Ministry of Agriculture, Natural Resources and Rural Development (MARNDR)

Fruits Flies surveillance in Haiti

Context

- Tephritid fruit flies represent one of the most economically important insects in the Tropical and Sub-Tropical regions. Besides their great impact on the international market of fresh fruits and vegetables, infestations of these insects have resulted in the implementation of area-wide or national control programs in order to comply with Sanitary and Phytosanitary Standard measures.

Context

- In 2007, losses caused by tephritids were estimated at over 4 million USD in Haiti, which represented 35% of the price of mango exports . Consequently, six processing plants went out of business due to the increased costs related to the new processing and export standards .
- Since 2007, a nation-wide program has been implemented to detect and control fruit flies, and protect Haiti’s mango as the first export crop.
- - 130 persons were adequately trained in trapping methods, fruit flies identification, preservation of samples and data management.

Detection and Monitoring

- Public awareness on fruit fly problem has been implemented
- Traps have been installed in all areas mango production

At this time the detection phase of surveillance program revealed two tephritids fruit fly species in Haiti:

- Caribbean fruit fly: *Anastrepha suspensa*, Loew
- West Indian fruit fly: *Anastrepha obliqua*, Macquart

Detection and Monitoring

- Caribbean fruit fly

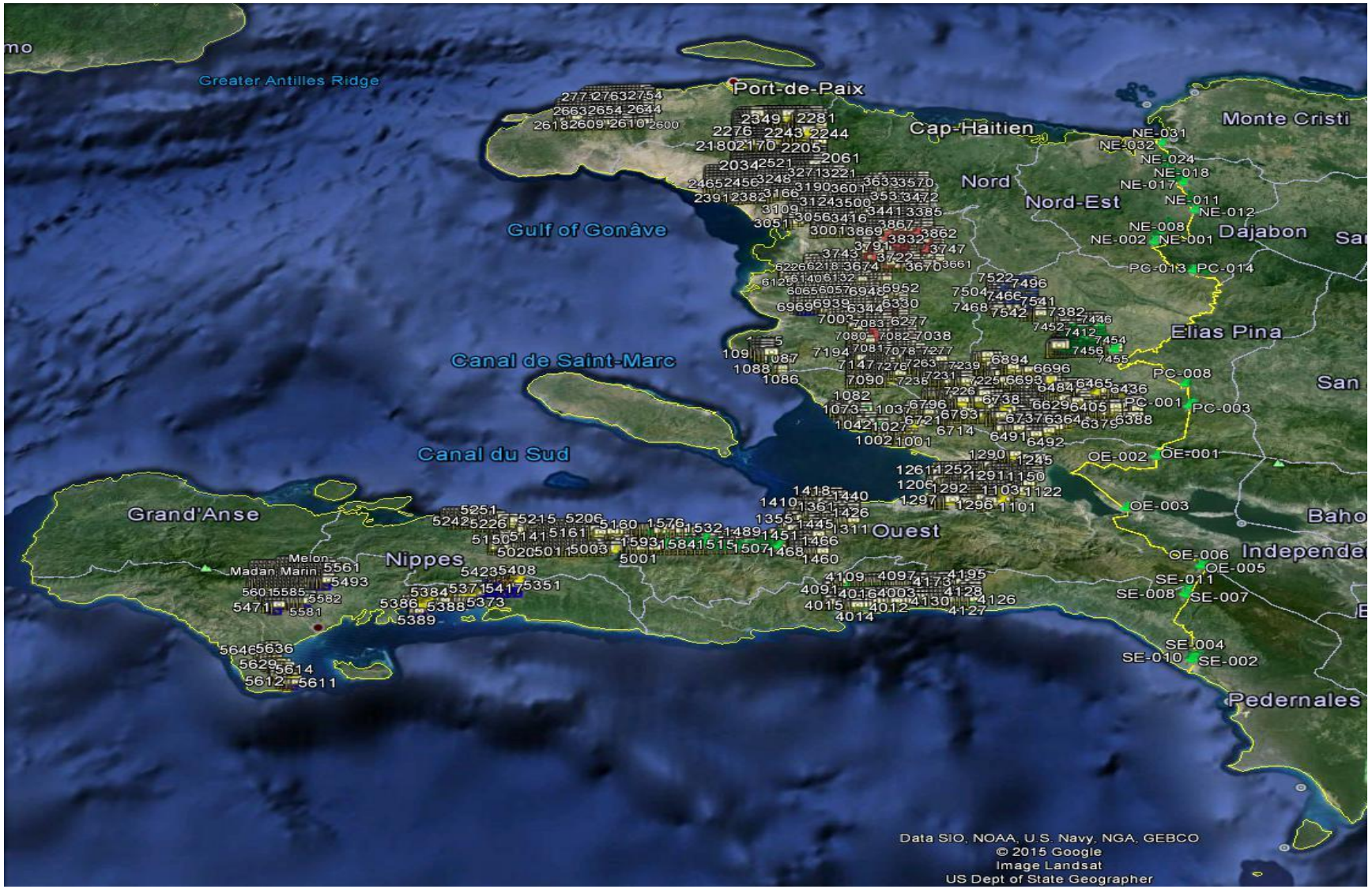
Anastrepha suspensa, Loew(Diptera: Tephritidae)

