



VICARP, PCARRD and DOST-ASTI Soon to Make the Digital Divide More Balanced than Lopsided?

Wolfreda T. Alesna



Far yet so near.
With video teleconferencing seeing and talking to a person from afar is just a click away.



The honorable mayor of Baybay, Leyte, Jose Carlos L. Cari (on mike)

The possibility of experiencing a video conference was only a dream to Consortium staff and members until mid-2002.

When the first “test-launch” happened on 8 August 2002 between DOST-8 and ViCARP, many could not believe that we can participate in a conference-workshop on real time while sitting at the ViCARP Electronic One-Stop Information Shop (VEOSIS) together with LSU president, Dr. Paciencia P. Milan, and LSU Vice President for Research and Extension and ViCARP Director, Dr. Jose L. Bacusmo.

The interaction between Dr. Bacusmo, first, and then Dr. Milan and the DOST-8 organized group in Ormoc City was long enough to convince everybody. After that, everybody watched the conference-workshop in Japan, on real time, and the interaction between the anchors in Japan and in Ormoc City.

The second experience was in November 8, 2002, PCARRD’s 30th Anniversary convocation. The Honorable Mayor of Baybay, Leyte, Engr. Jose Carlos L. Cari, had a good interaction with the PCARRD anniversary guest speaker, Secretary Luis “Chito” Lorenzo, about agricultural development in Baybay. Present were the ViCARP Director, Dr. Jose L. Bacusmo and the ViCARP staff, the Dean of the College of Agriculture of LSU, the Center Directors and staff, and some faculty, researchers, students, farmer scientists, agricultural technicians and the local government officials of Baybay.

The ViCARP group also participated in the convocation as if they were at the Elvira Tan Hall in PCARRD. They also stood up, prayed, sang the national anthem, watched the intermission number and listened to Executive Director Patricio S. Faylon’s PCARRD report.

All these things happened through the collaboration of DOST-ASTI, PCARRD, DOST-8, LSU, DOTC (Ormoc and Baybay) and ViCARP in a project dubbed as PREGINET or Philippine Research, Education and Government Information Network.  to page 2

R&D Winners Bring Home Pride and Plaques

Aynee L. Triunfante

R&D winners during the 14th Regional R&D Symposium and 1st Regional Fruit Crop Industry Forum went home with pride and the plaques of recognition after the three-day activity on August 27-29, 2002 at the MacArthur Park Beach Resort, Palo, Leyte.

Ms. Helena T. de la Rosa of the University of Eastern Philippines, Samar (UEP) won the Outstanding Basic Research award for her paper entitled "Inventory/Stock Assessment of Mollusk in the Mangrove Areas in Northern Samar. Dr. Bernardita P. Germano's "Inventory of Commercially Important Invertebrates in Leyte and Samar" won the Outstanding Applied Research award.

The Outstanding Development Project went to OPA-Leyte's Ms. Andrea P. Beringil for her study entitled "Technology Demonstration Project on Rice-Fish Culture".

Dr. Jose L. Bacusmo and Mr. Enrique Abogadie of the Leyte State University won the Best Poster Award for their poster entitled "Characteristics of Sweetpotato Accessions in the Germplasm Collection at PhilRootcrops".

After the successful three-day activity, the RDE network hopes for a similarly fruitful activity in 2003.

ViCARP, PCARRD and DOST-ASTI...

cont. from page 1

With ViCARP's VEOSIS and LSU's IT facilities combined, and in addition to the facilities provided by DOST-ASTI and DOTC's E1 line, the interconnectivity was made possible. The server donated by the DA-BAR for the LSU-BAR AFRDIS where DOST-ASTI installed the software had also helped a lot in making the operation smoother.

As of the moment, the local area network (LAN) project at LSU is almost completed, hence interconnectivity between people in instruction, research, extension and administration will soon be realized. Before 2004, it is expected that LSU shall be totally wired.

With the addition of another server, some units connected to the LAN are already enjoying a 24-hour access to the Internet. If the PREGINET project will push through, every computer connected to the local network may enjoy the same privileges as the others, including the video conferencing capability.

The advantage the Consortium will have with the interconnectivity is easy and fast collection of data for its database as sharing of information will be made easier.

