

## INTERNATIONAL ASSOCIATION FOR THE PLANT PROTECTION SCIENCES



**IAPPS**  
**September 2005**

### **“Short Notes” from the IAPPS Secretary General**

In a previous Newsletter I reported that a manual “Integrated Pest Management on Olive” prepared by three IAPPS members **J. Tedeschini**, **B. Stamo (Albania)** and **D. Pfeiffer (Virginia Tech)** with the IPM CRSP/Albania project was released. The 134 page publication covers pests, diseases and weeds in the Albanian olive ecosystem and presents a science based approach (an integrated strategy) for managing the key pests. The first phase of the IPM CRSP is completing the olive work in 2006 but the New IPM CRSP is considering continuing work in Albania on (1) greenhouse grown vegetables, (2) apples, and (3) grapes. In August I visited Albania with IAPPS member and IPM CRSP Albania Site Chair, Doug Pfeiffer of the Entomology Department, Virginia Tech. A few of our observations follow.

First, I learned about the value, abundance and importance of the olive tree. Olives are grown everywhere in Albania, including land that is not suitable for most other plant species. Also, the ability of the olive tree to be rehabilitated and again made productive, after years of no or little maintenance, has allowed the trees to survive through years of civil unrest. Many 400+ years old productive olive trees were seen.

The number and styles of greenhouses used for vegetable production in Albania are impressive. In 1990 there were 1100 ha of greenhouses, but by 1970 this number decreased to 370 ha. From 1990 to 1997 many older collective greenhouses were privatized, and many were damaged or destroyed. Currently there are about 440 ha in greenhouse cultivation and there has been a shift from glasshouses to plastic covered hoop houses referred to as “high tunnels.” Vegetables grown in greenhouses are exported to Austria, Czechoslovakia and Poland. There is excellent potential for increased vegetable production in greenhouses but a major constraint is inadequate crop management knowledge including IPM.

The wine grape and table grape industries are important components of the cultural life of Albania. Vineyards are seen throughout the country and almost all households have some vines. The Illyrians developed enology in Albania and transferred the technology to the Romans. Before 1992 there were about 20,000 in vineyard cultivation. However, many

vineyards were destroyed in the civil unrest following the collapse of the centralized economy. There is now an attempt to increase wine exports.

Traditionally apples have mainly been grown in Korçe region in the southeastern part of the country but new plantings have recently been established in other parts of the country. Many orchards use the modern, high density trellis production method. Frequent calendar based spraying for pest control is used and there was a concern for applicator safety and misapplication.

For photos of Albania fruits and vegetables taken on the Albania trip see the IPM CRSP website <<http://www.ag.vt.edu/ipmcrsp/index.asp>>, click on Photo Gallery, then click on Albania, July 2005.



IAPPS members Brunhilda Stamo (L) and Josef Tedeschini, Plant Protection Institute, Albania and Doug Pfeiffer, Virginia Tech discussing apple IPM in an apple orchard.

In this issue I have also reported on the IPM CRSP collaboration with CARE International in Bangladesh. The case studies indicate how farmers accept and benefit from the transfer of IPM technology.

I appreciate hearing about the professional activities of IAPPS members and sharing them with other members in this Newsletter. Thus I look forward to a note from you.

Until October,

*Short*

## Membership

### IAPPS WELCOMES NEW MEMBERS

We are always pleased and excited when new members take advantage of IAPPS membership. New members in July are listed below. I personally look forward to interaction with each of them in the coming months as we continue to build an IAPPS team that can have a significant impact on the promotion of Global IPM. Please encourage students interested in international crop protection to use IAPPS as a springboard into the world of Global IPM. Student memberships are only \$30/yr and include the online version of the journal, *Crop Protection*. Also encourage students to publish their research in *Crop Protection*.

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### USAID Agriculture and Natural Resources Management Research Priorities Setting Includes Global IPM

Eds. Note: I have included this announcement from USAID as it can have an impact on the way USAID conducts IPM research via U.S. universities and CG Centers globally (this includes the IPM CRSP which manages fruit and vegetable pest management programs in seven regions of the world). Thus it can have an impact on the nations of many of our IAPPS members.

