Guatemala-Mexico-United States
Trinational Moscamed Programme
reviewed by Technical Advisory Panel

The Mediterranean fruit fly-free status of Mexico and northern Guatemala has recently been threatened by increasing detections of Medfly, Ceratitis capitata, in an area along the southern border with Guatemala and into the state of Chiapas, Mexico. This presents a serious and immediate threat to the horticultural industries of Mexico and Guatemala, and, in the midterm, to the USA horticultural industry as well.

The Governments of Guatemala, Mexico and the USA established the Regional Moscamed Programme to prevent the northward spread of the invasive Medfly, which was introduced into Guatemala in 1975.

After eradication of the pest from Chiapas, Mexico in 1982, using an area-wide integrated pest management approach based on the sterile insect technique, the Moscamed Programme has effectively maintained a Medfly containment barrier along the Guatemalan border with Mexico and extending some 50 to 100 km into the interior of Guatemala.

The mainstay of the area-wide IPM programme has been a combination of large-scale sterile Medfly releases, extensive aerial and bait applications, bait stations, an extensive trapping programme, fruit sampling, fruit stripping and host plant management, applied over hundreds of thousands of hectares across both countries.
The containment barrier in Guatemala protects the Medfly-free areas north of the barrier, and the horticultural industries of the three countries, valued at tens of billions of dollars per annum.

Changing circumstances and related increasing risks during the past few years, including human migration, changes in land use and climate change, has resulted in increasing Medfly pressure in the area of the containment barrier in Guatemala, jeopardizing the barrier’s capacity to contain the northward spread of the pest. Medfly infestation fronts have moved across the border area and into Chiapas. According to Programme records, the pest situation is the worst in the Programme’s history since its eradication from Chiapas in 1982.

As a result, the Moscame Programme Directors officially requested urgent assistance from the International Atomic Energy Agency (IAEA) in the form of a Programme review by an independent Technical Advisory Panel of international experts, to provide guidance and clear recommendations on how to put the Programme back on track.

The Panel convened by the FAO/IAEA comprised Walther Enkerlin (Joint FAO/IAEA Division), Patrick Gomes (Consultant, USDA-APHIS), Ricardo Rodriguez (Consultant, SAG Chile International) and Brian Barnes (International Consultant: SIT Programme, South Africa)

The Programme review, from 18–22 November 2019, consisted of presentations by Programme directors and managers, site visits in both countries to operation centres,
infested areas, and pest free areas where emergency response actions are being conducted.

After a day of comprehensive presentations in Guatemala City by both the Guatemalan and Mexican management teams, the Panel, accompanied by Guatemalan Programme representatives, set out for the field. The Panel travelled from Guatemala City to Huehuetenango in the highlands of western Guatemala on the Pan-American Highway, across the Mexican border at La Democracia to Comitán, Mexico, and then down to the Pacific Coast and the city of Tapachula.

Coffee is one of the major commodities grown in both countries, with extensive coffee belts running between the two countries. It is also the main Medfly host in the Programme, and from the infestation counts it was clear that these coffee belts are the main conduits for Medfly infestation into Chiapas.

The following technical components of the Programme were inspected:

- ground baiting, trapping and deployment of bait stations at coffee plantations in the Chimaltenango region;
- a quarantine checkpoint and produce fumigation facility, an operations centre and a ground baiting operations in the Huehuetenango area;
- bait station use in a sterile fly release block in the upper highlands on the Guatemala/Mexico border;
- a ground baiting and coffee berry stripping operation in an area managed by the Comitán field operations centre in Chiapas.

On the final day in Tapachula the Panel presented its provisional report to representatives of Moscamed Programme. It found that the critical factor which contributed to the breach of the containment barrier was a significant reduction in Programme funding which in turn affected field operations, including:

- suspension of area-wide aerial bait applications along infestation fronts;
- reduction in trapping, bait station usage and fruit sampling activities;
- reduction in technical and field staff and the closure of a field operation.
Climate change was also regarded as a possible reason for the increase in Medfly population pressure.

The Panel concluded that if the infestation trend continued as in 2018 and 2019, the barrier that has been in place since 1982 will fail and the infestation will spread northward into Northern Guatemala (Petén), the interior areas of Mexico, Belize, and susceptible areas of the southern USA.

Recommendations by the Panel included:
- provision of financial resources necessary to i) eradicate the pest from areas that have been re-infested in Guatemala and Chiapas; ii) re-establish the containment barrier in the interior of Guatemala;
- immediate resumption of area-wide aerial bait applications along infestation fronts;
- upscale trapping, ground baiting, monitoring, use of bait stations, and fruit sampling activities;
- constitute a single operational strategy with a regional (transboundary) focus; reinstate the necessary quarantine capacity;
- reinforce technical staff at operational centres;
- increase production of sterile Medflies to enable increased sterile release activities;
- increase public awareness of the Programme through school projects and the publication and dissemination of Programme brochures.

In its report the Panel concluded *inter alia* that in order to effect the recommendations the response by cooperating countries should be immediate and forceful; the previously highly successful strategy of 'gradual advance of pest eradication' to push the infested area southward away from the Mexican border must be resumed; a strategic eradication plan to cover the next 5 years must be developed; and that joint transboundary decision-making processes must be strengthened. Ultimately, the goal should be to eradicate Medfly from Guatemala as well.

**Brian Barnes**

Parts of this report are extracted from:

Pablo Liedo (L) and Brian Barnes (R)

Two members of Fruit Fly News’s editorial panel were present at the reportback meeting in Tapachula. Brian was on the Technical Advisory Panel, and Pablo, who worked for the Moscamed Programme from 1979 to 1989, and maintains an ongoing interest in the crisis facing the Moscamed Programme and the way forward.