Also, with the video conferencing capability in place, members of the Consortium may soon be able to save their transportation expenses as meetings will be conducted with participants staying at various stations with the video conferencing facilities.

For the meantime, this could be done with some sitting at the DOST-8 conference room in Tacloban City and the others at the VEOSIS based at LSU in Visca, Baybay, Leyte while the PCARRD representative may sit at the PCARRD-MISD.

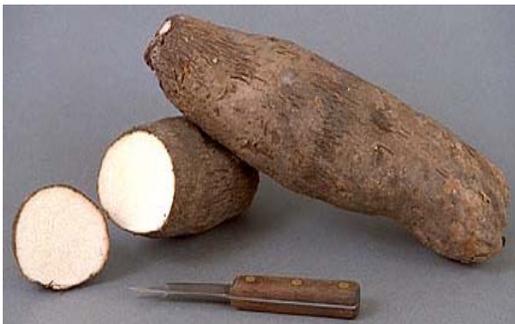
TREAT ONE, TREAT ALL

Ryan F. Barcelo

Treating different accessions of arrowroot and yam is now quite an easy job to plant breeders. Arrowroot and yam are already grouped such that treatment will no longer be administered to individual accession. Instead, treatment will be in accordance to the need of the plant group. This grouping technique was developed through isozyme analysis.

Isozyme analysis is the identification of biochemical markers that determine plant characteristics regardless of environmental influences.

In their study entitled “Grouping Based on Isoenzyme Analysis of Arrowroot and Yam”, Leyte State University (LSU) researchers, Dr. Rodrigo Sebidos, Ma. Jehan Pedrera and Ms. Luz Acedo, found that the 15 genotypes of arrowroot can be treated into three big groups rather than treating them individually as separate accessions.



Yam Tubers



Arrowroot Plant

They revealed that the best meristematic tissue for isozyme analysis in arrowroot was observed in young inflorescence in terms of generating more bands compared with shoot tips. They also pointed out that the genetic diversity among arrowroot is quite narrow.

In the same study, the researchers identified 11 groups of yams from 23 genotypes they tested. They observed that, in yam, the number of genotypes and the composition of enzyme bands vary in each group. They stressed that the best meristematic tissue in generating isozyme bands in yam was observed in young bulbils.

The researchers observed that, based on isozyme bands analyzed, “it appears that yam is more diverse than arrowroot”. Nevertheless, they warned that “the results obtained from yam may not be substantive to warrant permanent grouping because, compared to arrowroot which had about 35 accessions only, in yam, there are yet about 600 accessions untested”.

The researchers also recommended further study on isozymes and its link to morphological trait or identification mark. In this way, plants may be grouped accordingly based on their morphological manifestations. This means plant breeders will have an easy job in treating different accessions.

Money in the Shell

Ma. Aileen A. Garcia

Have you ever asked yourself how much money you can get from trading seashells and other marine invertebrates?

The 1997 Fishery Statistical Report revealed that crustaceans and mollusks contributed 435 million dollars while echinoderms contributed 4 million dollars to our export income. There is much money in this business venture then. You just have to know where you will find them.

Dr. Bernardita P. Germano and a team of researchers from the Institute of Tropical Ecology of the Leyte State University in Baybay, Leyte reported that there are 64 marine invertebrate species with local and export market value in Leyte and Samar.

Among these invertebrates which are considered most commercially important are blue crabs or alimasag (*Portunus pelagicus*), abalone or lapas (*Haliotis asinina*), lobsters or banagan (*Panulirus sp.*), squid or nokus, top shell or samong, tuwad, sarok-sarok (*Trochus spp.*), sea cucumber or ba'at (*Holothuria spp.*), pen shell or sarad (*Pinna sp.*), nylon shell or barinday (*Paphia textile*), and spider conch shell or saang (*Lambis lambis*).

In their inventory, they also have discovered that most of these species are found in the fishing grounds of Leyte and Samar, namely; Camotes Sea, Ormoc Bay, Cabalian Bay, Surigao Strait, Maqueda Bay, Philippine Sea, Samar Sea, San Bernardino Strait and Guiuan in E. Samar.

