



Biocides Market and Opportunities for Bio Control

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PRESENTATION

- What are the Biocides markets Beyond-Agriculture?
- Differences to Agricultural Markets
- Why Bio Control is a good fit
- Some Examples of current use: Pest Management/Public Health
- Some comments on Biocidal Products Regulation



- Significant international marketing and commercial experience in Agriculture and Beyond-Agriculture industries
- Recognized Beyond-Agriculture specialist
- Worldwide experience of the market with an extensive network of contacts
- Wide experience of the use and value of industry representative roles within both European and International organizations
- Involved in the direct marketing of Bio Control products and consultancy with companies in Bio Control markets.
- Experienced and well connected in Chinese markets

Novonest: HBERC Facility

US\$ 12.6 million investment
13200M² main building
9000M² of laboratory space

**NATIONAL BIO
ENGINEERING
RESEARCH CENTRE**



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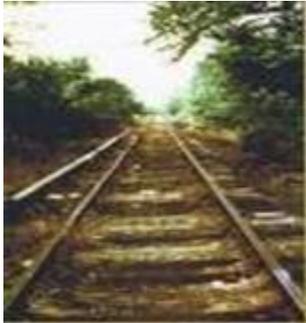
非农用农药
Beyond-Agriculture



Pest Management



Termite Control



Industrial Use



Ornamentals



Public Health



Turf Care



Timber Treatment



Consumer

BEYOND-AGRICULTURE ACCESSIBLE MARKET US\$ 10 Billion

Service Industries

Turf & Amenity 22%
Pest Management 17%
Public Health 7% (+)

