BUREAU OF AGRICULTURAL RESEARCH

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# DA-BAR gears up for 5th Nat'l R&D Week; Sen Magsaysay keynotes celebration


Researchers, scientists, policymakers, private sector, farmers, and fisherfolk convene on 5 October 2004, BSWM Convention Hall, Visayas Ave., Diliman, Quezon City, to celebrate the 5th National R&D Week. Organized by the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA), this event features some of the best cutting edge technologies recently developed by Filipino scientists in the field of agriculture and fisheries.

This years' theme, " *Enhancing Agri-based Enterprises Through Responsive R&D*" responds to President Gloria Macapagal-Arroyo's agenda to create more opportunities for our small and medium entrepreneurs and develop one to two million hectares of land for agricultural business. The theme is also in sync with DA Secretary Arthur C. Yap's priority to continuously pursue programs of strengthening R&D that will liberate small producers from their limited traditional knowledge to competitive entrepreneurs of the country.

Among the activities in this year's celebration are: 16th National Research Symposium, Agriculture and Fisheries Investors' Forum, Recognition and Awarding Ceremony, and the Research and Development Management Information Center (RDMIC) inauguration.

The R&D Week kicks off with the *16th National Research Symposium* (NRS) with the presentations of nine R&D competing papers. NRS is an annual event coordinated by BAR wherein top scientists and researchers from various state colleges and universities (SCUs), DA bureaus and attached agencies, and premier research institutions gather together to present the most promising researches and technologies developed and generated within the last three years. Gracing the opening ceremony is Senator Ramon B. Magsaysay, Jr., chair, Senate Committee on Agriculture and Food.

Simultaneous with the NRS paper presentations is the *Agriculture and Fisheries Investors' Forum* to showcase R&D technologies for commercialization that our farmers and entrepreneurs could immediately adopt either as livelihood or business enterprise. The techno-forum is expected to build alliances among technology generators, extension service providers and the various end-users of the technologies. Among the promising technologies to be presented during the forum are: virus-free planting materials for garlic, improved production technology for potted flowering *Mussaenda*, new mango varieties, virgin coconut oil production, diagnostic kit for plant pathogens and food-feed toxins, new vaccines for castle disease in native chicken, development of coco-diesel, silica gel from rice hull, and many more. This activity is orchestrated by BAR in

***see DA-BAR gears...page 8***

This will help promote awareness on technological breakthroughs generated by the member institutions of the National Research and Development System for Agriculture and Fisheries (NARDSAF).

***The private sector***

Involving the private sector in the agricultural development equation is vital both in the generation and dissemination of researches. A study authored by Dr. Ponciano Intal and

***see BAR responds...page 4***

## BAR responds to call of the times

This years' R&D week is responding to the demands of the times with its theme, ***"Enhancing agri-based enterprises through responsive R&D"***. One of the activities in the two-day celebration is the "Investors' Forum", where applicable researches are presented to investors.

**INSIDE...**

SUCCESS STORY

# A cooperative rises

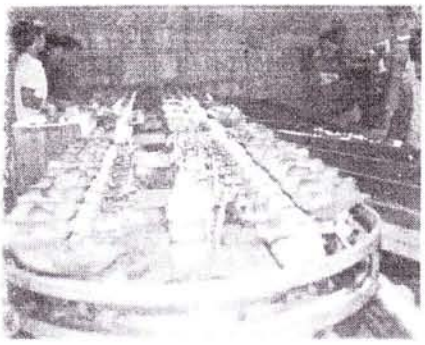
*by Virginia A. Duldulao*

It garnered the **Most Outstanding-LGU Partnership Award 2003** from the Senate of the Philippines, Cooperative Development Authority (CDA), Polytechnic University of the Philippines (PUP), and the UP National College of Public Administration and Governance. But honestly, before entering the office, I thought there must be something more about the coop for winning the national award.

The space that the Malabing Valley Multi-Purpose Cooperative (MVMPC) occupies in Quezon, Solano, Nueva Vizcaya looks unimpressive but as we got inside my preconceived notion began to dissipate seeing the trophies and the plaques and certificates of recognition that line the walls of the office of the manager. I talked with the officers and staff of the cooperative who were preparing to go to Manila to buy equipment that they badly needed but waited for us. They are all young professionals, articulate in English, agile in their movements and know what they are talking about.

