

**ESTABLISHMENT OF AREAS FREE OF MEDITERRANEAN FRUIT FLY  
*CERATITIS CAPITATA* WIED**

Communication by Costa Rica

The following communication, dated 26 October 2004, is being circulated at the request of the delegation of Costa Rica.

**I. BACKGROUND**

1. Its agro-ecological conditions are such that Costa Rica is a major producer and exporter of a wide variety of fruit. These conditions nonetheless make for the spread of various pests, above all the Mediterranean fruit fly *Ceratitis capitata* Wied and other species of the genus *Anastrepha*.
2. The presence of this fruit fly is a barrier to trade in fruit, for which reason control is an immediate priority for Costa Rica. Control of the pest in the countryside and the harm caused to fruit increase producers' costs. In addition, there are other costs related to post-harvest treatment in order to meet the quarantine regulations of importing countries.
3. The International Plant Protection Convention and Article 6 of the Agreement on the Application of Sanitary and Phytosanitary Measures provide for the recognition of pest-free areas and areas of low-pest prevalence as acceptable phytosanitary measures, and this has afforded new opportunities for Costa Rica.
4. The declaration and maintenance of a pest-free area requires close coordination between the public and private sectors, at both the national and regional levels.
5. On the basis of the technical experience of the State Phytosanitary Service and with the help of a technical and economic cooperation consortium set up in 2001 by the International Atomic Energy Agency, the Food and Agriculture Organization of the United Nations (FAO), the International Regional Organization for Plant and Animal Health (ORSA), the Inter-American Institute for Cooperation on Agriculture (IICA), the Mediterranean Fruit Fly Programme (MOSCAMED) and the USDA, Costa Rica initiated a project to create pilot fruit fly-free areas.
6. This communication describes Costa Rica's experience in establishing the Inocentes area and adjacent areas as free of the Mediterranean fruit fly *Ceratitis capitata* Wied.

**II. REGULATORY FRAMEWORK**

7. The Regulatory Framework for establishing and declaring fruit fly-free areas is:

- (a) Executive Decree. Official Free Area Declaration
- Executive Decree No. 31567-MAG, signed on 25 July 2003, officially declared the Inocentes and adjacent areas free of Mediterranean fruit fly *Ceratitits capitata* Wied, was published in Official Journal No. 1252 of 31 December 2003.
  - The area free of *C. capitata* consists of 24742.3 hectares in the canton of La Cruz, including the districts of La Cruz, Santa Cecilia, Garita, Provincia de Guanacaste, Chorotega Region. Area located in the polygon within the coordinates: -85.37891, 11.04710 and -85.47285, 10.97394.
- (b) Technical Guidelines

The following Technical Guidelines have been issued by the State Phytosanitary Service for the technical activities:

- Technical Guideline to implement the emergency plan in areas free of fruit fly of the genus *Ceratitits capitata* Wied.
  - Technical Guidelines for monitoring quality control.
- (c) International Standards for Phytosanitary Measures (ISPMs):
- **ISPM No. 4. Requirements for the establishment of pest-free areas.**

Issued by the Food and the Agriculture Organization of the United Nations (FAO), it describes the requirements for the establishment and use of pest-free areas (PFAs) as a risk management option for phytosanitary certification of plants and plant products and other regulated articles exported from the PFA or to support the scientific justification for phytosanitary measures taken by an importing country for protection of an endangered PFA.

- **ISPM No. 8. Determination of the test status in an area.**

Issued by the FAO, it describes the contents of a pest record, the use of such records and other information for determining an area's pest status. Descriptions are given of categories of pest status and recommendations for good reporting practices.

- **ISPM No. 10. Requirements for the establishment of pest-free places of production and pest-free production sites.**

Issued by the FAO, it describes the requirements for the establishment and use of pest-free places of production as a risk management option, to meet phytosanitary requirements for imported plants, plant products and other regulated articles.

### III. PHYTOSANITARY MEASURES FOR MAINTAINING FREE AREAS

8. The phytosanitary measures designed to maintain an officially declared area as free of *C. capitata* are established within an annual work programme approved by the Executive Directorate of the State Phytosanitary Service and based on the regulatory framework described above.

9. A trapping network is maintained in urban centres and places defined as strategic. After two years and nine months of trapping for *C. capitata*, the work programme was changed from 23 June 2003 onwards. A total of 21 Jackson traps are baited with three attractants: ammonium acetate, trimethylamine, as well as McPhail traps with torula. They are serviced every two weeks and the attractants are changed every six weeks.