Consumer

Home and Garden 10%

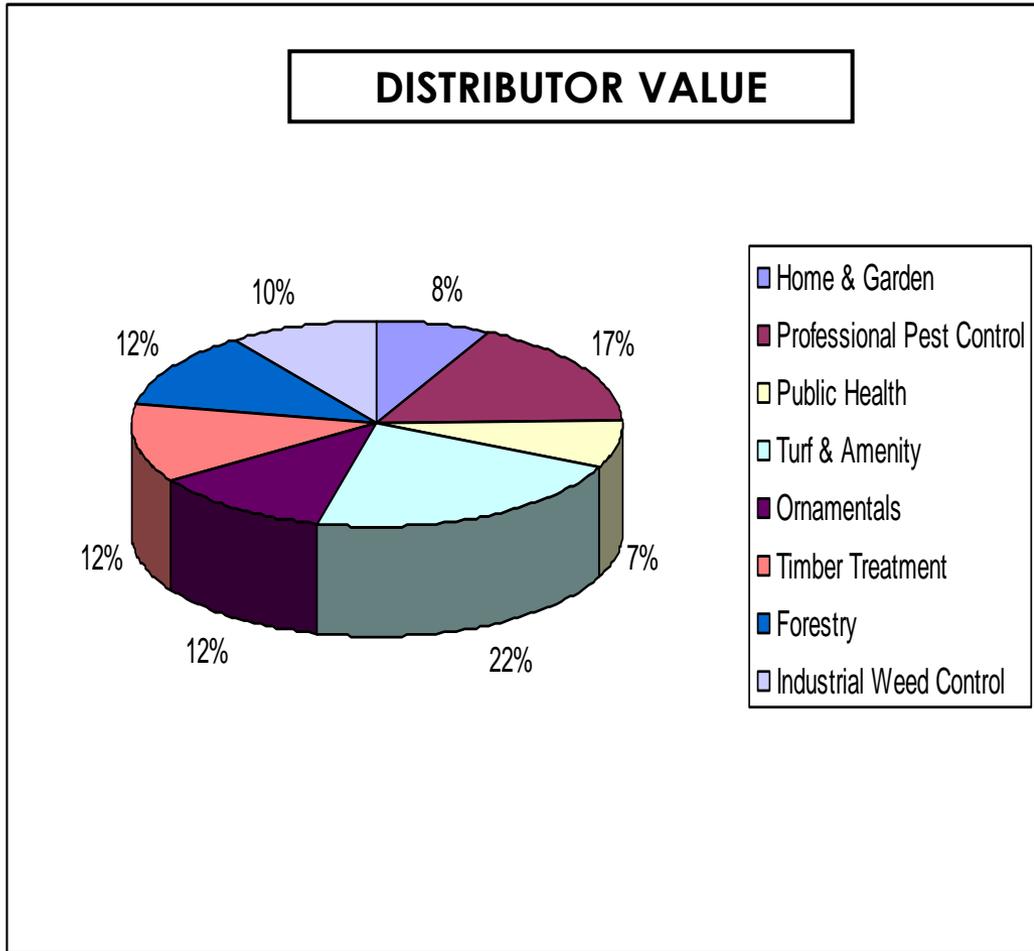
Industrial

Timber Treatment 12%
Industrial 8%

Quasi-Agriculture

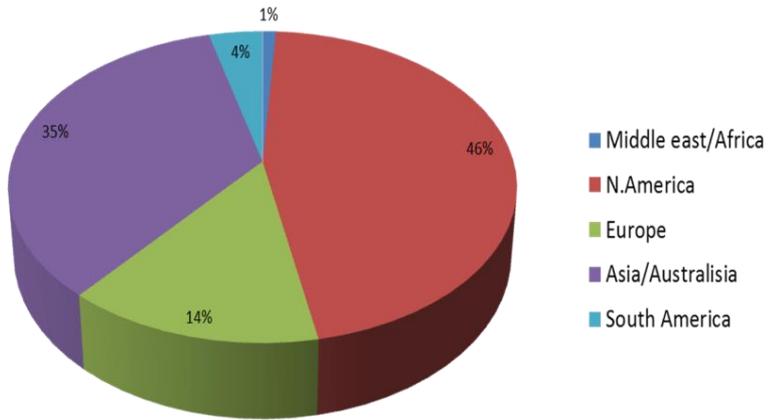
Ornamentals 12%
Forestry 12%

Source: 2nd Beyond-Agriculture
Seminar CCPIT Shanghai 2012



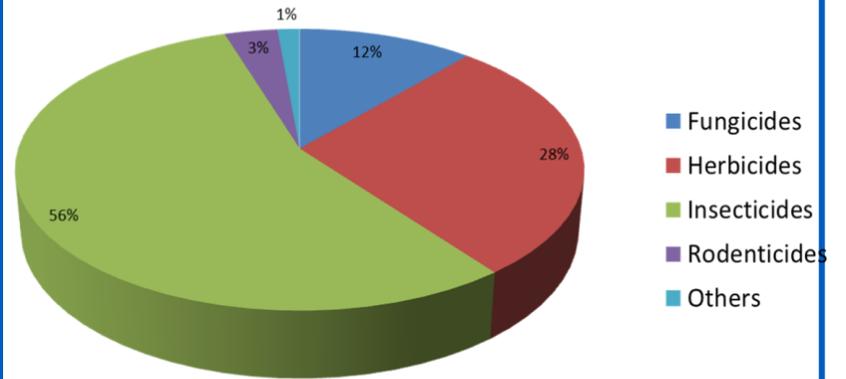


GLOBAL REGIONS



Data Source: GfK

PRODUCT TYPE




Agriculture



非农用农药


Beyond-Agriculture





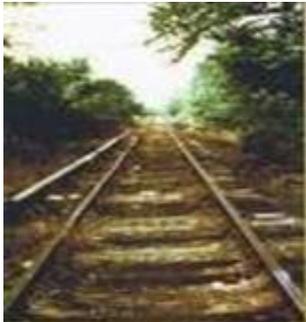
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Pest Management



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Consumer



- Potentially the answer to the Consumers “chemophobic” position
- Zero tolerance to pests, but zero tolerance to pesticides too!
- External audit processes dominate thinking
- Products sought with potential to prevent as well as control
- Perfect fit as a core principal of Integrated Pest Management
- Many environments where monitoring is integral to the control process
- Application in defined or enclosed spaces

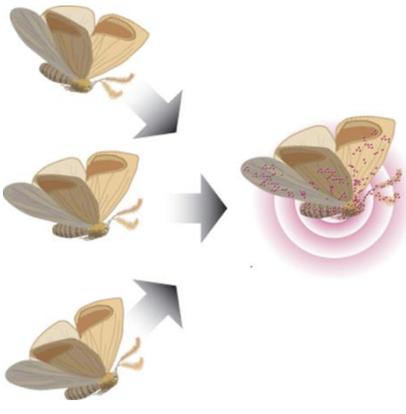


BIO CONTROL IN FOOD & HOSPITALITY



EXOSEX® SP Tab

Pheromone mating disruption of food moth pests (*Ephestia/Plodia ssp*) through auto confusion





- Challenges of managing insect resistance
- Market driven by monitoring
- Integrated pest management principles at the core
- Donor concern about pesticide use (treated bed nets!)
- Issues with ability to get 100% coverage to impact populations
- Open to innovation – Gates Foundation/IVCC



Bacillus Thuringiensis var. israeliensis (Bti)

- **Used for larval control in water**
- **Only alternatives IGRs and organo-phosphates**
- **Increasing focus on larvicides**



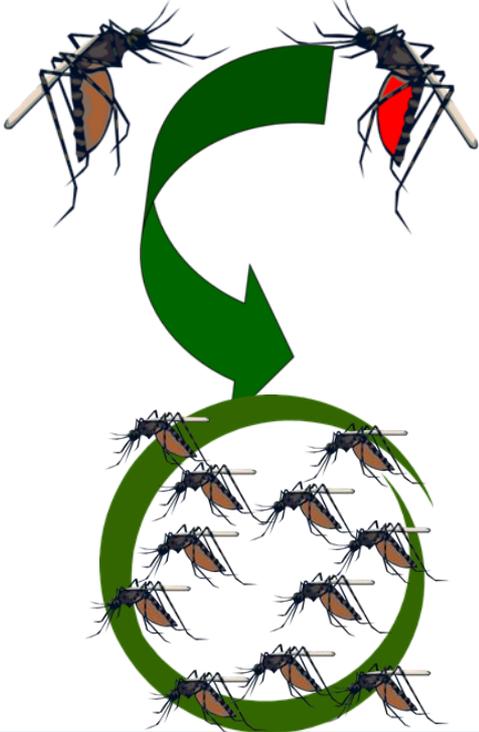


BIO CONTROL IN MOSQUITO ABATEMENT



OXITEC
OXFORD INSECT TECHNOLOGIES

- **RIDL® Lethal Gene Technology**
- **Controlled release of Sterile Males**
- **Open Release in Northern Brazil**





BIOCIDE DIRECTIVE/REGULATION

- Established to follow the initial principles of 91/414 → 98/08
- Catch all “Directive” for uses not covered already:
Pesticide Use outside 91/414 + Other chemicals
- Goal to reduce chemical use in urban environments
- Review not yet complete but conversion to a “Regulation”
- Ought to be a clear focus for Low Risk Fast Track
- Carbon Dioxide fully registered as a rodenticide
- Issues around physical control (DE) and attractants

There is an industry need for a Bio Control focus and voice



THANK YOU

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