"This is only our extension office and trading center. We are renting this space including that at the side as our trading post and parking area for vehicles that ferry the citrus from the Valley. There are now 15 vehicles ferrying the fruits from Malabing," explained the chairman.

Early the next day, jeeps that have big tires and are longer than the usual passenger jeeps began arriving, filled with crates of citrus, and trading began. There was a beehive of activity since the citrus season was starting to peak. With an average daily production of 15 tons (last year; but their most recent records show there is an average production of 25 tons from the Valley), the coop buys only 22 percent of this. Eighteen percent comprise the other buyers while 60% of the growers



*Sorting machine*

*At the trading port*

sell their produce directly to their preferred buyers. The citrus bought by the coop are first classified another compound where there is a mechanized sorting machine. It is also a requirement of the coop that the fruits bought by it are already washed and waxed with a wax imported from Israel. Coop members pay P7/kg for the sorting of their product. The coop regulates the price and no trader can buy lower than that set by the coop.

"We cannot buy all because of the big volume of production. Of the farmers in Malabing only 85 percent is citrus farmers but this is increasing because the other farmers can see the transformation in the life of the citrus farmers and they are now turning corn farms into citrus farms. But with the technology we are using, we are still far behind the other countries. We produce 20 tons per hectare while the progressive countries produce 40 to 60 tons per hectare. Our market outlets at present are Baguio, Metro Manila, Regions 1, 2, and 3. Our coop has branched out to Pampanga, Tarlac, and Divisoria. We have our bodegas and employees there," Mr. Fernando Sison, the young coop chairman explained.

The next day we visited Malabing Valley and saw the imposing coop building, beautiful and sturdy houses, clean and well maintained citrus farms. Farmers were tending their farms even under the noonday heat. Every farmer hires laborers from the lowland since there are not enough farm hands in the area. One farmer can have 3 laborers, some can have as many as 20.

What is the profitability of citrus farming? If a family has a hectare of citrus, this produces 85 tons, grossing P800,000. This industry lures their college graduate to go back home and be a citrus farmer. This explains why the farmers in Malabing Valley are professionals. The social transformation is fast. The industry turned out tricycle owners/drivers/operators, vendors, retailers, jeep owners, and traders.

The MVMPC was a vision of a young group of professionals in 1989 to improve the socio-economic condition of their community and inspired by Mr. Alfonso Namujhe, Jr. whom the

*see A cooperative...page 7*

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NEWS

# Korean officials eye future investment opportunities in agriculture

Five Korean officials visited the Bureau of Agricultural Research (BAR) for a briefing on the latest information regarding the thrusts and programs in agriculture of the various agencies and bureaus of the Department of Agriculture particularly on investment opportunities and proper protocols to follow by foreign investors in adopting technologies from the country.

The briefing was held at the RDMIC Conference Room on 7 September 2004 with BAR Director William C. Medrano presiding over the meeting. Other BAR key officials present during the dialogue were: Assistant Director Nicomedes Eleazar, Senior Technical Adviser Santiago Obien, National Programs Division Head Carmencita Kagaoan, and Regional Programs Division Head Rustico David.

The Korean officials came from the Korea Agricultural & Rural Infrastructure Corporate (KARICO), namely: Roh Gyeong-tae (agricultural engineering), Ryou Myung-sang (horticulture), Jeon Jong-gil (agricultural engineering), Sonn Yeon-kyu (soil science), and Kim Jong-wooh (agriculture).

KARICO is a professional organization for advanced rural development and water management. It provides the best possible service to farmers. It also performs social responsibilities and roles as a public enterprise preparing the agricultural policies of Korea by concentrating major capabilities of the corporation with humans, technology, and the environment as the central values.

