

Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria

GOBIERNO FEDERAL SAGARPA

## MEXICO Relevant Programs 2012

NPB National Plant Protection Service México 2012

Con más alimentos de calidad, construimos un México más fuerte

### Huanglongbing – HLB

Phytosanitary actions during 2011

- Survey for symptomatic trees (247,682 hectares; 39,369,045 citrus trees).
- Molecular analysis of 4,153 plant samples and 30,442 psyllid samples (positive analysis of 2,922 plant samples and 407 psyllid samples).
- Citrus plants removed (30,955).
- Chemical control on 1,431,169 of citrus trees and 184,037 of orange jasmine plants (*Murraya paniculata*).

### Huanglongbing – HLB

Phytosanitary actions during 2012

- Survey for symptomatic citrus trees (13,315,032 citrus trees)
- Molecular analysis of 330 plant samples and 2,057 psyllid samples (positive analysis of 287 plant samples and 35 psyllid samples).
- 23,403 citrus plants removed.
- Chemical control on 300,496 of citrus trees and 41,058 of orange jasmine plants (*M. paniculata*).
- THERE ARE NO DETECTIONS UP TO DATE**

### Asian Citrus Psyllid

CHEMICAL REGIONAL CONTROL: During 2012 we will be carrying a chemical regional control in small areas of commercial orchard.

State	Citrus growing area (Ha)	Chemical control area (Ha) and monitoring of ACP
Baja California Sur	2,579	1,574
Chiapas	3,569	1,000
Campeche	5,138	1,000
Colima	21,937	5,000
Guerrero	7,476	2,500
Hidalgo	5,783	2,000
Jalisco	5,406	2,400
Michoacan	45,386	5,000
Morelos	667	200
Nayarit	2,319	1,000
Nuevo Leon	30,753	1,000
Oaxaca	22,613	2,000
Puebla	26,274	2,000
Quintana Roo	3,596	2,000
San Luis Potosi	47,758	1,000
Sinaloa	4,777	1,500
Tabasco	15,482	2,000
Tamaulipas	40,794	3,579
Veracruz	228,000	3,000
Huastan	19,782	3,000
Total	540,889	42,733

A trap monitoring of ACP will be started in these areas.

Chemical Control Areas and trap monitoring

### Asian Citrus Psyllid: Cooperative program

ACP SURVEILLANCE ACTIVITIES  
ACP FINDER BY MUNICIPALITY: YELLOW TRAPS INSTALLED AND TRAPED GMS  
PERIOD: 01 - 04/04/2012

MUNICIPIO	Total ACP	Yellow Traps	ACP	ACP	ACP	ACP	ACP	ACP
Colima B.C.	100	100	100	100	100	100	100	100
CHIAPAS B.C.	100	100	100	100	100	100	100	100
CAMPECHE B.C.	100	100	100	100	100	100	100	100
COLIMA B.C.	100	100	100	100	100	100	100	100
GUERRERO B.C.	100	100	100	100	100	100	100	100
HIDALGO B.C.	100	100	100	100	100	100	100	100
JALISCO B.C.	100	100	100	100	100	100	100	100
MICHOACAN B.C.	100	100	100	100	100	100	100	100
MORELOS B.C.	100	100	100	100	100	100	100	100
NAYARIT B.C.	100	100	100	100	100	100	100	100
NUÉVO LEÓN B.C.	100	100	100	100	100	100	100	100
OAXACA B.C.	100	100	100	100	100	100	100	100
PUEBLA B.C.	100	100	100	100	100	100	100	100
QUINTANA ROO B.C.	100	100	100	100	100	100	100	100
SAN LUIS POTOSÍ B.C.	100	100	100	100	100	100	100	100
SINALOA B.C.	100	100	100	100	100	100	100	100
TABASCO B.C.	100	100	100	100	100	100	100	100
TAMAULIPAS B.C.	100	100	100	100	100	100	100	100
VERACRUZ B.C.	100	100	100	100	100	100	100	100
HUASTLA DE LOS RÍOS B.C.	100	100	100	100	100	100	100	100

### Asian Citrus Psyllid

Biological Control Program

Principal activities:

- Mass reproduction of *Tamarixia radiata*.
- Tamarixia radiata* s releases in urban areas.
- Spread entomopathogenic fungi in comercial citrus orchards as strains Pf15, Pf17 y Pf21 of *Isaria fumosorosea* and strain Ma59 of *Metarhizium anisopliae*.
- Technology transfer for the utilization of natural enemies of ACP
- Development of ACP biological control technology.
- Parasitoids, predators and entomopathogenic fungi (*I. fumosorosea* (strains Pf21, Pf15 y Pf17) and *M. anisopliae* (Ma59)).

