

Biological control of sugarcane borers by *Trichogramma chilonis*

Background

- **Sugar cane area:** 1 million ha
- **Insect borers** (i. Top borer ii. Stem borer iii. Gurdaspur borer and iv. Root borer)

Damage: 20-25%

Reduction in Sugar recovery due to borers damage: 1-2%

Sugar mills in Pakistan: 83

Punjab: 45

Sindh: 30

KPK: 08

Why BIOLOGICAL CONTROL

- Pesticide Application
- ✓ Costly plant protection measures
- ✓ Less effective to target pests
- ✓ Human health and environment

problems

- Biological Control
- ✓ Eco-friendly
- ✓ Easy field application
- ✓ An alternate to pesticides
- ✓ Healthy products with no pesticide residue

Issues/challenges

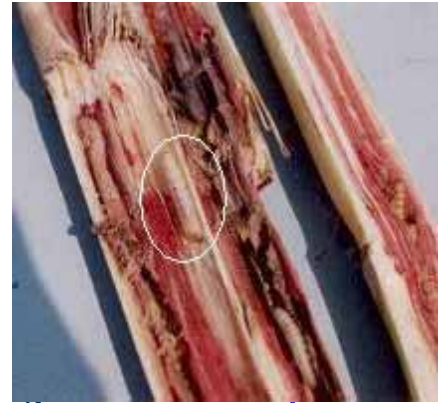
- Awareness of mill owners and farmers
- Mass rearing labs/infrastructure
- Trained man power for commercial production of insect bio-control agents
- Trained service provider of Technology
- Promotion and marketing

Implementation Strategy

- Up scaling of established bio-control laboratories in sugar mills.
- Establishment of bio-control laboratories in partnership with all sugar mills and other agencies of Pakistan
- Capacity building of scientists and technicians
- Technical backstopping and monitoring
- Provision of initial culture of host insect and egg parasitoid by IPMP, DPEP, NARC
- Provide technical assistance in field releases and monitoring

Benefits

- Higher sugar recovery due to increased quality sugarcane yield
- Eco-friendly pest management strategy
- Availability of trained manpower for biological control
- Avoid insecticide resistance in pests
- New employment opportunities



Sugar cane stem borer



Predator *Chrysoperla*