According to Mr. Kim Jong-wooh, KARICO senior agriculturist, their immediate concern for the visit is to know the status of Philippine agriculture since they want to promote it to the private sector in Korea and identify future investment opportunities particularly in the fields of agricultural engineering, horticulture, and fruits. Dr. Medrano said that the big challenge Philippine agriculture faces today is the commercialization of technologies. He said that various research institutions are producing breakthroughs and technologies for the farmers yet these are not being fully utilized due to insufficient investments and capability of putting these technologies into business enterprises. He told them, that these newly generated technologies have big business potentials if promoted well to the public and the private sectors. *(Rita T. dela Cruz)*

*Korean visitors and BAR officials*

*see Catching silkworm's...page 3*

***Into the future***

Recent surveys reveal a healthy demand for silk and other natural fibers especially in many European countries. In 2002, cocoon production was estimated at 2.8 metric tons showing a glaring volume deficit of 6,761.8 metric tons or 99.6%. This is the volume needed to meet the demand for raw material of the different sectors of the silk industry. Today, the government has speed up efforts to boost the silk industry to meet its target of producing 162 metric tons of spun silk in 2006. Hand-in hand with the right infrastructures provided by the government, it is equally important to have a cost-effective program to manage diseases of silkworms. Using the ELISA protocol, it is possible to diagnose silkworms of the virus before it is too late thereby, protecting a lucrative investment and ensuring the livelihoods of silkworm farmers and entrepreneurs.

*Source:*

1) *Minerva Tabafunda, Leodegario Padua, and Narceo Bajet of the Sericulture Research and Development Institute of Don Mariano Marcos Memorial State University. Sapilang, Bacnotan, La Union. "Pathogenicity of Nucleopolyhedrovirus of Silkworm (Bombyx mori) and its Detection by ELISA". 2002*

2) *Hitoshi Watanabe of Nodai Research Institute, Tokyo University of Agriculture, Tokyo, Japan. "Genetic resistance of the silkworm,* Bombyx mori *to viral diseases" Special Section: Recent Advances in Silkworm Biology, Current Science, Vol. 83, No.4. August 2002*

NEWS

# BAR officials undergo ISO training

In preparation for the actual ISO certification process, key officials of the Bureau of Agricultural Research (BAR) went through a two-day training on ISO Interpretation and Documentation on 2-3 September 2004, RDMIC Conference Room. The training allowed staff of BAR to appreciate and understand the ISO certification process particularly the requirements, application into daily activities and responsibilities of the management system, and how to effectively document the quality management system of the agency.

The resource person of the training was Ms. Jean Jimenez and facilitated in by Ms. Georgina A. Panga, Joseph Server and Associates (JSA) account manager.

Among the key officials attending the ISO training were Mr. Braulio Tamayo, Quality Management Representative (QMR), Ms. Melody Memita, Document Control Officer, and the ISO Team headed by Mr. Hamlet Dala, members include all the division heads.

After the trainings on interpretation of the ISO standards and the quality assurance and documentation is the submission of documentation review and the review of documents. From here on, there will be a revision and finalization of documents and the implementation of the finalized reports. There will be an IQA training workshop and the first/ test run internal audit. After the test run, there will be a corrective actions and closure of findings. Major findings will then be used during the management review meetings afterwhich a pre-assessment audit is to be conducted. Problems that came out during the review meeting will be tried to resolve through an intensive workshop wherein a follow-up and closures of non-conformance report is to be accomplished. This will be followed by the submission of documents to the certifying body, closure of findings and the ISO certification audit. There will be some corrective actions and finally, the submission of the terminal report.

The ISO certification process of BAR was launched in August 2004 with Joseph Server, president of JSA and BAR ISO consultant, attending the activity.

Through the ISO Certification, BAR hopesto achieve a world-class standard through an improved operation and increased ability to maintain client satisfaction, drawing more interest among its various stakeholders. BAR hopes to attain ISO Certification on 16 December 2004. (Rita T. dela Cruz)

*...BAR responds...*

commissioned by BAR entitled *Formulation of an Investment Policy Framework and Indicative plan for Agriculture and Fisheries Research, Development, and Extension for 2001-2020* espoused this point. In his terminal report, he said that the government provides for R&D, even for those that are non-appropriable. The private sector, however, tends to focus on R&D where the benefits are likely to be appropriated, and where there is large market demand for products. In the paper, he presented a framework for government-private sector partnership in funding and directing agricultural R&D.

