



IAEA

International Atomic Energy Agency

Atoms for Peace

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Promoting Pest-free Produce for Export in Guatemala

The challenge...

Fertile soils and a favourable climate make Guatemala ideal for the year round production of tropical and semi-tropical fruits and vegetables. However, interregional trade and agricultural exports to high quality international markets are restricted by the presence of several species of fruit flies that can cause severe damage to fruit and vegetables, such as papaya, mango, orange, pear, apricot, peach, apple, guava, pepper and tomatoes. Fruit producers suffer significant economic losses due to fruit fly damage, as well as bearing the associated costs of pre-harvest pest control.

The project...

The IAEA has helped Guatemala to reduce fruit fly damage through the use of the sterile insect technique. Local producers and exporters of fruit and vegetables strongly supported the project. An alliance formed by the Government of Guatemala and large and small producers enabled the establishment and maintenance of several fruit-fly-free and low prevalence areas through the use of the environmentally friendly sterile insect technique. This technique is a type of 'birth control' for insects where radiation sterilized male flies are released into the wild to compete with fertile male flies, resulting in reduced reproduction. The efforts were backed by the trilateral Mediterranean fruit fly programme that covers Guatemala, Mexico and the USA. This programme supports efforts to increase the production and export of fresh fruit and vegetables in the region.

The impact...

The project enabled Guatemala to export tomatoes and peppers for the first time and generates over two million dollars per year for the country. Guatemala has become the most important Central American exporter of fresh tomatoes, peppers and papaya to its nearest major international market, the USA. Papaya exports have doubled and annual produce exports now amount to over four million dollars. Through this project, hundreds of jobs have been generated — primarily for women — and the development of complementary industries in the packing and transportation services has been strengthened.



Fruits successfully produced without fruit fly damage.



Packaging fruit for export in Guatemala.