



# IAPPS NEWSLETTER

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## SP-IPM RESEARCH BRIEF No 5

 A new research brief titled "*The Role of Integrated Pest Management: How IPM Contributes to the CGIAR System Priorities and Millennium Development Goals*" is now available.

The IPM Research Brief series is part of the Consultative Group for International Agricultural Research (CGIAR) Systemwide Program on IPM (SP-IPM) strategy for promoting information exchange among stakeholders. Its purpose is to build public awareness and understanding of the benefits of integrated pest management and to encourage the full integration of this approach into mainstream agriculture. The briefs are primarily intended for agricultural research managers, policy makers, and the development partners with whom governments plan IPM inputs into agricultural and rural development activities. The briefs analyze the biological and ecological bases of IPM-related food insecurity issues of common concern across different agro-ecosystems and regions. They also synthesize research results and advise on opportunities for scaling up the benefits achieved in pilot studies.

Global recognition of the scale of the problems caused by food insecurity and poverty and of the enormous potential to do something about it is embedded in the United Nations' Millennium Development Goals (MDGs). The MDGs set out a framework for development, providing a focus through which research and development organizations can direct and coordinate their operations. Recognizing their central role in this campaign, the CGIAR System Priorities explicitly aim to ensure that publicly funded research by CGIAR centers contributes to meeting the MDGs. This brief highlights ways in which IPM can contribute to meeting the CGIAR System Priorities and the MDGs and shows how the SP-IPM will take forward the IPM agenda to maximize this contribution.

The brief provides a range of examples of IPM's past and current contributions, drawing on ongoing work of SP-IPM member organizations and focusing on IPM's contribution to both rural productivity and human capital. The brief then outlines the SP-IPM strategy to deliver its contributions to CGIAR System Priorities as the channel through which the SP-IPM contributes to the achievement of the MDGs. The strategy is focused on three key emerging themes - adapting IPM to climate variability and change; management of contaminants in foods, feeds and the environment; and improved agro-ecosystem resilience for soil, root and plant health. It addresses the most pressing challenges and opportunities for IPM in agricultural development, while building on the strong linkages between CGIAR centers and national agricultural research systems (NARS) for collaborative research and capacity building at all levels. This brief was prepared by the SP-IPM Secretariat in collaboration with Green Ink Publishing Services Ltd (UK). It is based on materials provided by researchers at Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT), Centro Internacional de la Papa (CIP), International Center for Agricultural Research in Dry Areas (ICARDA), International Center of Insect Physiology and Ecology (ICIPE), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), International Rice Research Institute (IRRI) and International Institute of Tropical Agriculture (IITA).

### **Dr. Braima James**

Coordinator, Systemwide Program on Integrated Pest Management (SP-IPM)

IITA, Cotonou, Benin

E-mail: [b.james@cgiar.org](mailto:b.james@cgiar.org)

[www.spipm.cgiar.org](http://www.spipm.cgiar.org)

## **IMPROVING MANAGEMENT OF FOOD CROP PESTS IN THE PACIFIC ISLANDS**

The rapid increase in price of basic food imports, especially rice, is causing a rethink on the importance of sustainable food crops in the Pacific islands. Research on the Pacific basic foods, tree and root crops such as coconut and taro, is led by the Land Resources Division of the SPC (Secretariat for the South Pacific) which coordinates programs for pest management from its offices in Suva, Fiji with an emphasis on implementing sustainable biological control and integrated pest management practices.

The rhinoceros beetle (*Oryctes rhinoceros*, Col., Dynastinae) is a major pest of coconuts in several Pacific Island states having spread into the Pacific from Asia over the past century. The insect devastated coconut production in infested states until it was brought under control through IPM based on clearing of breeding sites and release and

management of the *Oryctes* virus, a natural biocontrol agent originally isolated from Malaysia. While initially very effective, rhinoceros beetle control appears to be breaking down in some areas and despite quarantine measures the beetle is extending its range. An outbreak of rhinoceros beetle on Guam is currently subject to an intensive eradication program. SPC is working with AgResearch to limit the impact of rhinoceros beetle on coconuts through improved management systems in a project funded by NZAID/ODA (New Zealand). Visual diagnosis of virus infection is not always accurate, so an alternative PCR based diagnostic system is being evaluated and used to establish current distribution and impact of the virus and to provide a rational basis for virus reintroduction into areas where it is absent. The efficacy of existing virus strains will also be evaluated and the most effective strains selected for reintroduction where necessary. A management system will be implemented through SPC labs in Suva.

