



# Yellow Stem Borer control with Exosex YSBTab

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# Who and what is Exosect?



- A spin out from Southampton University – 2001
- Today a UK venture capital funded company – green technology investors
- Global R&D programme
- Licensing, Production and commercial facilities



# Technology based on Entostat™



## Core technology

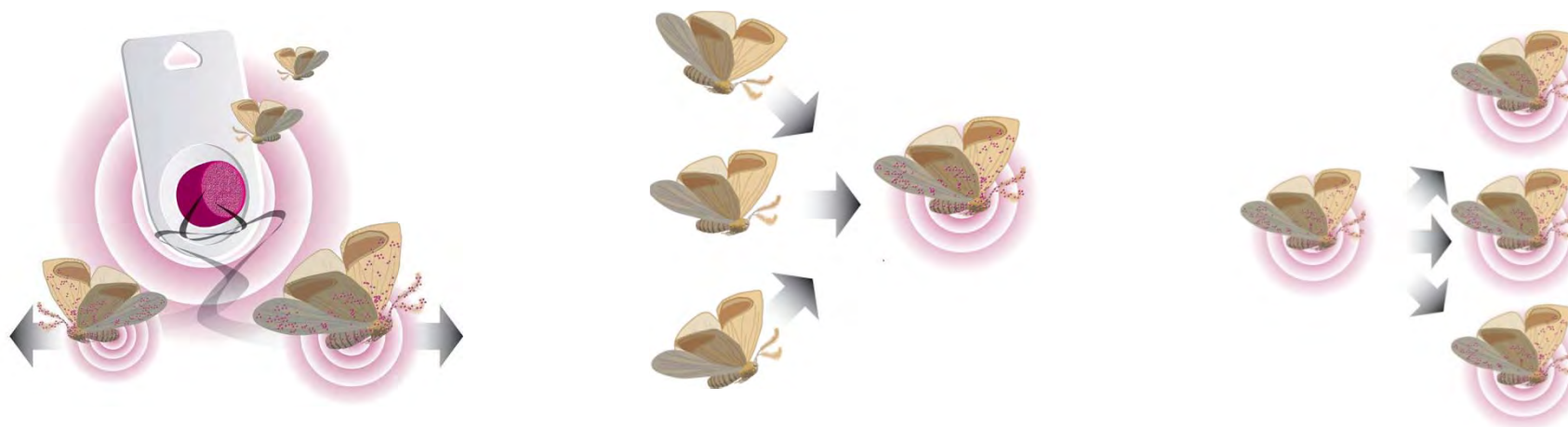


Exosect's core technology is Entostat™ powder, a natural, food grade wax powder

Commercial uses:  
Automobile wax,  
food production,  
polishes, dentistry

IP:  
Electro-static  
when micronized

# Auto-confusion explained

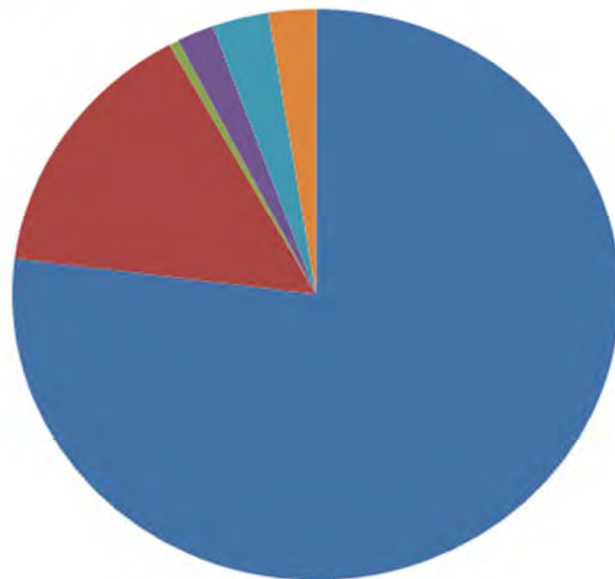


- Male moths are lured to the tablet where they become contaminated with the Entostat™ / pheromone blend .
- Receptors become overloaded and contaminated males can't detect pheromone plumes of calling females.
- False trail following - contaminated male also becomes a lure for other male moths.
- The confusion effect spreads throughout the population leading to mating disruption

