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# IPPC Global Workshop on Systems Approaches

Santiago, Chile  
1 – 4 December 2025

In partnership with:



Australian Government  
Department of Agriculture,  
Fisheries and Forestry

**The experience of Suriname in implementing Systems Approach for the export of mango fruit to the European Union**

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## CONTENT

- Background
- Systems Approach Components
- Results & Future



**Field photo's: Trap  
servicing**







## BACKGROUND

- Start in 2019 to implement the Systems Approach together with Pest Free Area & Area of Low Pest Prevalence for THE RESTART of the mango fruit export to the Netherlands.
- When in 2019 the new Plant Health law of the EU came into action it was clear for Suriname that it could not fulfill the phytosanitary import requirements that was asked for exporting fresh mango fruit. The decision was taken to stop the export and find the solution to fulfill one of the stated import requirements.
- The requirements were related to fruit flies: Tephritidae.
- Out of the four (4) options of EU import requirements the only one meaningful for Suriname was the Systems Approach.
- In dec 2020 Communication to the EU with documentation about the PFA and Systems approach by Suriname for its mango export: permission granted in 2022 by the EU.

### District Nickerie (West of Suriname)





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## SYSTEMS APPROACH COMPONENTS (1)

- In 2019 the work started to put in place an export certification system based on systems approach (SA) including a Fruit fly Pest Free Area (FF-PFA) and a Area of low Pest Prevalence (FF-ALPP).
- For the systems approach several phytosanitary measures together are applied: a specific production area (delimitation of the area) with either a Pest Free status and/or an Area of Low Pest Prevalence; climate and soil type; a specific mango fruit variety.
- The set up was based on data collection and analysis from several years through a long-term project of the USDA / Ministry of Agriculture / IICA of Suriname in the region which ended in 2001.



**Public Awareness  
Billboard at the PFA Border  
with our Fruit fly expert**



## SYSTEMS APPROACH COMPONENTS (2)

### ■ Target pests of the mango fruit in Suriname:

The two (2) fruitflies *Bactrocera carambolae* Drew and Hancock (Carambola fruit fly, or CFF) and *Anastrepha obliqua* Macquart (West Indian fruit fly, or West Indian fruit fly). And *Sternochetus mangiferae* (Fabricius) (mango seed weevil). NOT ALL TEPHRITIDAE SPECIES ATTACK MANGO FRUITS IN SURINAME.

### ■ Selection of the Mango variety: Of the *Mangifera indica* L., and specifically the local variety ‘Roodborstje’, based on ongoing research that showed this variety is hardly infested by *Anastrepha obliqua*.

### ■ Delimitation of the Area: The area that is identified as PFA / ALPP is part of the area in the district of Nickerie and is specifically for *Bactrocera carambolae* (PFA) and *Anastrepha obliqua* (ALPP).

### ■ Agriculture crop production, Soil and climate of the chosen PFA/ALPP area are not favorable for fruit flies: very wet clay soils in the rainy season and big areas of wetland rice production.

### ■ Population Monitoring

- Trapping network, per June 30, 2025, is consisting of 48 Jackson traps (Ni-J-018 e.o.) baited with Methyl Eugenol and abamectin (as toxicant) for Carambola fruit fly and 31 McPhail traps (Ni-MP-016 e.o.) with Torula as attractant for *Anastrepha* species and Carambola fruit fly.
- Traps are serviced every 14 -21 days.





## SYSTEMS APPROACH COMPONENTS (3)

- Traps are located in host areas, at points of entry (entrance road into Nickerie district, from Paramaribo; back track, market); in urban area (town of Nickerie). The mean number of traps over the area is 2.17 per km<sup>2</sup>, but for some areas the number is higher, for others it is lower, this depends on the amount of host plants available in the area, and on the human population density.
- Fruit sampling
- **Traceability: PRODUCT TRACEABILITY & FARMER – BUYER – EXPORTER REGISTRATION**
  - Producers/Tree registration
  - Mango buyers registration
  - Exporters registration

### ■ Controls on the movement of regulated articles

Domestic restrictions to control the movement of regulated articles into the FF-SA; Inspection of regulated articles, examination of relevant documentation as appropriate and; where necessary for cases of non-compliance; the application of appropriate phytosanitary measures (e.g., treatment, refusal or destruction).

Produktbriefje NS 041	
Datum	
Naam producent	
Adres	
Trace back code	
Produkt	
Variëteit	
Hoeveelheid	
Naam opkoper	
Naam exporteur	

Opkoper handtekening \_\_\_\_\_

Producent handtekening \_\_\_\_\_

### Receipt book for Traceability



## SYSTEMS APPROACH COMPONENTS (4)

- **Phytosanitary measures taken after detection:** The only phytosanitary measures taken after detection of one or more *Bactrocera* were placement of additional traps (including McPhail) and additional fruit collection.
- **Training of:**
  - Personnel for the traps;
  - Buyers: how the traceability should be done
  - Exporters: the systems approach system
  - Assistants in fruit rearing and fruit fly identification
- **Public awareness:**

Video's about the life cycle of fruit flies, host plants and how to prevent spread of fruit flies.



**Traps; Fruit collection, Data  
collection, Lab rearing**

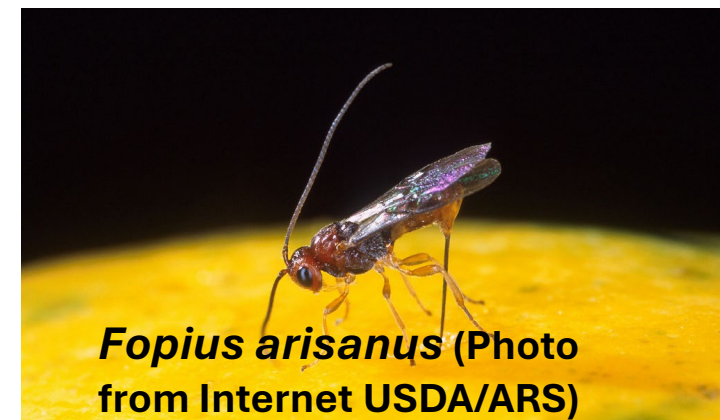


## RESULTS & FUTURE

- The export of mango to the Netherlands (EU) was resumed in early January 2024 under **Systems Approach** (Area of Low Pest Prevalence (ALPP)/SA), based on an **ALPP** for both fruit flies, *Bactrocera carambolae* and *Anastrepha obliqua*, and a **PFA** (Pest Free Area) for mango seed weevil (*Sternuchus mangiferae*).
- Annually around 20 tons are exported to Europe, with a tri-fold increase in 2024.
- Introduction of *Fopius arisanus* from Hawaii as a biological control agent for the Carambola fruit fly.



**Mango export inspection :  
packing house**



***Fopius arisanus* (Photo  
from Internet USDA/ARS)**





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# Thank you