Feed the Future: Innovation Lab for Integrated Pest Management Trip Report

Country(s) Visited: Kenya.

Dates of Travel: 12-14 March 2019

Travelers' Names and Affiliations: Tadele Tefera

Purpose of Trip:

The objectives of the trip were:

To set up lab experiments on *Trichogramma* and *Telenomus* against FAW.

Observations

On March 12, I travelled to Nairobi.

On March 13, I set up the following experiment with Malusi Peter, my lab technician:

1. **Influence of age of FAW eggs on parasitism by *Trichogramma***

Trichogramma female recently emerged will be individualized in microtubes, with a honey solution deposited on the card. FAW eggs of different ages, 12, 24, 36 and 48 hours, will be exposed to parasitism by female *Trichogramma* for 24 hours. One hundred FAW eggs will be fixed with glue in a card with the help of a brush. After 24 hours of parasitism, the females will be removed and the cards with parasitized eggs will be kept in the microtubes until the emergence of the new parasitoids. Daily inspections will be performed.

A similar but separate experiment will be done for *Telenomus*.

Data collection

When parasitoids emerged, the average number of parasitized eggs, the percentage of emergence, the sexual rate [Nº. female/ (Nº. females + Nº. of males)] and the numbers of parasitoids emerged per egg will be estimated. The experiments will be replicated 4 times each replication having 20 mated females.

2. Influence of the density of FAW eggs on *Trichogramma*

Trichogramma female recently emerged will be individualized in microtubes,

with a honey solution deposited on the card. FAW eggs of different densities: 50, 100, 150 and 200 eggs, will be exposed to parasitism by female *Trichogramma* for 24 hours. Twenty (20 mated females) *Trichogramma* will be released to each egg group.

After 24 hours of parasitism, the females will be removed and the cards with parasitized eggs will be kept in the microtubes until the emergence of the new parasitoids. Daily inspections will be performed.

A similar but separate experiment will be done for *Telenomus*.

Data collection

When parasitoids emerged, the average number of parasitized eggs, the percentage of emergence, the sexual rate [Nº. female/ (Nº. females + Nº. of males)] and the numbers of parasitoids emerged per egg will be estimated. The experiments will be replicated 4 times, each replication having 20 mated females.

3. **Influence of FAW egg hairs on *Trichogramma* and *Telenomus* parasitism**

Trichogramma female recently emerged will be individualized in microtubes, with a honey solution deposited on the card. FAW eggs of different hair thickness: high, medium and low, will be exposed to parasitism by female *Trichogramma* for 24 hours. Twenty (20 mated females) *Trichogramma* will be released to each egg group.

To get FAW eggs with different hair thickness, eggs laid by FAW moths of 1-2, 3-4 and 5-6 days old after emergence will be collected and used.

After 24 hours of parasitism, the females will be removed and the cards with parasitized eggs will be kept in the microtubes until the emergence of the new parasitoids. Daily inspections will be performed.

A similar but separate experiment will be done for *Telenomus*.

Data collection

When parasitoids emerged, the average number of parasitized eggs, the percentage of emergence, the sexual rate [Nº. female/ (Nº. females + Nº. of

males)] and the numbers of parasitoids emerged per egg will be estimated. The experiments will be replicated 4 times each replication having 20 mated females.

On March 14, in the afternoon I left for Addis.

Suggestions, Recommendations, and/or Follow-up Items:

- Daily observation of the experiment and data collection