***Government focus and support***

This outlook comes in the time when the government is making development of agri-based businesses a major focus. One of President Gloria Macapagal Arroyo's 10-point agenda was to create jobs through more opportunities by financing small and medium enterprises, and to develop one to two million hectares of land for agricultural business.

Newly-installed secretary of the Department of Agriculture(DA), Sec. Arthur Yap, in his acceptance speech last August 23, assured the stakeholders that programs under DA will be measured against the President's 10-point agenda, giving importance to the creation of 6-10 million jobs in the next six years, a great percentage of which will be generated under the agriculture sector.

Bureau of Agricultural Research(BAR) Director William C. Medrano has maintained that BAR is shifting its focus on researches that would generate technologies that can be readily communicated to the stakeholders. These technologies will be the tool for establishing market-oriented farming institutions that will elevate the quality of living in the rural areas. *(Ma. Lizbeth J. Baroña)*

# Unpublished papers vie for awards in the 16th NRS

To elevate the playing field and encourage young and new researchers to participate, the Bureau of Agricultural Research of the Department of Agriculture (DA-BAR) focuses only on unpublished scientific papers in this year's national research symposium.

This contest is open to all Filipino researchers and scientists from premier research institutions and state colleges and universities that are members of the National Research and Development System on Agriculture and Fisheries (NaRDSAF). Qualified entries are unpublished reports of R&D projects conducted in the country from July 2003 to June 2004.

This year, despite the change in one of the qualifying criteria, there was an enthusiastic turnout of participants- 153 unpublished papers were submitted this year, a 61 percent increase from last year's total number of entries.

Unpublished papers were grouped into three big categories: basic, applied and adaptive research. Basic research is directed towards the increase in knowledge or understanding of the fundamental aspects of phenomena and observable facts without specific commercial applications. Applied research is directed toward gaining knowledge or understanding necessary to determine the means by which a recognized and specific need is met while adaptive research includes technologies that can be adapted, verified, and commercialized. Furthermore, the papers were classified under specific categories such as agricultural engineering, processing and postharvest, crop science, animal and veterinary science, fisheries and marine science and socio-economics.

In the initial evaluation, 44 unpublished papers garnered a rating of 80% and above thus, winning the AFMA R&D Paper Awards. Among these winners, the top three finalists for basic, applied and adaptive category instantly became winners of the AFMA Best R&D Paper Awards. These nine finalists will present their papers again to a panel of experts to compete for the Best Poster Awards on 05 October 2004 at the Convention Hall of the Bureau of Soils and Water Management (BSWM).

Winners will receive a plaque of recognition, trophies, and cash incentives during the awarding ceremonies in the afternoon of the same day. Hon. Benasing Macarambon and Hon. Arthur Yap. will be the guests-of-honor during the symposium.

The national research symposium is an annual activity that recognizes significant accomplishments in research and development and encourages the publication of research results by providing incentives for exemplary research performance. It is also one way of updating our reservoir of affordable cutting-edge technologies and information and encouraging more scientists to take a more proactive stance in generating technologies that could transform our farmer/fisherfolk into globally competitive business entrepreneurs. *(Junelyn S. de la Rosa)*

# November declared as National Rice Awareness month


President Gloria Macapagal-Arroyo issued Proclamation 524 declaring every November as National Rice Awareness Month in the Philippines. This proclamation officially adopted the International Year of the Rice 2004 (IYR) in the Philippines, which was declared by the United Nations in recognition of rice's role in various cultures and traditions and as staple food of more than half of the world's population.

In preparation for the IYR finale celebrations on November, print, and broadcast media practitionrs were invited to participate in the second national press conference at the Bureau of Plant Industry (BPI) in San Andres, Manila last July. The Philippine Postal Corporation and the Philippine Rice Research Institute (PhilRice) sponsored a national stamp design contest. The Asia Rice Foundation sponsored a photo contest while the Commission on Higher Education (CHED) spearheaded the essay writing, watercolor painting, and multimedia production contests.

