



IAEA

International Atomic Energy Agency

Atoms for Peace

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Detecting and managing cactus moth in Mexico

The challenge...

Opuntia cacti are of great economic, environmental and cultural importance in Mexico. Some 150 000 hectares of the cacti are cultivated for fodder, 60 000 for production of prickly pear and 10 500 for *Opuntia* leaf. In addition, more than 3 million hectares are covered with wild *Opuntia*. The plant is worth over \$100 million per year to the Mexican economy. The cactus moth (*Cactoblastis cactorum*), which reached Florida, USA, in 1986, poses an increasingly serious threat to Mexico's *Opuntia* cacti.

The project...

An outbreak of cactus moth was detected in Isla Mujeres on 31 July 2006, and in Contoy Island National Park on 4 May 2007. A Programme for the Eradication of the Cactus Moth in the Yucatan Peninsula, involving the coordinated efforts of the Mexican Ministry of Agriculture, the United States Department of Agriculture (USDA) and the Joint FAO/IAEA Programme was immediately implemented. The area of the outbreak was defined and an area-wide pest management approach was launched. This consisted of the establishment of permanent surveillance, host destruction and the application of the Sterile Insect Technique (SIT), which involves the systematic release of mass reared insects, sterilized with gamma radiation, over specific target areas.

The impact...

- By February 2009, three biological cycles of the pest had passed without any pest detection. The outbreaks have therefore been officially declared eradicated.
- Suppression of the outbreak avoided significant damage to whole ecosystems based on *Opuntia*, as well to the economically important Mexican cactus and prickly pear industries.
- Through the project, Mexico has developed a comprehensive surveillance programme capable of the early detection and eradication of the cactus moth from the national territory.
- Mexico has enhanced its cooperation with the USDA regarding the control and maintenance of a barrier of sterile insects in Alabama and Louisiana.



A market stall displaying the fruit of Opuntia cacti.



Examining Opuntia cacti for signs of cactus moth infestation.