ordinary charcoal.