Two books on rice as a tribute to IYR 2004 will be launched. The *Philippine Rice Centennial: Research and Development* recognizes the Filipinos' contribution to rice research while *Rice and Filipinos, the last 100 years* looks at rice and its importance in the Filipino diet and culture. Other on-going IYR-related activities are the Rice exhibition held at the National Museum in Manila, IRRI Rice World in Los Baños, Laguna, and at PhilRice in the Science City of Muñoz, Nueva Ecija.

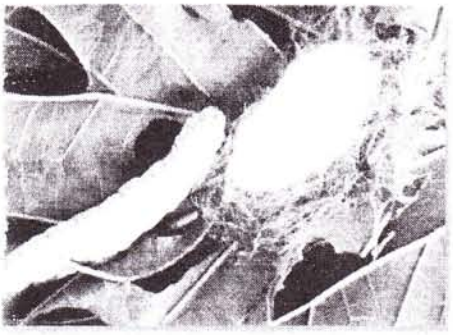
In October, AgriLink-Foodlink 2004

*see November declared...page 8*

FEATURE

# Catching silkworm's invisible enemy with ELISA

by Junelyn S. dela Rosa



Silkworms(*Bombyx mori),* the humble makers of glorious, glamorous silk are one of life's amazing wonders. For thousands of years, these bugs have woven silk and catered to the vanities of men and women. But, recently silkworms have become sick from nuclear polyhedrosis, also known as grasserie or jaundice caused by a virus called BmNPV or *Bombyx mori* nucleopolyhedrosis virus.

While there are already conventional methods to control the disease, silk producers have no way of knowing whether the silkworms are already infected before it is already too late, thus resulting to a significant 40-70 % loss in cocoon harvest.

Rising to the rescue, scientists from the Sericulture Research and Development Institute of the Don Mariano Marcos Memorial State University (DMMMSU), La Union have developed a new protocol to detect whether the silkworms are harboring the BmNPV virus even before they exhibit physical symptoms.

### *BmNPV: the invisible enemy*

Like other viruses, the BmNPV cannot be seen with the naked eye since it measures 30x45 nanometer- one nanometer is one billionth of a meter. BmNPV infects various tissues of the silkworms and multiplies in the nucleus forming inclusion bodies called polyhedra, which occlude virus particles. The virus is rod-shaped and contains double-stranded DNA or deoxyribonucleic acid- a nucleic acid molecule in the form of a twisted double strand (double helix) that is the major component of chromosomes and carries genetic information.

Silkworms infected with BmNPV become bloated and yellow with swollen segments, hence the name jaundice. Its milky hemolymph which is a fluid in certain invertebrates that functions like the blood in vertebrates becomes filled with small crystals which are actually polyhedral inclusion bodies.

BmNPV is highly infectious and causes high mortality in silkworms. In the experiments, scientists found that age and rearing season significantly affected the survival rates of the silkworms. Survival rates were much higher during the November-December rearing seasons at 56.87% and 54.59% compared to the April-May rearing periods at 23.33% and 17%. As to age, they reported that silkworms become less susceptible to the virus as they matured, hence a 5$^{th}$ instar larvae is more likely to survive compared to a 3$^{rd}$ instar larvae.

Some chemical insecticides and pathogens also increase the susceptibility of the silkworms to BmNPV. For instance, larvae that have ingested some bacteria or were treated with Sumithion and DDT became more susceptible to the virus.

### *ELISA: Catching viruses before it is too late*

To detect if the silkworms were infected with the disease, the scientists used the indirect enzyme-linked immunosorbent assay or ELISA- a widely used technique for determining the presence or amount of protein in a biological sample, using an enzyme that bonds to an antibody or antigen and causes a color change.

The scientists reported that the ELISA technique is a reliable method and simple method for screening silkworms of the BmNPV virus as early as one day after inoculation even before the silkworms exhibited physical symptoms. It is also suitable for screening large numbers of samples for virus infection and is environment-friendly since it uses safe reagents.