10. The preventive trapping network for exotic fruit fly is maintained in the same way.

#### **IV. ACTION TO ESTABLISH THE INOCENTES AND ADJACENT AREAS AS FREE OF *C. CAPITATA***

##### **Technical feasibility study to establish pilot fruit fly-free/low prevalence areas. Project RLA/5/045 OIEA, Costa Rica, El Salvador, Guatemala, Nicaragua and Panama. Latin America and Western Asia section.**

###### *Delimitation and agro-ecological features of the Work Area*

11. To the south is the Orosí volcano, 1,487 metres high, which is the northern edge of the Guanacaste mountain range. The volcano forms part of the Guanacaste National Park and it is the highest elevation adjacent to the Work Area. To the north are some elevations no higher than 500 metres above sea level that run parallel to the border with Nicaragua and alongside Lake Nicaragua. To the west is the Santa Rosa National Park with dry tropical forest and the Pacific Ocean, and to the east a very inaccessible semi-tropical rain forest.

12. These orographic and geographical features mean that the Work Area is a natural forest protected by some pasture and crop land, a farm with an ecology-type hotel; a citrus farm (more than 6,000 hectares largely planted with Valencia-type oranges and pineapples); a village of approximately 15,000 inhabitants (Santa Cecilia) and 3 villages with under 500 inhabitants. These villages have a variety of fruit trees as well as back garden vegetables. The natural forests bordering on the Work Area can be classified as secondary dry tropical forest to the west and south and primary semi-rain forest on the slopes of the Orosí volcano. There is sub-tropical rain forest to the north and east.

13. The Work Area covers approximately 511 km<sup>2</sup>. The only commercial-type farming is citrus crops with more than 600,000 hectares under cultivation. There is small-scale farming, such as cattle breeding and crops like maize, vegetables, roots and tubers.

14. The Work Area's plant cover can be estimated as 30,000 hectares of natural forest, 10,000 hectares of grassland with pasture and small bushes, 7,000 hectares that host fruit fly, including 6,500 with cultivated citrus and 500 with mixtures of fruit trees and shade trees typical of hamlets in the area.

15. Some 90 to 94 per cent of orange production is used for juice and concentrates, while the remainder, which they call waste, is for fresh consumption locally and for traders who take it to nearby Nicaragua. Along the border with Nicaragua there are villages in both countries that have coffee trees and the product is used for private consumption.

16. These houses and small farms are practically isolated or there is little road or vehicle access. Items are transported across the border on foot or on horseback.

17. Other fruit fly hosts can be found widely scattered through hamlets in the natural forest, chiefly in trees of the genus *Spondia* sp.

**Work Plan to establish a pilot area free of Mediterranean fruit fly, *Ceratitis capitata* Wied.****Phase I**

Seven trapping routes with a total of 108 Jackson traps with trimedlure, serviced every week and placed 2 km apart.

**Objective:**

Detection of *Ceratitis capitata* Wied.

**Activities:**

Jackson traps with trimedlure were set up covering fruit production areas, villages and access roads. The traps are distributed over seven different routes as follows:

Place	No. of traps to be serviced
Finca Oro Este	22
Finca Oro Oeste	12
Finca YAFA I	17
Finca YAFA II	19
Road (Santa Cecilia, Argentina and La Virgen)	23
Garita (Village)	3
Planta Del Oro (vicinity)	6
Total	102

They are serviced every 7 days and the device and attractants are changed every 6 weeks.

Date of implementation, from 19 September 2001.

**Phase II****Objective:**

Detection of other genera and species of fruit fly.

**Strategy:**

Reduced trapping and increased traps and attractants.

**Activities:****Trapping:**

A year after Jackson traps + trimedlure were used, the following changes were made:

In accordance with the recommended percentage model, 64 Jackson and McPhail traps were baited with: trimedlure, trimethylamine, ammonium acetate, putrescine and torula.

	No. of traps to be serviced	No. of Jackson traps	Attractants		No. of McPhail traps	Attractants		
			TMD	3A		3A	Torula	2A
Total	64	37	19	18	27	8	11	8

TMD = trimedlure

3A = trimethylamine+putrescine+ammonium acetate

2A = putrescine + ammonium acetate

Torula = hydrolyzed protein

They were serviced every 2 weeks and the attractants and devices were changed every 6 weeks.

Date of implementation, from 14 September 2002.

### Phase III

#### Objective:

Maintenance of the area declared free of *Ceratitidis capitata*.

#### Activities:

#### Trapping:

Two years and nine months after trapping for *Ceratitidis capitata*, the work plan was changed as follows:

A total of 20 traps, using Jackson traps with 3 attractants: ammonium acetate, trimethylamine and putrescine, and McPhail traps with torula.

The traps are placed as follows:

Place	No. of traps to be serviced	No. of Jackson traps	No. of McPhail traps
Road	6	3	3
La Garita	2	1	1
Hotel Los Inocentes	2	1	1
Finca Del Oro	4	3	2
Finca Yafa	2	1	1
Santa Cecilia	4	2	2
Total	21	11	10

3A = 10 Jackson traps

Trimedlure = 1 Jackson trap

Torula = 10 McPhail traps

The traps are serviced every 2 weeks and the devices changed every 6 weeks.

Date of implementation: from 23 June 2003.

Further information is available with the State Phytosanitary Service: [www.protectnet.go.cr](http://www.protectnet.go.cr)