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VICE MINISTER LAUNCHES ECOLOGICAL ENGINEERING INITIATIVE IN MY THO, VIETNAM

Ecological Engineering to enhance local biodiversity and related ecosystem services has been experimented in Tien Giang province with support from the provincial government. The community experiments in Cai Be and Cai Lay districts showed that rice farms with ecological engineering modifications had significantly higher predators (Fig 1a) and parasitoids and lower pests. Total parasitoids and predators in the ecologically modified fields were both higher by 150%, respectively. Pest populations in the ecological engineering fields were 130% lower than the control fields (Fig 1b). The ecological engineering fields had no insecticide applications while the control fields were sprayed between 2 to 3 times.

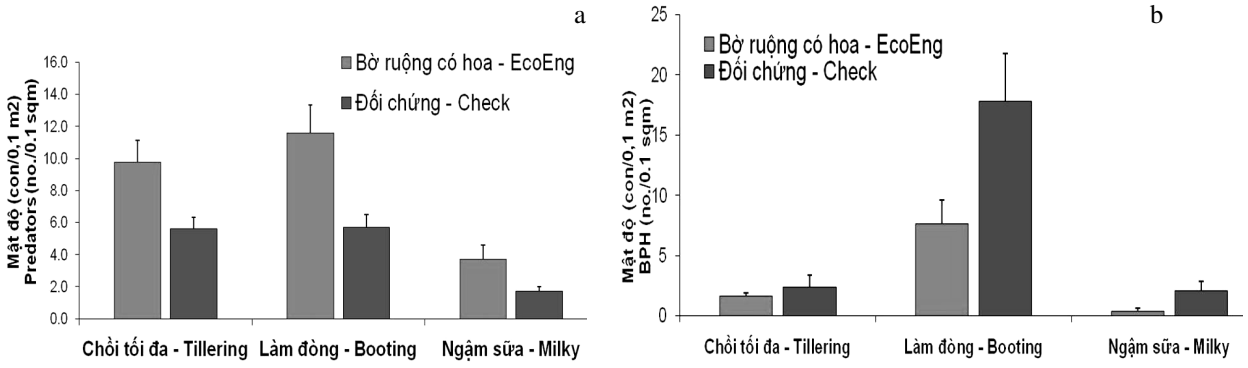

Fig 1: effect of ecological engineering on **a)** predators and **b)** pest populations

On 10 September 2010 the Vice Minister of Agriculture and Rural Development, Dr Bui Ba Bong, launched the Ecological Engineering Initiative in My Tho City. Known locally as ***Công Nghệ Sinh Thái***, the ecological engineering methods are best used together with the ***"Three Reductions, Three Gains"*** and **"Escape Strategy"** that were introduced to farmers earlier. The three reductions program, locally called ***Ba Giam Ba Tang*** introduced in 2005 is now adopted as government policy. Fields where local biodiversity in rice fields is increased by using flower plants is becoming acceptable to farmers after they learned about the three benefits (***BA LỢI ÍCH***). The flowers would bring in bees and parasitoids to protect from invading hopper, they would help reduce insecticide use and increase in profits. Multiple media will be used to promote the initiative. These include leaflets, posters, billboards, radio and TV spots.

Using local government funding, ecological engineering or "Eco-Eng" as it is referred to in Vietnam, will be extended to three other districts in Tien Giang: Cho Gao (20 ha), Go Cong Tay (15 ha), Go Cong Dong (15 ha). An Giang province will also implement “Eco-Eng”.

In order to conserve the biodiversity of predators and parasitoids that provide the ecosystem services (see left picture of flowers planted on bunds), it would also be important that all unnecessary insecticide sprays be removed. Insecticides are extremely destructive to ecosystem services and should only be used when absolutely needed. Instead of providing subsidy for factor inputs, like pesticides, government spending to support public goods like ecosystem services can enhance sustainability.

