



**A
Presentation
on
Use of Pheromones in India and
Biodegradable Materials in
Making Lures and Traps**

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INDIA

- ✓ A country of 1220 million people
- ✓ More than 160 million hectares (400 million acres) of arable land
- ✓ A country of a wide range of soils, climatic conditions and a network of rivers
- ✓ A country with a large pool of scientists and engineers



INDIA

- ✓ A country whose population speaks dozens of languages, practices multiple religions, produces virtually every kind of grains, cereals, fruit and vegetables
- ✓ Is the second largest producer of fruit and vegetables, after China
- ✓ Has over six million hectares of fruit and seven million hectares of vegetables under cultivation
- ✓ Produces 75 million tons of fruit and 150 million tons of vegetables every year



INDIA

- ✓ Is the largest producer of bananas, papaya, mangos and lemons
- ✓ However Indian fruit and vegetable exports are worth just about US\$ 730 million; probably in the ratio of 2:1
- ✓ Indian agriculture contributes just about 15% to the GDP but more than 50% of the people work in the agriculture sector





PHEROMONES IN INDIA

- ✓ Virtually every crop, fruit, vegetable you can name is produced in India...and so every Pheromone you can name will find an application in India
- ✓ Well, in that case how many Pheromones are being used in India – for Monitoring, for Mass trapping & Mating disruption?
- ✓ None for mating disruption/mass trapping
- ✓ Very rarely for monitoring & that too because the Government supplies subsidized products which are, unfortunately, not put to the right use

PESTS FOR WHICH PHEROMONE ARE BEING USED



- ✓ *Aproaerema modicella*
- ✓ *Chilo infuscatellus*
- ✓ *Chilo partellus*
- ✓ *Chilo sacchariphagus indicus*
- ✓ *Diaphania indica*
- ✓ *Helicoverpa armigera*
- ✓ *Leucinodes orbonalis*
- ✓ *Mythimna separata*
- ✓ *Pectinophora gossypiella*
- ✓ *Plutella xylostella*
- ✓ *Scirpophaga excerptalis*
- ✓ *Scirpophaga incertulas*
- ✓ *Scirpophaga nivella*
- ✓ *Sesamia inferens*
- ✓ *Spodoptera litura*
- ✓ *Spodoptera exigua*

Why Such Low Levels of Pheromone Application?

- ✓ Lack of awareness
- ✓ Lack of knowledge
- ✓ Lack of need
- ✓ Mind set
- ✓ Government apathy
- ✓ Nefarious business interests

What is to be done?

- ✓ Empathize
- ✓ Educate
- ✓ Support
- ✓ Stimulate and
- ✓ Join hands with **ACTIVE IPM**



How does ACTIVE IPM help?

- ✓ We have a basic knowledge of the market
- ✓ We are committed to IPM practices
- ✓ We synthesize and produce Pheromone Active Ingredients
- ✓ We have a large range of Insect Traps
- ✓ We can help to improve usage of Pheromones in particular and bio-control products in general leading to better IPM practices in India and the World
- ✓ We can help to develop innovative products like Bio-degradable Traps and dispensers

Bio-degradable Materials for Pheromone Lures & Insect Traps



- ✓ Lacto-Polymers
- ✓ Jute Sheets and Ropes
- ✓ Beetle Nut Tree Leaves
- ✓ Poly coated recycled paper



Conclusion

- ✓ India is a paradox
- ✓ India is a Gold mine of opportunities peppered with land mines of unknown problems
- ✓ India offers you huge returns, but coupled with huge risks
- ✓ So Partner with **ACTIVE IPM**



ACTIVE IPM invites..

- ✓ Associations from the world over to work towards better IPM products with improved efficacy at lower costs
- ✓ To partner with us in developing bio degradable and eco friendly Pheromone Dispensers and Insect Traps
- ✓ To Partner with us in our NGO " PATRIOT – People's Action To Rebuild India Of Tomorrow" and help in supporting sustainable agriculture practices



Thank You For your attention

For any queries or clarifications, please contact
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