Dr. Germano and her team also identified available processing plants for these marine invertebrates. The Mia Marine in Catbalogan and the Philipps Seafood in Ormoc City process blue crabs. The flow of production for these marine invertebrates is from fishers, through small-scale traders, middlemen, and then, processing plants or directly transported to Cebu and Manila for export.

With the great economic importance of these marine invertebrates, Dr. Germano and her team recommended that these marine invertebrates should be well managed to avoid overfishing or even dwindling these resources. Thus, destructive ways of catching like beach seine (baling), rake and trawl should be prohibited.

Use of gill nets (pukot) and crab pots (bubo) are more helpful in avoiding the destruction of our marine ecosystem and promoting sustainability of the production of these commercially important invertebrates.

Knowing the great market value of these marine invertebrates, we could say that venturing on such business may make us rich. So, we should protect these areas from destructive methods of harvesting these invertebrates, so that fisherfolks will still have "seashells by the seashore", as a tongue twister goes.

ViCARP, RDE Network Lead Success of R&D Sympo and 1st Regional Fruit Crop Industry Forum

Aynee L. Triunfante



Leyte Vice-governor Nestor Villacin cuts the ribbon for the opening of the poster contest.



UEP President Dr. Pedro D. Destura receives his plaque as Pantas awardee in research administration.



Dr. Bernardita P. Germano receives her certificate as awardee of the Outstanding Applied Research.

All's well that ends well with this year's 14th Regional R&D Symposium and 1st Fruit Crop Industry Forum.

With the Department of Agriculture's leadership as host, the region's RDE Network and ViCARP successfully held the R&D Symposium and the 1st Regional Fruit Crop Industry Forum on August 27-29, 2002 at the MacArthur Park Beach Resort, Palo, Leyte.

On the first day, researchers in the region presented their papers and had an exhibit of their posters. Three papers were presented for the Basic Research category. Five papers were presented for the Applied Research category. Only one paper was presented for the Development Project category. The day's activity provided an opportunity for the researchers of the ViCARP (Visayas Consortium for Agriculture and Resources Program) to present the highlights of their R&D accomplishments and compete for the Best Paper and Best Poster categories.

The second day gave various resource persons an opportunity to present industry situationers and technology updates on fruit crops that are grown in the region. The resource persons presented seven industry situationers on mango, jackfruit and lanzones.

The third day highlighted a workshop that consisted of three groups namely the mango, jackfruit and lanzones groups. Through the workshop, the three groups were able to decide and define strategic directions of the fruit crops development in the region particularly mango, jackfruit and lanzones. After the workshop, each of the three groups presented their workshop outputs.

The awarding ceremony culminated the three-day activity where the Best Basic and Applied researches, Best Development Project and Best Poster awards were given to the winners.

DA-RFU 8's Support Strengthens ViCARP's TechnoGabay Project;

“Action speaks louder than words,” says an adage that simply wraps up the Department of Agriculture Regional Field Office No. 8's commitment to continuously support ViCARP.

In mid 2002, DA Regional Executive Director Leo P. Cañeda saw to it that DA hires a staff to be detailed at the ViCARP Secretariat to help the TechnoGabay Coordinator, Dr. Henry Y. Goltiano, step up the implementation of the project.

As a result, the four existing TechnoGabay Centers--two in Leyte, one in Northern Samar and one in Eastern Samar--had been strengthened. In addition, four other municipalities had expressed interest to put up a TechnoGabay Center in their respective municipality. These were the municipalities of Mahaplag and Bato in Leyte, Sogod in Southern Leyte and Catarman in Northern Samar. This could be because of a more aggressive promotion of the project.

The local government units of Guiuan in Eastern Samar will also put up their own center aside from the one managed by BFAR. A copy of the Sangguniang Bayan resolution pushing for the establishment of a TechnoGabay Center in their municipality had been furnished already to the ViCARP secretariat. Moreover, the SB passed and approved a resolution authorizing the municipal government of Guiuan to sign a Memorandum of Agreement with the Department of Agriculture for a “Plant Now, Pay Later” scheme with the Guiuan farmers.



At the Mandaue Experiment Station. After observing some farm practices to control insect pests, the group pose for the camera.



At the cutflower farm. The group enjoy picking some flowers before a pose (above)... and later, drop by a flower shop (below) to buy some flowers to be brought home.



