EXPERIENCES IN ESTABLISHMENT OF PFAS FOR *CERATITIS CAPITATA* IN DIFFERENT COUNTRIES

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Guide for Establishing and Maintaining Pest Free Areas

Understanding the principal requirements for pest free areas, pest free places of production, pest free production sites and areas of low pest prevalence

Guatemala-Mexico-USA Program for eradication and containment of medfly

In 1975–1978, the invasion of medfly in Guatemala and Mexico threatened the horticultural industry of the region and led to the establishment and implementation of the federal 'Moscamed' program operated by NPPOs of Guatemala, Mexico and the USA.

In 1975–1977, cooperative agreements were subscribed between the interested countries to eradicate and contain medfly using an area-wide approach based on SIT. The eradication activities for medfly PFA in Mexico were undertaken in 1977–1982.

The barrier, with a buffer zone in Guatemala, was set in 1982.

FAO and IAEA had a fundamental role in capacity building and technology transfer through technical cooperation projects.

This case proved that area-wide eradication and containment of a pest using an IPM approach based on SIT, is feasible.

Mediterranean fruit fly mass rearing and sterilization facility, Metapa de Dominguez, Chiapas, Mexico

Sterile fly packing and emergence facility in Guerrero, Mexico

Sterile fly aerial release

Medfly buffer zone at Mexico-Guatemala border

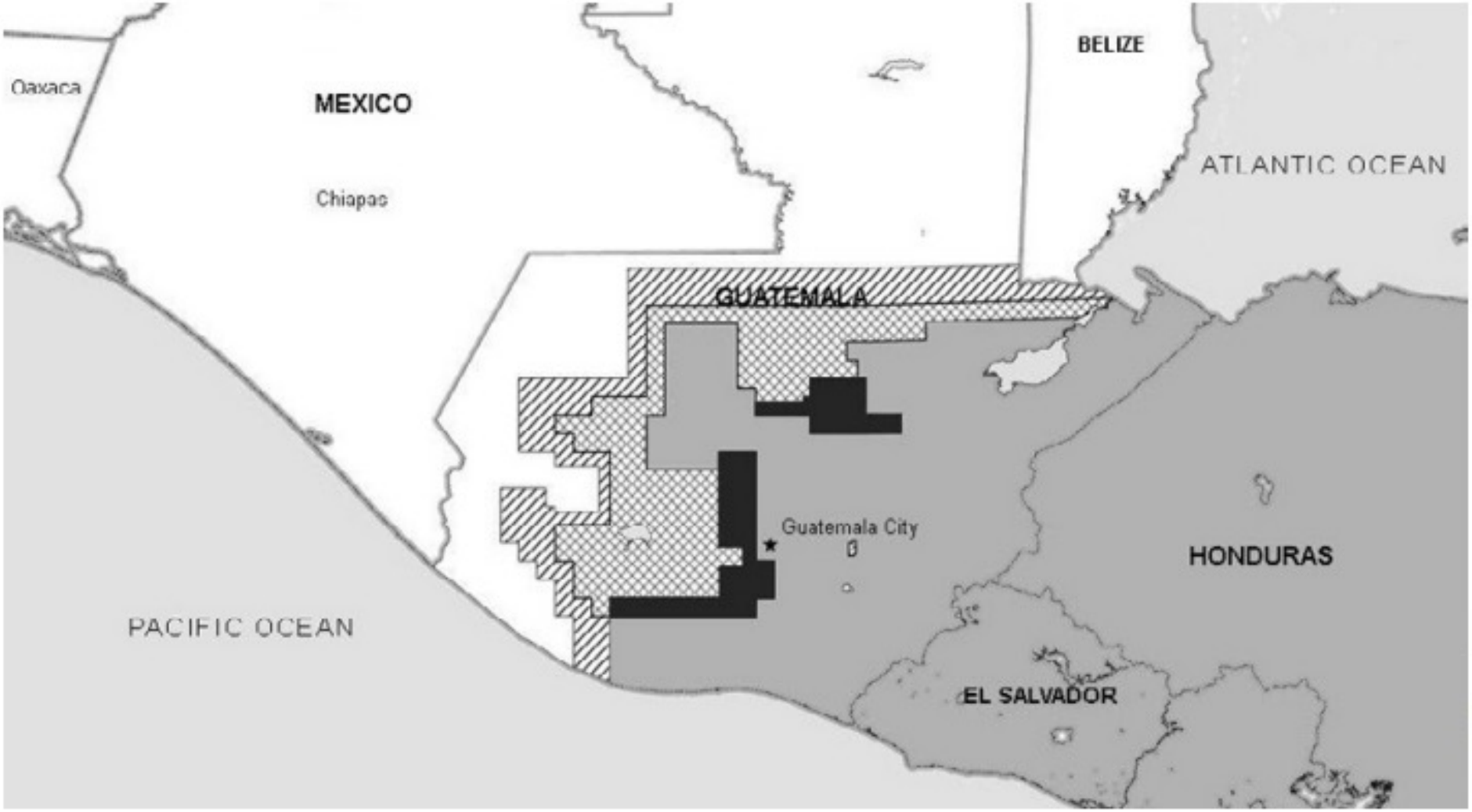
A good example of an effective permanent buffer zone is the sterile medfly barrier and buffer zone of more than 34 000 km^2 that is maintained since 1982 along the Mexico–Guatemala border.

