

Success story: PlantwisePlus and Government of Pakistan

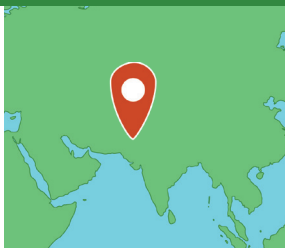
Boosting pest management with biological control in Pakistan



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Image: A worker in a *Trichogramma chilonis* rearing facility. © CABI

Overview

Who	Where	
<p>PlantwisePlus and the Government of Pakistan</p>	<p>Mardan, Muzaffargarh, and Muzaffarabad, Pakistan</p>	
Highlights		
<ul style="list-style-type: none">• PlantwisePlus and the Government of Pakistan set up <i>Trichogramma</i> Rearing Facilities to produce beneficial wasps for pest control• Agricultural Officers distribute 50,000 egg cards each year and guide farmers on sustainable use• Farmers report reduced pesticide use, better yields, and new opportunities through a centre of excellence in South Punjab		

Boosting pest management with biological control in Pakistan

Agriculture remains the backbone of many rural communities in Pakistan. However, pest outbreaks have long challenged farmers, who often rely on chemical pesticides.

To provide a safer, sustainable solution, CABI's [PlantwisePlus programme](#) partnered with the Government of Pakistan to establish *Trichogramma* Rearing Facilities (TRFs). The first facility opened in Mardan, followed by two more in Muzaffargarh and Muzaffarabad. These centres mass-produce *Trichogramma chilonis*, tiny parasitic wasps that target crop pests before they cause severe damage.



Corcyra rearing boxes in a *Trichogramma* mass production rearing facility © CABI

How *Trichogramma* works

The process is an example of augmentative biological control. At each TRF, teams are rearing the rice moth *Corcyra* to collect its eggs, which *Trichogramma* then parasitizes. The resulting egg cards – small sheets with thousands of parasitized eggs – are distributed to farmers.

When farmers staple these cards under crop leaves every 10–14 days during the fruiting season, the emerging wasps seek out pests. They lay their eggs inside the pest eggs, stopping damage before it begins.

Farmer Akbar Ali Khan from Mardan recalls the straightforward process:

“[Advisors] used to visit our fields and give us cards. There were eggs on those cards which we placed on the eastern side of our field. They stapled these cards under leaves and that gave us very good results.”



Muhammad Farooq (left), an agricultural officer in Muzaffargarh, presenting an egg card to a farmer © CABI

Building local expertise

The TRFs have become hubs of innovation, producing tens of thousands of egg cards annually. Agricultural Officers visit farms to guide farmers on when and how to release *Trichogramma*, ensuring consistent pest suppression and healthier crops.

With each card containing thousands of beneficial insects, and with a *Trichogramma* life cycle of just one to two weeks, the system is efficient and highly scalable.

Impact on farmers

- Lower pesticide use
- Improved yields and quality
- Economic benefits

The TRF in South Punjab has earned recognition as a centre of excellence, driving wider adoption of biological pest control across the region.

In summary

By using *Trichogramma* wasps, farmers are reducing their reliance on chemicals, protecting their livelihoods, and supporting a more sustainable agricultural ecosystem.

Meet the people involved in ensuring success at the TRFs in Pakistan in this short video



A scientist monitoring eggs parasitized by *Trichogramma chilonis* wasps © CABI

About the CABI BioProtection Portal

The CABI BioProtection Portal is the largest, free global resource for biological pest management. The Portal's mission is to raise awareness and encourage the adoption of bioprotection among growers and advisors. It offers a comprehensive, searchable directory of nationally registered biocontrol and biopesticide crop protection products, along with detailed guidance to help agricultural advisors and growers source and effectively incorporate these sustainable natural products into integrated pest management programmes.