# The Pest; Rice Yellow Stem Borer *Scirpophaga incertulas*



**% of damage in rice crop**



- *Scirpophaga insertulas*
- *Chilo partellus*
- *Chilo auricilius*
- *chilo suppressalis*
- *Chilo polychrysus*
- *Sesamia inferens*



# Exosex YSBTab



- Tablet / dispenser
- Pheromone / entostat  
2 % / 98 %
- 80 units / Ha
- Single application

# Production - Using available local resources



# Exosex YSBTab Indian trials 2006 - 2011



- 5 year program
- 7 States
- 6 Universities
- 17 Studies
- > 400 HA in study area

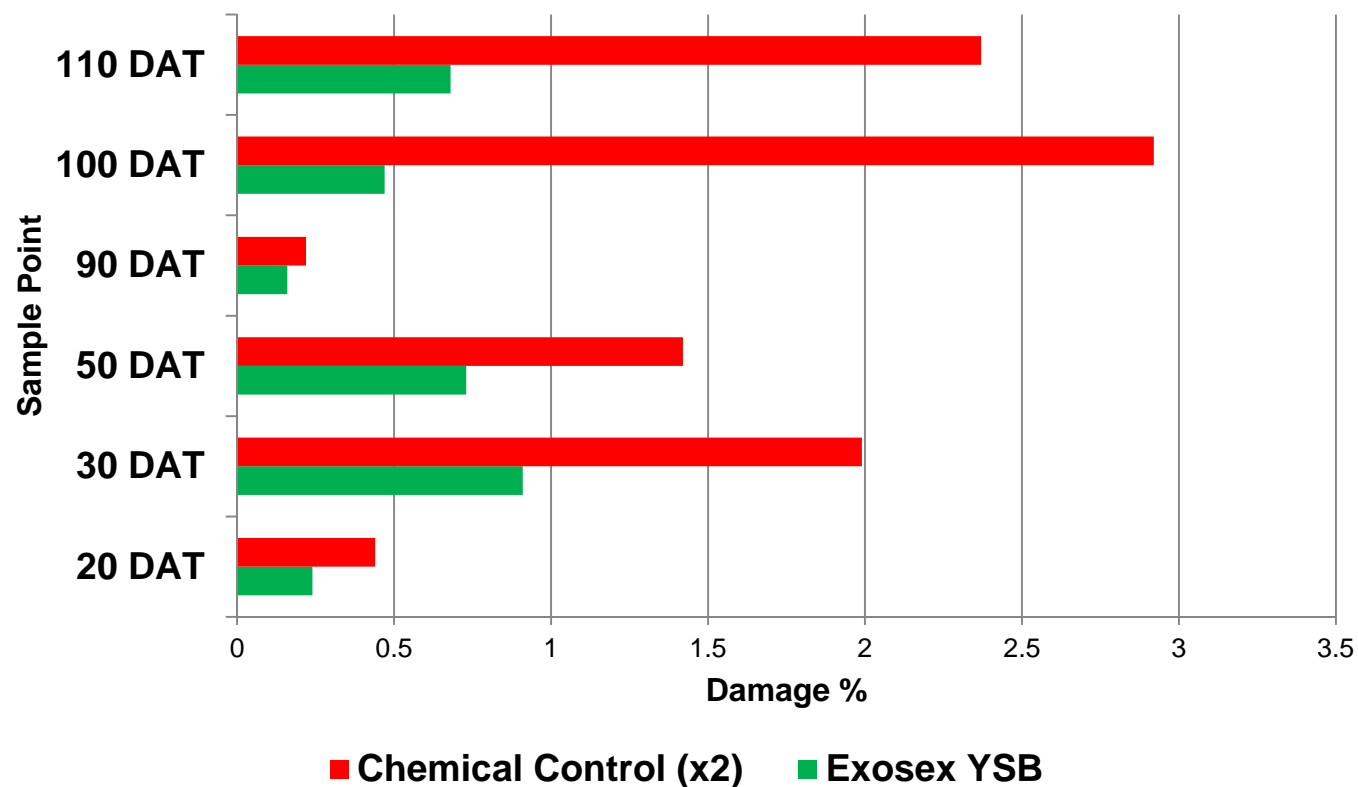




# Exosex YSBTab vs Farmers Practice - Moderate Pressure



## Andhra Pradesh Kharif season

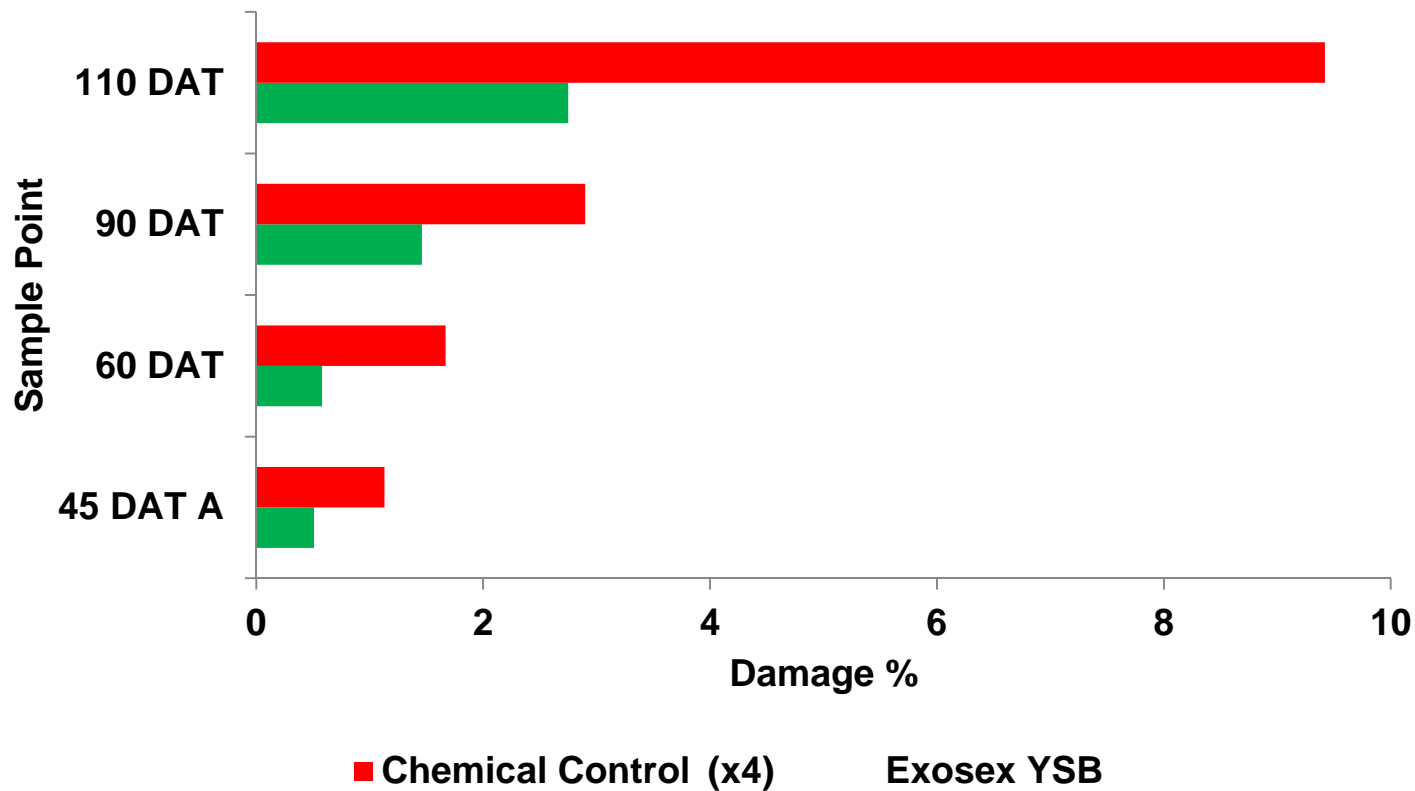


6 x 3 ha replicated blocks

# Exosex YSBTab vs Farmer Practice – High Pressure



## West Bengal Kharif season 2010

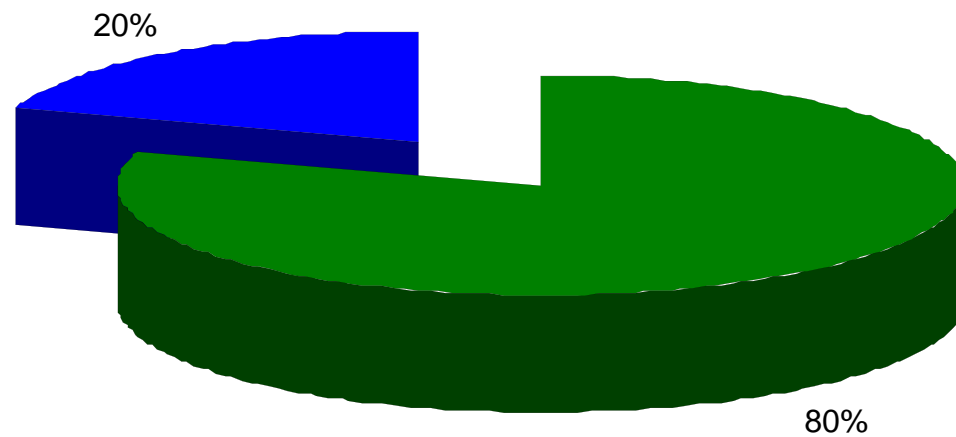