The barrier protects the northern movement of the pest back into Mexico and into the USA.

Aircrafts release nearly 1.3 billion sterile flies per week over approximately 7 000 km^2.

The large size of the barrier is required because of the high mobility of medfly from Guatemala into the PFA in Mexico, and the human-assisted movement of the pest in large volumes of commercial host fruits to town markets along the border.

Underestimation of risks frequently results in the establishment of localized inefficient buffers.



Location of the Mediterranean fruit fly (Ceratitis capitata) containment barrier in Guatemala in 2015.

By making any designation of or reference to a particular territory or geographic area, or by using the term "country" in this document, ADB does not intend to make any judgments as to the legal or other status of any territory or area.

Establishing Patagonia, Argentina, as a medfly free area

Eradication of medfly signify for Argentina the elimination of costly phytosanitary treatments of most of the three million boxes of quality pears and apples exported from Patagonia every year. A program to eradicate medfly from Patagonia was launched by the NPPO of Argentina in 2001.

Eradication was achieved through an intensive program using SIT.

Sterile flies were transported from the mass rearing and sterilization facility located in the Province of Mendoza.

Quarantine barrier (inspection) operated by National Phytosanitary Foundation of Patagonia played a key role to protect the PFA.

Patagonia was officially declared a medfly PFA in 2004.

Trading partners, including the USA & Mexico, recognized Patagonia as a medfly free area.

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Medfly mass rearing and sterilization facility in Mendoza, Argentina

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Inspections, with the help of detection dogs, were used at key entry points to the FUNBAPA quarantine in Patagonia, Argentina, to ensure infested host material was not being brought into the eradication zone.

Re-establishing the Dominican Republic as a medfly free area

The presence of medfly in Dominican Republic was officially reported in 2015 (2 053 km^2 infested in the east of the country).

An immediate ban on most exports of fruits and vegetables was imposed by trading partners, causing a loss of over $ 40 million.

'Moscamed' Program was established by the Government, through its Ministry of Agriculture, providing financial and operational support to carry out surveillance and eradication activities.

Guatemala, Mexico & USA 'Moscamed' Program was successful in implementing IPM based on SIT for medfly eradication.

National and international organizations such as International Atomic Energy Agency (IAEA), FAO, USDA & OIRSA made joint efforts with the Ministry of Agriculture against the medfly outbreak.

Official eradication was announced in July 2017 after six fly generations of zero catches.

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Location of the Mediterranean fruit fly (medfly, Ceratitis capitata) outbreak in the Dominican Republic (left: red denotes highest pest density and green the lowest). Packing of sterile medflies before field release. Medfly pupae were shipped from the Moscamed El Pino mass-rearing facility in Guatemala to the Dominican Republic where they were emerged and packaged for daily aerial releases over infested areas.

South Africa medfly suppression programme

In 1997, a pilot project to control medfly with SIT was implemented on 10 000 hectares in and around the Hex River Valley with the goal to suppress medfly in a cost-effective and environment-friendly manner to below economic threshold.

The reduction in control costs was from $ 350 000/year with chemical control to $ 130 000/year with SIT.

Rejections, due to medfly infestation, of exported table grapes from the valley by importers were reduced by 50 to 60%.

For the 2001/2002 season, the direct benefits reached $370 000/year.

High mountains surrounding a fruit production valley in the Western Cape of South Africa provide natural isolation, which facilitates the maintenance of an ALPP and provides suitable conditions for application of SIT.

ISPM 22 on ALPP and ISPM 35 on FF management were used.

High mountains surrounding a fruit production valley in the Western Cape of South Africa provide natural isolation of the medfly population, which facilitates the maintenance of an ALPP and provides suitable conditions for application of sterile insect technique.

Mediterranean fruit fly (Ceratitis capitata) mass rearing and sterilization facility in Arica, Chile

Thank you for your attention!