THE HOT PEPPER GALL MIDGE IN JAMAICA: STRATEGIES TOWARDS RISK MANAGEMENT

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Gall midge was recognized as a pest of significance in Jamaica in 1998.

Larvae were intercepted in shipments of hot peppers to the USA.

Identified as *Contarinia* sp., a quarantine pest to the USA.
Frequent interception of this pest at US ports of entry resulted in the enforcement of mandatory fumigation as a condition of entry of Jamaica’s hot peppers into US markets.
CONSEQUENCE

Hot pepper export from Jamaica to the USA,
1997 - 2009

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Multi disciplinary task force formed to look at integrated pest management strategies to manage pest in the field and to prevent export on peppers.
STRATEGIES

- pest identification
- biology and ecology
- control measures
- Surveillance activities in the field
- Monitoring at the ports
PEST IDENTIFICATION

- Prodiopsis longifilia
- Contarinia sp
- Contarinia lycopersici
- Contarinia sp.nr.lycopersici
BIOLOGY: DESCRIPTION

Male

Female

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DESCRIPTION

Pupa

Larva

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LIFE CYCLE

Adult

Eggs laid in pepper fruit

Pupa

Larva

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Scar on pepper fruit
Gall Midge infested pepper: early stage
Gall midge infested hot pepper stem
Gall midge infested hot pepper with scarred pedicel
Gall midge damaged hot pepper
Gall midge infested pepper
Secondarily invaded by fungi
DISSECTED HOT PEPPER PEDICEL SHOWING GALL MIDGE LARVAE
Gall midge has been found on all hot pepper cultivars/varieties commercially grown in Jamaica
- Scotch bonnet (yellow & red)
- West Indies red

Jamaican Scotch Bonnet Peppers
West Indies Red Peppers
Distribution of hot pepper gall midge in Jamaica Jan-Feb, 2000
SURVEILLANCE: in the field
PEST MONITORING AT THE PORTS AND ENTRY OF DATA INTO THE TRACEABILITY SYSTEM
CONTROL: Cultural

- Harvesting promptly
- Removal of old/unmarketable peppers
- Remove weeds
- Use of plastic mulch
- Shade reduction
CONTROL: Chemical

- **Insecticides**
  Systemic insecticides: fipronil, imidacloprid

- **Fungicide**
  - Treat with a fungicide to control pathogen invading scarred tissue
PRESENT STATUS: Exports

- Fumigation with Methyl Bromide continues
- Pepper production and export to USA
Present Status: Infestation Levels

- Recent survey (2009) reported 12% of farms infested island-wide
- Mean infestation levels on farms: 1%
PRESENT STATUS: Field Management

- Control measures
  - Cultural control
CONCLUSION

- Data has shown a shift from fresh export to processed peppers

- The Jamaican Government is however actively promoting the export of fresh peppers, in particular fresh scotch bonnet peppers.

- To this end the hot pepper task force has been revived and is actively engaged in discussions re developing a systems approach for the export of fresh peppers from Jamaica.

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