ViCARP pushes Techno Trip of Farmer Scientists and Stakeholders

The other municipal LGUs did the same thing. Implementation of the TechnoGabay Project in their municipality had been approved by the Sangguniang Bayan. The mayor of Mahaplag, for instance, had already identified the area where the TechnoGabay Center will rise.

The Bato, Leyte TechnoGabay Center launching has been scheduled on January 19, 2003. Launching of the other new TechnoGabay Centers are still being arranged.

In other developments, the Techno Trip for farmer scientists and some stakeholders was conducted in November 11-13, 2002. The trip's general objective was to expose the farmer scientists and other stakeholders to new trends in research, development and extension so as to enhance their capabilities to perform their functions.

The group visited Dr. Romulo Davide's Colawin Project in Argao, Cebu. They had a good interaction with the Colawin farmer scientists. They also interacted with the cutflower and vegetable farmers in Busay, Cebu City and the farmers from the World Neighbors assisted and organized Mag-uugmad Foundation Inc. in Guba, Cebu City. They stayed overnight at the Mag-uugmad Foundation Inc. dormitory. They also had a chance to visit the Mandaue City Experiment Station of DA-RFU-7.

Participating in the Techno Trip were three farmer scientists, four agricultural technicians, the SB Chair for Agriculture in Guiuan, Eastern Samar, the RTWG representative from FIDA, the TechnoGabay coordinator of San Roque, Northern Samar and six ViCARP Secretariat staff.



A pose at the Farmers Research and Extension Center in Colawin, Argao, Cebu.



The group listen to a lecture at the Farmer Research and Extension Center. The farmer-scientist coordinator briefs them on the establishment and functions of the center.

ViCARP Steps Up Campaign for Technology Protection

Wolfreda T. Alesna

The Visayas Consortium for Agriculture and Resources Program (ViCARP) which lead agency is the Leyte State University (LSU) has stepped up its campaign for technology protection in 2002, says the Intellectual Property Rights (IPR) Committee report.

LSU, under its new structure has not only institutionalized a Technology Management Unit (TMU) under the Office of the Vice President for Research and Extension's R and E Technology Dissemination Office (RETDO) but also hired a staff to help establish a database of protected technologies, help facilitate the processing of papers of technologies for protection, assist the IPR Committee gather data and draft the IPR guidelines, collaborate with PCARRD in the processing of papers and keep a database of mature technologies generated by consortium members.

So far, three protected technologies and creative work had been listed. These are the Spindle Stripping Machine of Engr. Feleciano G. Sinon of the National Abaca Research Center (with Patent No. 2-1997-15460), the Process of Preparing Food Product from Carabeef of Dr. Lutgarda S. Palomar of the Department of Food Science and Technology (with Patent No. 28928 and the First ViCARP TeknoPinoy Compact Disc Vol. 1 No. 1 Series of 1999 of Dr. Wolfreda T. Alesna and Engr. Sean O. Villagonzalo of ViCARP (with Copyright No. L-99-186).

The four technologies that were already submitted for protection are the Tensile Strength Meter of Prof. Manolo B. Loreto Jr., the Macapuno Food Products of Dr. Roberta D. Lauzon, the Cassava Hybrids of Prof. Algerico M. Mariscal and the Housing Materials Using Abaca Fiber and Wastes of Prof. Manolo B. Loreto Jr.

There were also eight researchers who agreed to assign their generated technologies to the Leyte State University. Processing of their patents is on going. Four of these technologies had already been submitted to the Intellectual Property Office (IPO) in Makati City. The other four are still for submission to IPO.

The technologies that were submitted to the Intellectual Property Office (IPO) are: Curing Process Applied in SP for Pickle Production of Dr. Julie D. Tan (IPO No. 12002000728), and Engr. Feliciano Sinon's Twining Machine (IPO No. 12002000729), Moisture Meter (IPO No. 12002000730) and Twisting Machine (IPO No. 2-2001-0000155).

The technologies that are for submission to IPO are Dr. Roberta D. Lauzon's Macapuno Delight, Macapuno Leather, Macapuno Burger and Macapuno Meat Loaf.

In an interaction with the ViCARP Director, Dr. Jose L. Bacusmo, it was learned that the IPR Committee has already come up with a draft of the IPR guidelines. Once the guidelines is approved, it shall be observed by all members of ViCARP.