Over the past six months, the Offices of Agriculture (EGAT/AG) and Natural Resources Management (EGAT/NRM) in USAID's Bureau for Economic Growth, Agriculture & Trade (EGAT) have been working to identify a coherent vision that will direct their future research investments consistent with new Agency strategies and priorities. These offices manage a range of research grants and agreements that bring the expertise of U.S. Universities, Non-governmental Organizations, International Research Centers and U.S. Government Agencies to bear to address critical development questions. Although EGAT/AG and EGAT/NRM have several research activities, the nine Collaborative Research Support Programs (CRSPs) implemented by U.S. Universities and their partners currently constitute the primary mechanism for conducting this research.

The goals of this research priority setting exercise are to:

- 1) Identify a joint research framework for EGAT/AG and EGAT/NRM that addresses Administration mandates, global development needs, EGAT priorities, and U.S. comparative advantage; and
- 2) Propose mechanisms for implementation of this framework that will include but not be limited to a revised Collaborative Research Support Programs (CRSP) Portfolio. Both the research framework and CRSP Portfolio will be phased-in over the next four years.

To complete this exercise, the two Offices have developed the following documents, which can be found on the USAID Website at:

[http://www.usaid.gov/our\\_work/agriculture/ag\\_natural\\_resources\\_report/index.html](http://www.usaid.gov/our_work/agriculture/ag_natural_resources_report/index.html)

- An “Overview of the Research Framework”;
- A “Research Framework for the Offices of Agriculture and Natural Resources Management”;
- “Proposed Criteria for Selecting USAID’s Collaborative Research Support Program Portfolio”; and
- The revised Agriculture and Natural Resources Management Research Priorities Desktop Review.

## **Minilivestock to Supplement the Food Supply**

I received a note from Maurizio Paoletti of the University of Padova, Italy regarding an edited book that he has recently published entitled “*Ecological Implications of Minilivestock.*” Being a novel approach I thought IAPPS readers might be interested in hearing about the book. Dr. Paoletti, editor of the book, states that “one way to augment the human food supply is to increase the diversity of plant and animal species used as food.” The book provides suggestions about expanding the world food supply to include

a variety of minilivestock. It suggests a wide variety of small animals including insects, earthworms, snails, frogs and rodents as a source of nutritious food. The major advantage of minilivestock is that they do not have to be fed grains thus saving grain crops for human consumption. The book describes technologies for harvesting small livestock. Chapters include “Insects Eaten in Africa”, “Edible Insects of South Benin,” “Locusts as Minilivestock in the Near East” and “Rodent Farming in the Amazon.” For further information regarding the book contact Maurizio at:

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## Biopesticides Conference in India

IAPPS member Opendar Koul, Director of the insect Biopesticide Research Center in Jalandhar, India sent me a brochure on a November 11-13, 2005 conference “**Biopesticides: Emerging Trends**.” The conference is being presented by the Society of Biopesticide Sciences, Jalandhar, India, the Institute of Himalayan Bioresource Technology, Palampur and the CSK Himachal Pradesh Krishi Vishvavidyalya, Palampur, Himachal Pradesh, India. This conference, BET-25 Is second in a series that will provide the latest research on the themes:

- Botanicals
- Microbial biopesticides
- Predators and parasitoids
- Nematodes
- Plant pathogens
- Transgenics
- Technology development
- Environmental implications
- Commercial aspects
- 

The conference will be held at the Institute of Himalayan Bioresource Technology, Palampur. For further information contact Dr. Opendar Koul at <[koul@jal.vsnl.net.in](mailto:koul@jal.vsnl.net.in)>.

## **IPM CRSP Technologies Promoted by CARE Bangladesh**

Eds. Note: IAPPS member Dr. Rezaul Karim is the coordinator for the IPM CRSP Bangladesh site which is hosted by the Bangladesh Agricultural Research Institute (BARI). The IPM CRSP is collaborating with the CARE –Bangladesh, Rural Livelihood Program (RLP) to transfer IPM CRSP developed technology to the thousands of Bangladesh vegetable farmers. This report, prepared by Nils Den Tex, Director CARE - Bangladesh and his staff, was sent to me by Dr. Karim.

### **Introduction**

CARE Bangladesh' approach is to enable farmers to choose suitable options for interventions and technologies to address their various livelihood issues. Many IPM technologies have been introduced through Farmers Field Schools (FFSs). CARE and IPM CRSP entered into a collaborative program for promoting the following technologies.

