



Commercialization of Biopesticides in Southeast Asia: Background, Concept, Status



Background

- Emerging era of concern over food safety in the region
 - Residue problems not only an issue for export markets, also for local consumption



Background

- Occupational poisoning by chemical pesticides
- Build-up of resistance of pest organisms



Background

■ Why Southeast Asia ?

- Use of environmentally friendly biocontrol tools may have broad impact on agroindustry (export, food safety)
- ASEAN endorses use of environmentally friendly technology
- Huge potential markets for biocontrol products
- Companies and users still reluctant, mostly out of inexperience with proper application and technology



PEACE
STABILITY
COURAGE
DYNAMISM
PROSPERITY





Concept

- February 2003 to October 2008: Commercialization of Biopesticides in SE Asia
 - Overall goal: Establishment of biocontrol products in the markets of the **region**
 - Philosophy: only **private sector** can achieve turnaround to environmentally friendly technology
 - Role of project: **broker** between public and private sector; new forms of cooperation between public sector, international and local industry
 - Using **model products** to convince companies that biopesticides are effective and profitable
- Central office in Bangkok, activities in Indonesia, Vietnam, Laos, Philippines, Malaysia
- Since 2003: Cooperation with IBMA



Agrochemical Markets SE Asia

Crop Protection Markets in Southeast Asia (million \$)

Herbicides, Insecticides, Fungicides, Rodenticides

Source: *Agrow Reports* and Project market research

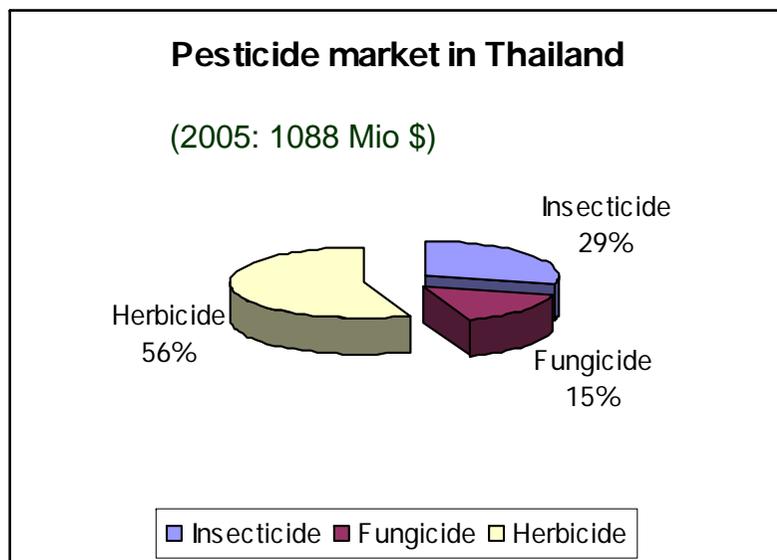
| Country | 1999 | 2005 |
|----------------------|------------|-------------|
| Vietnam | 259 | 160 |
| Indonesia | 220 | 200 |
| Thailand | 212 | 1088 |
| Philippines | 155 | 210 |
| Malaysia | 103 | 89 |
| Myanmar | 10 | 7 |
| Cambodia | 5 | 7 |
| TOTAL SE ASIA | 964 | 1761 |
| China | 991 | 1406 |
| Japan | 3085 | 2730 |

Government and industry sources

Agrochemical Markets SE Asia



■ Example Thailand 2005



Agricultural chemicals' target crops:

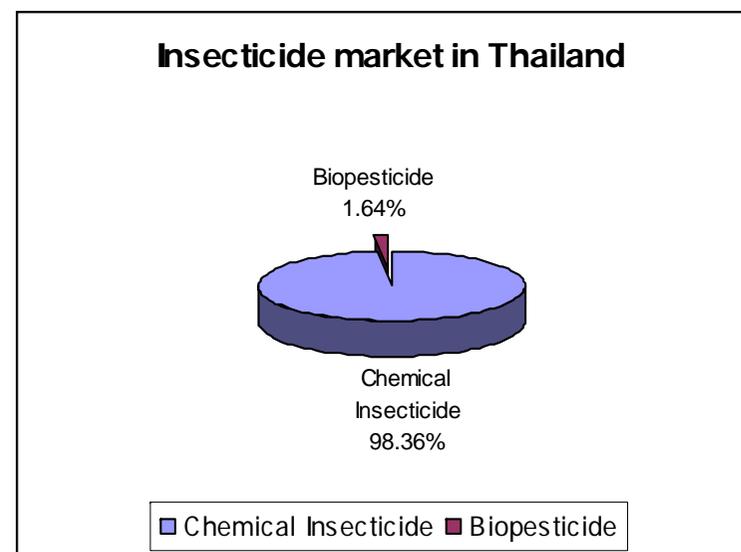
- Rice
- Fruit trees
- Vegetables
- Field crops

Biopesticides:

2005: 5.26 Mio \$ (up 53.9%)

2004: 3.24 Mio \$

- 96% *Bt* products
- Projection: 30-40% growth / yr
- Thai costumers increasingly demand non-chemical agricultural products





Agrochemical Markets SE Asia

■ Example Malaysia 2005

Agrochemical Market (Mio \$)

| Category | 2004 | % change | 2005 |
|--------------|-------------|--------------|-------------|
| Herbicides | 59.2 | + 2.3 | 60.5 |
| Insecticide | 17.4 | + 1.6 | 17.6 |
| Fungicides | 6.5 | + 4.2 | 6.7 |
| Rodenticides | 4.6 | - 11.8 | 4.1 |
| Total | 87.7 | + 1.5 | 88.9 |

Agricultural chemicals' target crops:

- Oil palm
- Rubber
- Tea
- Cocoa

Biopesticides:

- Around 1% of total agrochemical market
- Biocontrol products for control of pests and diseases in oil palm and cocoa estates good potential
 - Rhinoceros beetle
 - Red palm weevil
 - *Ganoderma* spp.
 - Rodents



Markets for Biocontrol Products

Emerging Markets for Biocontrol

Crops and pests with promising markets for biocontrol products:

| | |
|--------------------------|---|
| Rice | Rodents, stem borer (Thailand, Vietnam, Indonesia, Malaysia, Philippines) |
| Oilpalm | Rhinoceros beetle, red palm weevil, rodents (Indonesia, Malaysia, Thailand) |
| Cocoa | Pod borer (Indonesia) |
| Coffee, Pepper | Nematodes (Vietnam) |
| Banana | Nematodes (Philippines) |
| Vegetables, Fuits | Fruit flies, DBM, bollworms, path. fungi (All) |

Project Milestones

- 2003
 - Biological rodent control registered for commercial use in Thailand and introduced to the local market
 - Strategic cooperation with IBMA and joint booth at BioThailand 2003 technology fair



Project Milestones

■ 2005

- Registration for commercial use of biological rodent control approved by Vietnam
- Successful negotiation between international and local industry for market introduction of biocontrol products against insect pests in oil palm and cocoa in Indonesia



Project Milestones

■ 2006

- Successful market introduction of new pheromone technology for mass trapping rhinoceros beetle in Indonesia
- Initiation of registration of biological rodent control in Indonesia
- Rodent biocontrol out competes chemical products in large-scale field demonstrations in oil palm in Sumatra
- Initiation of cooperation with MARS Corp. on commercialization of a pheromone for mass trapping cocoa pod borer in Indonesia
- First regional workshop on guidelines for registration of biopesticides in SE Asia, in Medan, Indonesia





The Biopesticide Project

Thank You !!

More information available at
our booth!

Our website:
www.biopesticides-seasia.net