## Asian Citrus Psyllid

Biological Control Program

- Two official laboratories of mass reproduction of *Tamarixia radiata*
- Field Releases of *Tamarixia radiata*:
- 2.1 millions of parasitoids released in Central Pacific of México
- 5.4 millions of parasitoids released in Southeastern of Mexico

With the production in Colima, we will cover with *Tamarixia* marginal areas of Colima, Jalisco and Michoacan States; while the Laboratory in Yucatan will supply States of Campeche, Yucatan and Quintana Roo.

## Asian Citrus Psyllid

Biological Control Program

- Use of entomopathogenic fungi in regional areas of control (ARCO's) of Asian Citrus Psyllid.
- Two laboratories will produce massive entomopathogenic fungus *Isaria fumosorosea* and *Metarhizium anisopliae* (Hidalgo and Puebla).
- Field application of *I. fumosorosea* (strain Pf21, Pf15 y Pf17) and *M. anisopliae* (Ma59) in 18,159 ha.

## Pink Hibiscus Mealybug

- The biological control of this pest has reported low infestation levels (<5 PHM/outbreak with levels of parasitism close to 98%).
- The official laboratory of biological control has released 104,951,623 parasitoids *Anagyrus kamali* (2004-2012), into the areas with presence of the Pink Hibiscus Mealybug in 11 States, with emphasis in Nayarit & Jalisco.
- Release of the predator *Cryptolaemus montrouzieri* (Coccinellidae): 7,349,920 adults (2004-2012) purchased in Canada, USA and Mexico.

## Pink Hibiscus Mealybug

- Surveillance using a trapping network with male specific pheromone is maintained in all areas with high risk, currently are placed 3,504 traps.

## Medfly Program (Cooperative International Program)

Unified Management Team: Mexico, United States and Guatemala

- Insect pest management in area wide, trapping, spinosad baits, quarantine checkpoints and sterile insect technique.
- TSL strain sterile production at:

Place	Country	Weekly production
El Pino	Guatemala	900 millions
Metapa, Chiapas	Mexico	500 millions

- Aerial release / Chilled Adult
- All action reported under Geographical Information System (GIS)

## Current Situation of Medfly

- In Chiapas, Mexico there are no current events of the pest. The Medfly program remains on yellow alert, especially in the border with Guatemala.
- In Guatemala, there are 668 outbreaks and 114 detections mostly located in the southwest region.

ACTIVE, 2012	Chiapas, Mexico	Guatemala
Outbreaks	0	668
Detections	0	114

● Outbreak: Capture one or more gravid females, two or more wild males, one or more larvae in 1 km<sup>2</sup>

● Detection: Capture one male or one female not mated in 1 km<sup>2</sup>

## National Campaign of Fruit Flies



- Six Packing centres and chilled adult aerial release in: El Rosario, Sin., Huanusco, Zac., Cd. Victoria, Tamps., N.L., Tuxpan, Nay, and Rio Verde, S.L.P.

### Strategies:

- Fruit flies sterile production: 185 millions / week (*A. ludens* and *A. obliqua*) \*
- Parasitoids production: 25 millions / week (*D. longicaudata*) \*

### Advances:

- 50.95% of Mexico is free zone of fruit flies.
- 9.66% of the country is low prevalence zone of fruit flies.

### Pest Control

- Spot bait applications
- Aerial released of sterile flies
- Elimination of secondary hosts
- Quarantine system regulating transit hosts

AREAS

- Free
- Low prevalence
- Under Control



## Thank you

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