- Soil amendments for soil-borne disease management of vegetables by sawdust burning, poultry refuse and mustard oil cake.
- Handpicking of eggs and caterpillars in cabbage for control of leaf eating insects
- Fruit fly control in cucurbit crops by bait and pheromones traps
- Pruning of shoot and branches of brinjal (eggplant)
- Grafting of brinjal for bacterial wilt control
- Economic weed management
- Management practices like staking, spacing, fertilizer management

Because farmers must resolve various pest problems to achieve satisfactory yields of the various vegetable crops, the above technologies have been integrated into a package for cabbage, tomato, eggplant and the cucurbits.

In 2003, IPM CRSP-BARI conducted a training of trainers for CARE-RLP technical staff. In total, 21 participants trained the field-based staff through Training of Trainers (ToT) schools, who then trained staff at the district level. In total, 215 field staff received this training and they in turn trained 47,600 farmers, both male and female, in 1,904 FFSs.

### **Case studies of farmers who received significant economic benefits using ICM/IPM technologies:**

The case studies presented are those based on the use of soil amendments (sawdust burning, poultry refuse and mustard oil cake) for the management of soil-borne diseases.

### Case Study-1: Chili production using different IPM technologies



Farmer Ashotosh Roy of Dangapara community practices IPM technologies for chili production. He transplanted chili seedlings in 2.0 decimal land on February and final harvesting was done in June. His total input cost for was Tk. 184.00 (Seedling-Tk.30.00, fertilizers both chemical and organic Tk. 49.00, fence materials Tk. 105.00). In addition, he spent Taka 15.00, 15.00 and 18.00 for sawdust, poultry refuse and mustard oil cake respectively to amend the soil. Total input cost for individual treatments was 199.00, 199.00, 202.00 and 184.00 for sawdust burning, poultry refuse mustard oil cake and the control plot respectively. He received 224.00 kg, 320.00 kg, 280.00 kg and 190.00-kg chili from sawdust burning, poultry refuse, and mustard oil cake treatments and the control plot respectively.

**Table-1: Economic analysis of chili production**

<b>Particulars</b>	<b>Treatments</b>			
	<b>Sawdust burning</b>	<b>Poultry refuse</b>	<b>Mustard oilcake</b>	<b>Control</b>
Input cost (Tk.)	199.00	199.00	202.00	184.00
Total income (Tk.)	1180.00	1708.00	1484.00	1004.00
Net return (Tk.)	981.00	<b>1509.00</b>	1282.00	820.00

### Case Study-2: Chili production using different IPM technologies

Farmer Amullah Mohanta of the Dangapara community practices IPM technologies for chili production in 7.0 decimal land. He used the IPM CRSP recommended dose of poultry refuse and mustard oil cake as soil amendment materials in chili. He found that mustard oil cake has more potential than poultry refuse, stating as prime reasons the fact that fruit becomes regular in size and shape, and yield is increased. Net return of the mustard oil cake treatment was 2355 Tk, more than four times that of the control (Table-2).



**Table-2: Economic analysis of chili production**

Particulars	Poultry refuse	Mustard oilcake	Control
Input cost (Tk.)	1324.00	1320.00	1250.00
Total income (Tk.)	3474.00	3675.00	1800.00
Net return (Tk.)	2150.00	<b>2355.00</b>	550.00

**Case Study-3: Tomato production using different IPM technologies**

A resource poor female farmer Bulbuli Rani of Hazipara community practices IPM technologies for vegetable cultivation on her small piece of land. She used IPM CRSP



recommended doses of sawdust burning, poultry refuse and mustard oil cake as soil amendment materials in brinjal and tomato. Bulbuli Rani found that poultry refuse is the most useful and effective as it helps to produce foot & root disease free seedlings, promotes vigorous plant growth, decreases seedling mortality and produces higher yield. It also was better than other treatments in improving soil quality and the cost of poultry refuse was comparatively low.

She harvested 18.33 kg, 40.0 kg, 38.00 kg and 14 kg tomatoes from sawdust burning, poultry refuse, mustard oil cake and the control plot respectively.