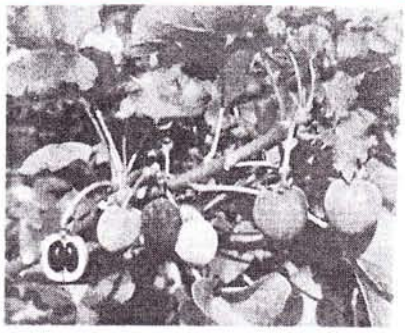
### *Other control methods*

To manage the BmNPV virus effectively, scientists have recommended practicing a concoction of control methods. One important method is to disinfect the area especially the instruments used in rearing the silkworms by spraying them with formalin or slaked lime water. It is wise to do this before, during, and after the rearing season to prevent the spread of the disease

Another method is to rear silkworm varieties that are resistant to the virus. According to the scientists, resistance of the silkworm to NPV is controlled by polygenes which are mainly concerned with defense mechanisms of the midgut of the silkworm. Breeding resistant silkworm strains can be done through a prolonged selection of silkworms that are exposed to the virus. There are two practical methods for selection of resistant strain: batch selection and individual selection. In batch selection, sample larvae from each batch are tested for susceptibility to a virus and the most resistant batch is selected for further breeding.

In individual selection, the larvae of mixed batches are fed with a virus and the offspring of the surviving individuals are further exposed to the virus. The exposure to the virus is continued in the subsequent generations. While this method is faster compared to batch selection, there is the risk of losing the resistant strain during subsequent breeding due to the strong selection pressure applied.

*see Catching silkworm's...page 3*



# Another wonder crop in the *Jatropha curcas*

*by Teodoro S. Solsoloy and V. A. Duldulao*

FEATURE

The oil of the physic nut, *Jatropha curcas,* is now being formulated in the Philippines as pesticide and molluscide. But more than this, the 37 percent oil content of this nut can be a diesel fuel substitute. Even without being refined, the oil can burn with clear smoke-free flame. This has been tested successfully as fuel for simple diesel engines. The by-product, a press cake, is a good organic fertilizer.

### *The Plant*

The physic nut is a small tree, about 3-5 m tall but can reach 8 m under favorable conditions. The large leaves that are alternate to sub-opposite, three to five-lobed with a spiral phyllotaxis, are green to pale-green. From its smooth, gray bark flows out whitish, watery latex when cut. The inflorescence formed at the leaf axil yields a bunch of approximately 10 or more ovoid fruits. These fruits are produced when the tree is leafless. Three bivalve cocci are formed when the seeds mature and the fleshy exocarp dries. The seeds are mature when the capsule changes from green to yellow.

Widely cultivated in the tropics, this plant is easy to establish with minimum inputs. It is drought-resistant, adapted to sandy, saline, stony, and marginal soils although it grows well on well-drained soils with good aeration. It is propagated through seeds or stem cuttings.

One hectare of *Jatropha curcas,* on the average, can produce 3.75 mt of seeds, yielding 1.2 mt of oil.

### *Potential*

The potential of this plant lies in its multiple uses, the most important of which

is as erosion control and for oil production. These uses of the plant are not new and there are existing technologies that can be used. Ten percent of Nicaragua's diesel consumption, for instance, comes from *Jatropha.* The Philippines can also tap the potential of this plant. Since it can grow well in marginal areas, the lahar-laden areas can again be made productive through this plant.

All parts of the plant have uses. The oil extracted has big potential in the industries as varnish, illuminant, pest control, and soap. Moreover, the oil has a strong purgative action and is also widely used to treat skin diseases. It soothes pain such as that caused by rheumatism.

The press cake, after oil extraction, is an organic fertilizer during the leaves that fell to the ground enhance earthworm activity around the root zone while composting. The plant is a living fence and as hedge for grazing areas. It has a component that repels snakes in going to the area.

The juice from the flower and stem has medicinal properties while the latex can be used to arrest bleeding of wounds. The leaves can be used for dressing boils; a decoction from them is used against cough and as antiseptic after childbirth while an extract showed potent cardiovascular action in guinea pig and might be a possible source of beta-blocker agent as found in the study of Fojas, et al. (1986). When pounded, the seeds can be used for tanning. From the bark of the plant a dark blue dye and wax can be produced.