This text was provided by Ho Van Chien, Director, Southern Regional Plant Protection center, Long Dinh, Tien Giang, Vietnam; La Pham Lan, Institute of Agricultural Sciences, Ho Chi Minh City, Vietnam; and Nguyen Huu Huan, Vice Director General, Plant Protection Department, Ho Chi Minh City, Vietnam, and is available online at http://ricehoppers.net

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A PARASITOID ON THE LOOSE IN ASIA

The establishment of an exotic invasive neotropical papaya mealybug (*Paracoccus marginatus*) in Indonesia, India and Sri Lanka in 2008, Bangladesh in 2009 and Thailand, Cambodia and the Philippines in 2010, led some these countries to scramble for the introduction of effective and proven parasitoids from the USDA Laboratory at Puerto Rico. This resulted in Sri Lanka introducing the parasitoids *Acerophagus papayae*, *Anagyrus loecki*, *Pseudleptomastrix mexicana* in May 2009 and suppressing the papaya mealybug population by September 2009. In July 2010, India imported these parasitoids and they are currently in quarantine awaiting permission to field release.

Meanwhile, scientists in India found *Acerophagus papayae* to have fortuitously established at Pune area of the Maharastra state in August 2010 (National Bureau of Agriculturally Important

Insects, India). In July 2010, Dr. Aunu Rauf of Bogor Agricultural University provided some parasitoid specimens collected from the papaya mealybug at Bogor, Indonesia to a visiting team of the IPM CRSP Southeast Asia project. These parasitoid specimens were confirmed as *Acerophagus papayae* by Dr. Gregory Evans of the USDA. It is probable that *Acerophagus papayae* has escaped from countries wherein it was officially introduced and has spread to other Asian countries or it has been introduced to some of the Asian countries with the mealybug from the original source. The IPM CRSP team found papaya mealybug in low numbers and parasitized in Thailand, Cambodia and the Philippines, possibly due to the presence of *A. papayae* or other parasitoids. A survey of papaya mealybug and its fortuitously introduced parasitoids and/or locally recruited natural enemies in Asia would be timely.

Recently the papaya mealybug has been reported to have established in Ghana, Africa and Reunion Island in the Arabian Sea and both these countries are taking steps to introduce parasitoids from Puerto Rico.

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SIXTH INTERNATIONAL WORKSHOP ON MANAGEMENT OF DBM

The Sixth International Workshop on Management of the Diamondback Moth and Other Crucifer Insect Pests will be organized by AVRDC – The World Vegetable Center and its Regional Center for East and Southeast Asia, Thailand in association with Kasetsart University (Thailand) and Cornell University (USA). The workshop will be held from 21-25 March 2011 at Kasetsart University, Kamphaeng Saen campus, Nakhon Pathom, Thailand. About 200 – 300 researchers worldwide are expected to participate and present research and extension papers. The workshop is designed to provide a common forum for researchers to share their findings in bio-ecology of insect pests, host plant resistance, biological control, pesticides, and insect management on crucifer crops. As with previous workshops, a comprehensive proceedings will be published. **Important dates: Call for papers: 1 October - 31 December 2010; Registration: 1 October 2010 - 31 January 2011**

The diamondback moth (DBM), *Plutella xylostella*, is the most serious crucifer pest worldwide. In addition, head caterpillar (*Crocidolomia binotalis*), web worm (*Hellula undalis*), butterfly (*Pieris* spp.), flea beetle (*Phyllotreta* spp.) and aphids (*Brevicoryne brassicae, Lipaphis erysimi, Myzus persicae*) also cause significant yield losses in crucifers. Farmers prefer to use chemical pesticides for controlling these pests because they have an immediate knock-down effect and are easily available when needed in local markets. Pesticides constitute a major share in the total production cost of crucifer crops, accounting for about 38% of the cost of production of major crucifer crops in India and about 49% in the Philippines. As a result, pest resistance to insecticides is on the rise, leading farmers to spray even more pesticides. Insecticide resistance, environmental degradation,

human health impacts, resource loss and economic concerns have triggered a growing interest in integrated pest management (IPM) techniques including safe use of pesticides.

The International Working Group on DBM and Other Crucifer Insects is an informal group of researchers worldwide who are actively engaged in research and development in crucifer pest management. This research group participates in an international workshop on the management of DBM and other crucifer insect pests that occurs every five to six years. The first and second workshops were organized by AVRDC – The World Vegetable Center in Taiwan in 1985 and 1990. The third workshop was organized by the Malaysian Agricultural Research and Development Institute in Kuala Lumpur in 1996. The fourth workshop was organized in Australia in 2001 and the fifth workshop was organized by the Chinese Academy of Agricultural Sciences in Beijing in 2006.
Additional details and proceedings of these workshops can be found at
http://www.nysaes.cornell.edu/ent/dbm/index.php

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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 the world's crop and forest ecosystems.

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