Dr. Bacusmo said that the task of getting researchers' support may be painstakingly slow but with the number of researchers participating in disclosure proceedings there is no reason why we should not expect for better fruits for the labor.

LSU Scientists Develop Biocontrol for Corn Rust

Maricel B. Simbajon



Do you have problems in controlling corn rust? If you are using fungicide, are you aware that fungicide has toxic effect to the environment and to humans as well?

Well, worry not, for here's a new environment friendly technique to control corn rust. LSU scientists headed by Dr. Rodolfo A. Paningbatan had developed this biological control, a mycoparasite (fungus that infects another fungus) called *Sphaerellopsis sp.*

The researchers surveyed and collected rust infected corn from corn growing areas in the Visayas and few from Mindanao. They examined the specimens for mycoparasitism. Those that were infected were isolated and cultured.

Treatment was first done *in vitro* (an artificial environment outside the living organism). Then, pot and field experiments were also done using sweet corn.

Findings showed that 18 out of 32 isolates of *Sphaerellopsis sp.* sporulated well in *in vitro* culture. These isolates were tested for antagonism to corn rust pathogen. Results indicated a variation in the virulence (the power to overcome the resistance of the host) of the isolates of *Sphaerellopsis sp.*

Regardless of time of application, *Sphaerellopsis sp.* significantly reduced uredospore production per pustule of *P. polysora*. Synchronized application of *Sphaerellopsis sp.* and *P. polysora* also resulted in the highest reduction of uredospore per pustule.

Delaying the application of *Sphaerellopsis* from 3 to 12 days after inoculation of the rust pathogen resulted in gradual decline in the efficacy of mycoparasite.

To optimize though the use of *Sphaerellopsis sp.* for corn rust control, it is important that the time of delivery of the biocontrol agent coincides with the time when natural inoculation is most likely to occur in the field.

Since biocontrol agent can reproduce by itself, one application is enough to attain a certain degree of sustained corn rust control for a number of croppings.

Now, you can already grow your corn without worrying about corn rust. With this biocontrol, you could also help save our environment.



NEW METHOD TO BOOST YAM PRODUCTION

Lieza Noelle D. Malinao

A new technique called micro-propagation has been developed to increase the production of yam or ubi, one of the country's five banner export crops.

One of the limiting factors of the yam trade is its limited supply due to the seasonal nature of the crop and the low yield of elite and in-demand varieties, particularly purple yam.

Micro-propagation can help overcome this situation, says Dr. Villaluz Acedo, a researcher of the Philippine Root Crop Research and Training Center (PhilRootcrops) of the Leyte State University in Baybay, Leyte.

The researcher said that unlike the conventional method of using tuber sets to propagate yam, micro-propagation uses the nodes of vines cut into several segments. These are placed in a culture medium and grown in a sterile environment.

She revealed hundreds to thousands of plants can be produced each year just from one node. In fact, she pointed out that more plants can be produced if materials, space and human resources are made available.

Dr. Acedo stressed that this micro-propagation system is free from the influence of growing season and other abiotic and biotic factors associated with the conventional propagation method.

Given the right support, a greater number of yam planting materials can be produced and made available in a year round basis, the researcher added.

Environment-friendly Pest Control

By Maria Annabelle D. Gerona

Finally, farmers can now get rid of pests, the environment friendly way.

For years now, scientists have been facing the challenge of reducing pest population attacking crops. Since pesticides are dangerous pollutants, their use should be minimized if not completely avoided. Farmers must therefore be given alternative means of controlling pests. The use of entomopathogenic fungi (*ento*, meaning insect; and *pathogen*, meaning disease-producing microorganism) could be the answer to the need of a more environment friendly method of pest control.

Entomopathogenic fungi in nature can cause drastic reduction in the insect population. Entomopathogenic fungi usually invade their host directly through the integument (skin) via a germ tube from a germinating spore, rather than killing their host by toxic action following oral ingestion, as what pesticides do. Therefore, infection is not limited to chewing insects like grasshoppers but occurs also in homopterans (cicadas and aphids) and other arthropods (other insects, spiders and crabs).