- West Indian fruit fly,

Anastrepha obliqua, Macquart (Diptera: Tephritidae)

Detection and Monitoring

Traps distribution



Detection and Monitoring

Anastrepha description and hosts

Anastrepha obliqua is a medium sized fruit fly, yellowish brown, with a central strip in the chest and two lateral widening strips before the suture of the scutellum. The reproductive activity of the adults reaches its maximum at the age of 4-6 weeks, and the females lay an average of 1376 eggs for an average longevity of 79 days (maximum 175 days) (Liedo et al.1992, Aluja 1994).

The main hosts in Haiti are: *Mangifera indica,* L., *Spondias spp*., but also attack alternate hosts such as guava (*Psidium guajava),* granadilla (*Passiflora edulis*).

Detection and Monitoring

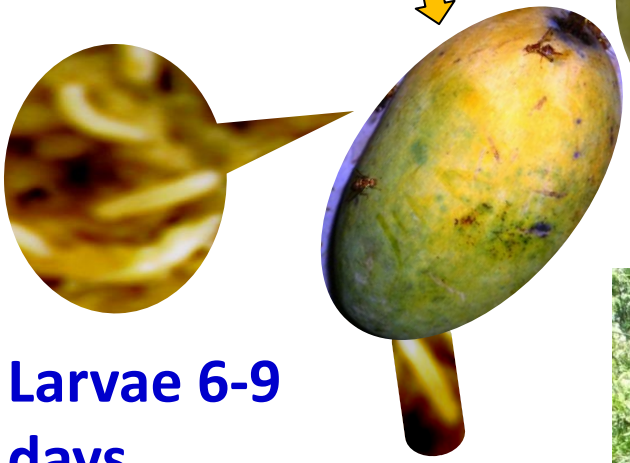
Anastrepha suspensa is a small fruit fly, yellowish brown, that differs from the other *Anastrepha* species by a large dark spot at the junction of the scutum and scutellum (Foote et al. 1993). It's main hosts are: guava, mango with alternate hosts tropical almond (*Terminalia catappa,* L.) and red mombin (*Spondias purpurea,* L.)

Ceratitis capitata is absent in Haiti now but under surveillance

Life cycle

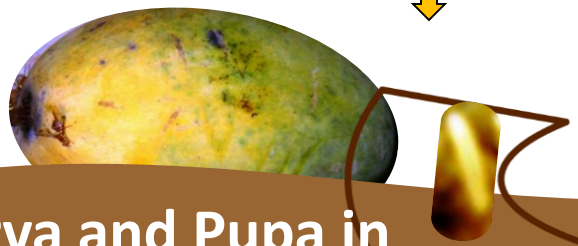
Eggs deposit after 14-21days

eggs 1-2 days



Larvae 6-9 days

Adult 2-3 month



Larva and Pupa in soil

Pupa 8-10 days

Detection and Monitoring

Traps used

1. McPhail trap (MP)

Detection and Monitoring

Traps used

2. Multilure trap (ML)

3. Jackson trap (Jc)

Traps are placed 2-4 meters from the ground, in shady areas of primary or secondary host trees

Detection and Monitoring

Traps density/km^2 and attractants

Traps	Attractants	Trap/km^2
Jackson trap	Trimedlure	2
Multilure trap	3C (ammonium acetate, putrescin and trimethyl amine)	2
Mac Phail trap	Torula	1

Detection and Monitoring

Traps	Rebaiting period and data collecting
Jackson Trap	21 days
Multi Lure Trap	14 days
Mac Phail Trap	7 days

The data collected in the field are analyzed and the results are observed periodically by APHIS. If we detect 1 or more fly/trap/day/km^2 we take control measures to reduce infestation.

Detection and Monitoring

- Haiti export mango to the US market under a pre-clearance program.

Thank you