Taro is an important staple food and cash crop for small farmers throughout the Pacific. The rhizomes are attacked by another dynastine scarab, the taro beetle (*Papuana* spp.). Adult beetles build up in numbers in village gardens feeding directly on the taro rhizomes and can cause total crop destruction. The pest undermines local food production and drives shifting cultivation increasing pressure on land. Following success of the rhinoceros beetle biocontrol program, research has been focused on finding effective control agents for the pest, but progress with biocontrol of the taro beetle complex has been limited. Rhizome protection with the nicotinoid insecticide imidacloprid has proven effective and this method is being introduced to farmers by SPC.

*Brassica* crops, "English" and Chinese cabbages, are important leafy vegetables for local consumption in the Pacific Island Countries (PICs) but can be heavily attacked by the diamondback moth (DBM) (*Plutella xylostella*, Lepidoptera: Plutellae) and the large cabbage moth (LCM) (*Crociodomia pavonana*, Lepidoptera: Pyralidae). These pests are currently controlled through excessive use of broad-spectrum insecticides which creates an inappropriate environment for natural enemies and can cause serious health and environmental problems. Past efforts on biological control of DBM and brassica IPM programs have failed due to lack of adequate extension services, but a new program has been initiated in the Pacific by the Australian Centre for International Agricultural Research (ACIAR) following a successful brassica IPM program in Southeast Asia. SPC and the University of Queensland have formulated a program appropriate for local conditions which aims to demonstrate effective integrated approaches to *Brassica* pest management through farmer field schools and local extension officer training. Major research activities are now being conducted in Fiji and Samoa in collaborations with their respective agricultural authorities.

**Dr. Trevor A. Jackson**

IAPPS Coordinator Region X: Oceania  
AgResearch, Lincoln, New Zealand  
E-mail: [trevor.jackson@agresearch.co.nz](mailto:trevor.jackson@agresearch.co.nz)

and

**Dr. Sada Nand Lal**

Land Resources Division, SPC, Suva, Fiji  
E-mail: [sadanl@spc.int](mailto:sadanl@spc.int)  
<http://www.spc.int>

## REGIONAL NEWS AND EVENTS FROM OCEANIA REGION

Lincoln University-based Bio-Protection Research Centre has received continued funding from the New Zealand Government of almost NZ\$24 million for the period 2009 through to 2015. Research at the Centre covers the following themes; Biosecurity, Biocontrol, Agri-biotechnology, Mataranga Maori Bio-Protection. Further details at <http://www.bioprotection.org.nz>

The New Zealand Plant Protection Conference will be held at Pahia, Northland, New Zealand on 11-14 August 2008. Details at <http://www.nzpps.org>

The 3rd International Symposium on Biological Control of Arthropods will be held in Christchurch, New Zealand on 8-13 Feb 2009. Details at <http://www.isbca09.com>

Planning is underway for an International Workshop on Biological Control of Invasive Species affecting Pacific Island Forests, Agriculture and the Environment to be held at Nadi, Fiji, September 22-24, 2008. Details from Anne Marie LaRosa at [alarosa@fs.fed.us](mailto:alarosa@fs.fed.us)

**Dr. Trevor A. Jackson**

IAPPS Coordinator Region X: Oceania  
E-mail: [trevor.jackson@agresearch.co.nz](mailto:trevor.jackson@agresearch.co.nz)

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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:

**Dr. Manuele Tamo, Editor**  
**IAPPS Newsletter**  
**Biological Control Center for Africa, IITA-Benin**  
**08 B.P. 0932 Tri Postal, Cotonou, Republic of Benin**  
**E-mail: [m.tamo@cgiar.org](mailto:m.tamo@cgiar.org)**