**Table-3: Economic analysis of tomato production**

Particulars	Treatments			
	Sawdust burning	Poultry refuse	Mustard oilcake	Control
Input cost (Tk.)	250.00	235.00	233.00	230.00
Total income (Tk.)	137.50	300.00	285.00	105.00
Net return (Tk.)	-112.50	<b>65.00</b>	52.00	-125.00

**Case Study-4: Brinjal production using different IPM technologies**

A female farmer Anju Ara of Hazipara community practices all IPM technologies for brinjal cultivation. She also found that poultry refuse is the most useful and effective. She said the plants show more vigorous growth, less seedling mortality, less pest and disease infestation and finally yield was higher in poultry refuse compared to the other treatments.

She cultivated Brinjal (Variety-Singnath) in her 0.20 decimal lands in November 2004 and final harvesting was done April-2005. She harvested 20.00 kg, 45.0 kg, 42.00 kg and 15-kg brinjal from sawdust burning, poultry refuse, mustard oil cake and the control plot respectively. Average sale value of brinjal was Tk. 5.75, which she sold at a local market. Net return in the poultry refuse plots was four times that of the control (Table-4).



**Table-4: Economic analysis of brinjal production**

<b>Particulars</b>	<b>Treatments</b>			
	<b>Sawdust burning</b>	<b>Poultry refuse</b>	<b>Mustard oilcake</b>	<b>Control</b>
Input cost (Tk.)	47.00	32.00	30.00	27.00
Total income (Tk.)	115.00	258.75	241.50	86.25
Net return (Tk.)	68.00	<b>226.75</b>	211.5	59.25

### **Conclusion**

The economic analysis conducted in two localities in the NW of Bangladesh under the CARE Bangladesh Rural Livelihood Program revealed that the IPM technologies consisting of soil amendments delivered significant economic benefits to farmers. Poultry refuse and to a smaller extent mustard oil cake are the preferred treatments. Both have potential for scaling up.



## IAPPS NEWSLETTER

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### **5TH ASIA-PACIFIC CONGRESS OF ENTOMOLOGY (APCE 2005), "INSECTS, NATURE, AND HUMAN"**

The 5th Asia-Pacific Congress of Entomology will be held in Juju, South Korea, October 18-21, 2005. The Congress is held once in every four years and entomologists from all over the world particularly from Asia-Pacific regions gather to share their research experiences and diverse achievements. We realize that entomological challenges facing borderless food production and rapid threat to the health of the people are increasing more than ever before. Hence, we should play an important role in promoting and strengthening scientific and technological developments in Entomology for our society. We are positive that this Congress will provide the opportunity for entomologists to reinforce their own research, exchange ideas and experiences, and learn new information from leading experts in the field of entomology. The Congress will cover broad topics in basic and applied entomology reflecting the key issues to be discussed. The theme of the fifth Asia-Pacific Congress of Entomology is "Insects, Nature, and Human".

Please come and join us. Spend a few days with us who, like you, are committed to the entomology world within our world. And also enjoy visiting Jeju Island, called Hawaii of the Orient. It's the place of beautiful nature and has many unique folk arts. And you will have a chance to see and collect different insects around the Hallasan, the highest mountain in South Korea. You may easily reach Jeju Island directly from one of your nearby airports. Looking forward to seeing you in Jeju Island in October 2005.

For more information, please visit <http://www.apce2005.org>

**Professor Kyung Saeng Boo,**  
President of the Organizing Committee

### **A LATE BLIGHT DISEASE-SIMULATION MODEL MODIFIED FOR GLOBAL APPLICATION**

Late blight (*Phytophthora infestans*) continues to be the most important biological constraint on growing potatoes in most parts of the world, including many developing countries. The International Potato Center (CIP) based in Peru, is leading an initiative to use disease simulation for training and research. The model that is being used is called LATEBLIGHT and was originally developed in the early 1980s at Cornell University in Ithaca, New York, USA. Then the model was applicable only to conditions in the temperate zone, and was only validated in the state of New York. As part of an effort to make a globally applicable simulation model, CIP researchers have modified LATEBLIGHT for the tropical highlands (initially the Andes) and for the more aggressive "new" populations of *P. infestans*. The highland tropics are an area where late blight is particularly difficult to manage because of year-round potato production. The modified model has been successfully validated with data from Ecuador, Mexico, Israel, Peru, and the USA, demonstrating that it can predict late blight epidemics under many different agro-ecosystems.