6 x 3 ha replicated blocks

# Summary of Field Studies 2006 - 2010



**More efficacious than reference** **Less efficacious than reference**

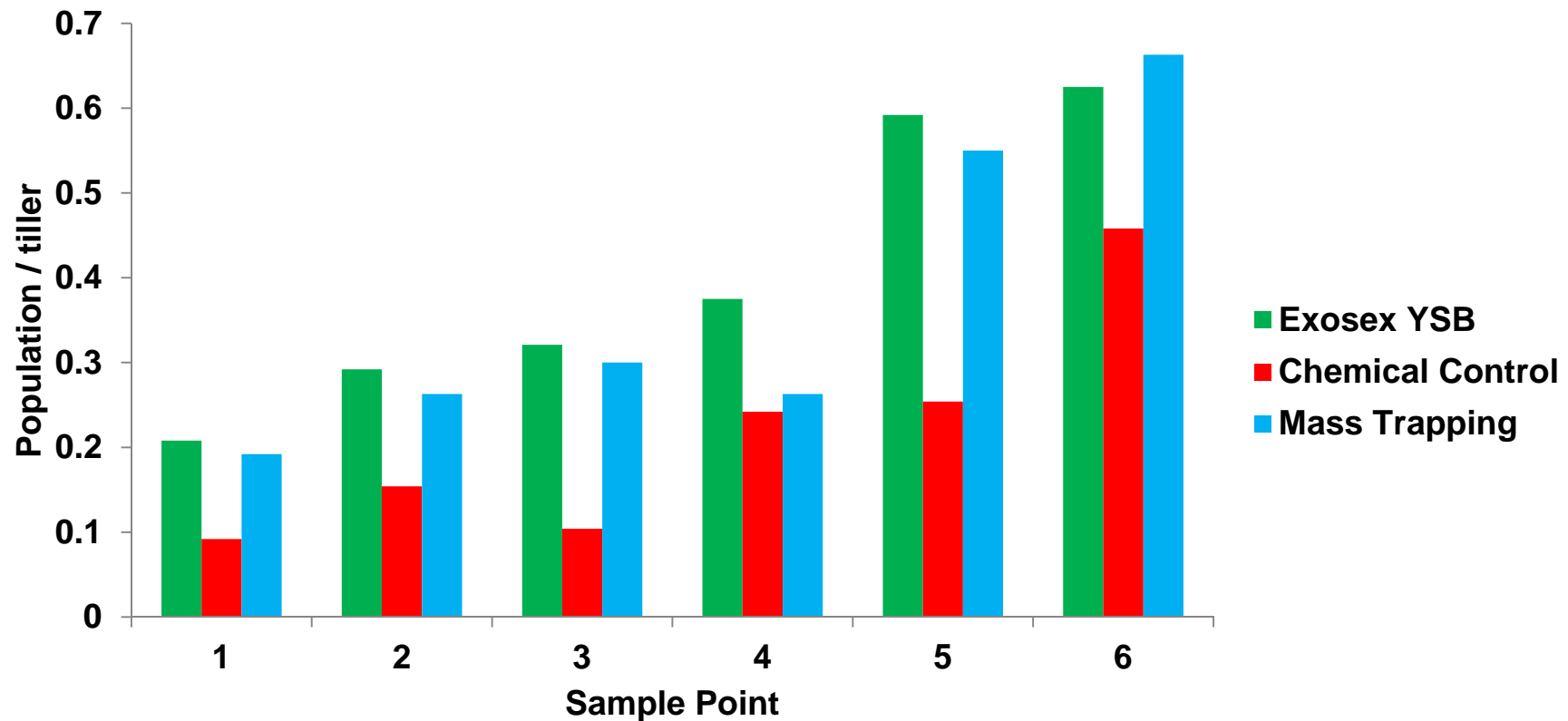




# Beneficial Predator Assessment



## Example Beneficial Predator Assessment - Year One Andhra Pradesh 2008 Rabi season



18 x 3Ha replicated blocks

# Exosex YSBTab grower education programme



## ATMA

Agricultural Technologies Management Association



- ATMA is a society involved in agricultural activities for sustainable agriculture development across India
- 100ac's of successful studies conducted in 2011
- Aim of integrating Research and Extension activities to achieve grower level access to developing technologies
- Programme current activity in 25 of the 28 Indian states