With all these uses of *Jatropha curcas,* this plant needs a second look. It might yet be a wonder plant that can alleviate the ills of an ailing country.

### *A cooperative...*

people of Malabing Valley consider as the pioneer of the citrus industry in the place. He told this group that they should form a cooperative since they cannot operate individually in technology use and in marketing. The coop was formally organized in November 1989 with 48 initial members. To date, it has 354 members with a total paid up share capital of P 2,292,232.87 and with assets totaling P16,530,430.94.

This coop continues to dream and to rise. The Department of Agriculture (DA), the Bureau of Postharvest Research and Extension (BPRE) as well as other agencies also continue to help this coop through technical and financial assistance. It has a refrigerated van, sorting machine and two vehicles. The farmers now practice the irrigation technology studied and demonstrated in the area, a technology to increase the sweetness of the fruits, and postharvest technologies. But the coop wishes that the farmers were more disciplined in the growing of citrus. They now produce their own planting materials which maybe detrimental to the industry due to the lack of proper technology.

If there is no problem, there is no challenge, nothing to answer and no growth. The MVMPC has the capacity to grow and answer any challenge. - ***VAD***

***DA-BAR gears...***

cooperation with the Agricultural Training Center (ATI)

In commemoration with the Bureau's 17th year of establishment, BAR marks this day by giving recognition to the people who have helped carry out its tasks of advancing R&D in the country—scientists and researchers. The *Recognition and Awarding Ceremony* is held in the afternoon. Among the important awards to be given are: AFMA R&D Paper, AFMA Best R&D Paper, and Best Poster. Attending the activity are Cong. Benasing O. Macarambon, chair of the Agriculture, Food, Fisheries Committee, House of Representatives and Atty. Arthur C. Yap, secretary of the Department of Agriculture (DA).

On the same day, DA Secretary Yap along with other DA key officials inaugurates the new RDMIC building. This building houses the BAR offices and serves as the knowledge center for the whole R&D community for agriculture and fisheries. *(Rita T. dela Cruz, DA-BAR)*

***November declared...***

will be held on 14-16 October at the World Trade Center Metro Manila in Pasay City. AgriLink is an international trade exhibition & convention that will showcase rice-related materials and technologies. It will also showcase poultry & livestock, fruits, vegetables & flowers, & farm inputs & services. On the other hand, FoodLink is an annual exhibition for food products, processing & packaging.

To cap the IYR celebrations, activities during the National Rice Awareness Month in November, a National Symposium for Rice Industry Stakeholders (November 26), Intenational Rice Forum (November 29-30), International Rice Festival (November 26-30), and *Mabuhay* Night (November 29) will be held. *(Likha C. Cuevas and PhilRice Press Release)*

## Web news

**Bangladeshi farmers take on role of scientist and banish insecticides** *(http://www.cgiar.org)*

**Bird flu is a crisis of global importance***(http://www.fao.org/newsroom/en/news/2004/50961/index.html)*

**New study argues for major efforts to mitigate natural disasters through improved agricultural and environmental practices** *(http://www.futureharvest.org/)*

**International year of rice: rice research helps feed almost half the world and boosts farmer incomes** *(http://www.futureharvest.org/news/rice_year.shtml)*

# Full circle in government service

Two Bureau of Agricultural Research(BAR) employees, Mrs. Luzviminda P. Reyes, of the Planning, Monitoring and Evaluation Division, and Mr. Fortunato S. Catalan of Adminstrative and Finance Division, are set to embark on another chapter of their lives, after more than two decades of government service.

Mrs. Reyes, or Ate Minda to her friends, and the rest of the BAR employees, has been with the government for 26 years. She served for 10 years at the Bureau of Plant Industry(BPI), and 16 years at BAR. "I have good and happy memories with the Bureau. I am going to miss my friends here," Ate Minda said.


*BAR Director William C. Medrano hands the plaque of appreciation to Ms. Luzviminda Reyes (left) and Mr. Fortunuato Catalan (right)*

She said her immediate plans after retiring is, visit her birthplace in Dipolog City.

Mr. Catalan started working at the Bureau in 1989, and worked at the Cashier Section. *(Lizbeth J. Baroña)*

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