To use LATEBLIGHT as a training tool, a stand-alone version was written in Delphi® to avoid licensing problems associated with the research version that is written in SAS®. The training version is known as POLUX and was successfully tested in several workshops in CIP's headquarters in Lima and one in the CIP station in Quito, Ecuador, with scientists from Peru and Ecuador. POLUX was also used to evaluate experimental data and explore management options in a workshop in Ruhengeri, Rwanda, in March, 2005. While POLUX is expected to be used as a training tool to teach epidemiological principles of disease management to researchers, extension workers, and students, LATEBLIGHT will be used as a tool

to improve research on late blight epidemiology by generating and testing hypotheses and, thereby, orienting and refining field experimentation. Other partners in this initiative include Cornell University (USA), ARO-The Volcani Center (Israel), University of Wageningen, and the Swedish University of Agricultural Sciences.

To download LATEBLIGHT, visit

[http://gilib.cip.cgiar.org/modules.php?name=Downloads&d\\_op=viewdownload&cid=15](http://gilib.cip.cgiar.org/modules.php?name=Downloads&d_op=viewdownload&cid=15)

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## NEW BCPC PUBLICATION: INTRODUCTION AND SPREAD OF INVASIVE SPECIES

The latest publication from BCPC considers the serious impact that some introduced species have on the economy and ecology of a region. Entitled ***Plant Protection and Plant Health in Europe: Introduction and Spread of Invasive Species***, this 296-page book is a full record of the papers and posters presented at the three-day Symposium jointly organised by BCPC and the Deutsche Phytomedizinische Gesellschaft that was held at Humboldt University, Berlin, Germany on 9 - 11 June 2005.

"Many examples exist of species which have transferred from their natural range and are now successfully established in a new region," explained Dr Stephen Hunter in his introductory address at the Symposium. "Inherently there are risks associated with material becoming invasive or being a vector for invasive pests and pathogens and commercial trade must be implicated as one of the main pathways for introduction."

"The risks of invasive species are such that Governments cannot afford to stand idly by. The pressure for global development and trade means that banning the movement of plant material would not be acceptable but the introduction of international processes for analysing the risks and determining management actions is a step in the right direction. The debate is just getting underway and we are only now formulating some of the issues which must be resolved before there is a consensus on a way forward," said Dr Hunter.

With invasive species now regarded as the second largest reason for biodiversity loss world-wide, this Symposium considered a range of species regarded as invasive from the Asiatic longhorn beetle (*Anoplophora glabripennis*), which has recently gained foothold in Europe to the well-known aggressive neophytes such as giant hogweed (*Heracleum mantegazzianum*) and Japanese knotweed (*Reynoutria japonica*). The ecological risks that invasive species pose, how they can be detected at an early stage and what monitoring and information exchange systems can be put in place, were also highlighted.

The Symposium included papers presented by speakers from countries around the world. It began with an examination of trade as a pathway for introducing and spreading alien species. Discussion followed on risk assessment and the regulatory framework for control and then looked at monitoring techniques. Alongside the sessions a series of workshops considered the effect of climate change on invasive species and detailed a case study of the western corn rootworm (*Diabrotica virgifera virgifera*) and the current and future impact of trade with European countries.

The oral presentations were supported by a number of Poster Papers. In the future, official phytosanitary regulations, inspection and alert systems should help to protect against the negative impacts of alien species. The Imports Directive 2002/89/EC, which came into effect in January 2005, unifies the approach that EC Member States must take to exclude alien pests and diseases. The aim is to increase the effort to prevent introduction rather than eradicate and contain them once they have entered the EU New Member States.

Copies of *Introduction and Spread of Invasive Species* cost £35, and can be ordered from **BCPC Publications Sales**,  
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IAPPS Mission: to provide a global forum for the purpose of identifying, evaluating, integrating, and promoting plant protection concepts, technologies, and policies that are economically, environmentally, and socially acceptable.

It seeks to provide a global umbrella for the plant protection sciences to facilitate and promote the application of the Integrated Pest Management (IPM) approach to a the world's crop and forest ecosystems.

Membership Information: IAPPS has four classes of membership (individual, affiliate, associate, and corporate) which are described [here](#).

The *IAPPS Newsletter* welcomes news, letters, and other items of interest from individuals and organizations. Address correspondence and information to:

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