- View to increase activity in 2012

# Exosex YSBTab grower education programme



## Front Line Demonstration Programme

- Managed by the Directorate of Rice Research Institute (DRRI)
- Funded by the India Department of Agriculture
- Programme of demonstrations and education on the latest proven technology
- Programme Covers 16 states and 5600 Hectares





# Exosex YSBTab Grower Feed back



- Exosex YSBtab offer equivalent control compared to up to 3 chemical applications
- A single application at the start of the season offering 120days of control - low labour inputs
- Trials show control as good as insecticides at similar cost

# Exosex YSB<sup>Tab</sup> benefits



- Entostat powder is naturally occurring, solvent and propellant free – Safe to users, workers, homes and water courses
- Does not require water – Kind to limited natural resources
- No residues on any part of the crop
- Continued use reduces overall pest population assisted by rising numbers of Beneficial's – leading to improved yields and quality
- Pest life cycle disrupted prior to egg laying – unlike insecticides no resistance issues
- Species specific - Assists biodiversity and supports natural predators

# Thank You



SINCE 1954

One - Stop Solutions For All Your Pest Problems



## AGROW AWARDS



the  
UNIVERSITY  
of  
GREENWICH





A Venn diagram consisting of two overlapping circles. The left circle is red and the right circle is tan. The intersection of the two circles is white. The entire Venn diagram is enclosed within a white, pill-shaped border. The background is a solid green color with a subtle gradient.

**exosex<sup>®</sup>** **YSBTab**