Dr. Lina T. Villacarlos of the Department of Pest Management of Leyte State University, Visca, Baybay, Leyte, conducted a survey and pathogenicity study on entomopathogenic fungi in the Philippines to augment limited information on Philippine entomopathogenic fungi.

Forty species of fungi under nineteen genera were collected from selected areas in the Philippines. A new species of *Entomophthora* (*Entomophthora leyteensis*) which infects white fly was also discovered somewhere in Leyte .

In her pathogenicity study, Dr. Villacarlos used various hosts pests like sweet potato weevil, cotton stainer, sweet potato bug, bean bug, corn borer and tortoise beetle. Results revealed the variability on the virulence (the power of microorganism to overcome the resistance of host) of a given fungus.

Dr. Villacarlos recommended the screening of available fungal isolates, to determine their effectiveness in causing mycosis (fungal infection) on a given pest species prior to their use in any pest control program.

She pointed out that the flora of entomopathogenic fungi in the country is diverse and that there are still more, yet to be discovered and studied. Hence, scientists must look around and study them for the benefit of the farmers and for the country's crop production situation.

The researcher hopes for more development in this area for the farmers' sake. In the long run, this biological control for pest may not only be cheaper but environment friendly.

OF DEVELOPMENTS AND CHANGING GUARDS

Year 2002 has recorded developments in the Consortium leadership and changes in network membership.

With the conversion of the Visayas State College of Agriculture (ViSCA) to the Leyte State University (LSU), ViCARP-RRDCC Chairperson, Dr. Paciencia P. Milan became the first LSU president, not to mention her being the first lady president of the institution. ViCARP Director and RTWG Chair, Dr. Jose L. Bacusmo, became the first Vice President for Research and Extension of LSU. The ViCARP-RCTU coordinator, Dr. Wolfreda T. Alesna, was designated the first Director for Research and Extension Technology Dissemination (RETD). Under RETD is the Technology Management Unit (TMU) that handles activities such as: databasing of technology profiles for LSU and consortium members; technology assessment; securing intellectual property rights (IPR) for inventions, works of art, and other creations; drafting of IPR guidelines; and IPR advocacy.

On the other hand, there were lots of changes in the leadership of Consortium member agencies, hence, the changing of representatives. For the Leyte Institute of Technology (LIT), Dr. Bonifacio S. Villanueva, the former president of the Samar State Polytechnic College (SSPC), had assumed the presidency. He has a new Vice President for Research, Planning and Extension Services, Dr. Manuel L. Pacaña, who is the new LIT representative to the RTWG.

The Eastern Samar State College (ESSC) has a new president, Dr. Reynaldo A. Lombrio, and a new Research Director, Dr. Felix A. Afable. The Tiburcio Tancinco Memorial Institute of Science and Technology (TTMIST) also had a new president, Dr. Eduardo S. Caillo, and a new Research Director, Engr. Manuel Espena.

There were also some changes in the REACTF and RMIS Core Group representatives. For ESSC, the new REACTF member is Ms. Esther R. Bañar and the RMIS representative is Mr. Rolando Capito. SSPC has a new REACTF member, Maryjes G. Calades. CHED-8 had also designated a new REACTF member, Engr. Socorro Q. Ramos. Engr. John Glenn Ocaña of DOST-8 is back as REACTF member. Replacing him as RMIS member is Engr. Noli D. Padagdag.

EDITORIAL STAFF

| | | | |
|------------------------------|--|------------------------------|--|
| Editor | Dr. Wolfreda T. Alesna | Layout Artist | Aynee L. Triunfante |
| Editorial Consultants | Dr. Paciencia P. Milan Dr. Jose L. Bacusmo | Production Assistants | Anilfa L. Abenoja Pauline S. Caintic Arsenia M. Posas |
| Contributors | Ryan F. Barcelo Ma. Aileen A. Garcia Ma. Anabelle D. Gerona Lieza Noelle D. Malinao Aynee L. Triunfante | | |



Vol. 7 No. 1 January-December 2002

**VICARP Highlights is the official publication
of the Visayas Consortium for Agriculture and
Resources Program (ViCARP)**

Leyte State University (LSU)
Visca, Baybay, 6521-A Leyte, Philippines
Tel. No. (053) 335-2615

E-Mail Address: vicarp_lsu@yahoo.com

TO
