# Phytosanitary Irradiation: A Flexible Solution in a Rigid Regulatory World

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National Operations Manager Field Operations USDA APHIS PPQ

#### **PPQ Mission**

Regulate the movement of any commodity capable of harboring invasive, threatening plant pests, including noxious weeds, in order to protect the "agriculture, environment, and economy of the United States"

Facilitate import, export, and interstate commerce of agricultural products and other commodities that pose a risk of harboring certain plant pests

Plant Protection Act of 2000



#### Plant Protection and Quarantine Organizational Structure

Current as of September 2017

## Field Operations Matthew Royer, Associate Deputy Administrator Carlos Martinez, Executive Director

- Associate Executive Director Specialty Crops, Safety & Health, Export & Trade – States: AK, WA, OR, CA, NV, UT
- Associate Executive Director VMO, Regulated Garbage, -States: ID, MT, WY, CO, ND, SD, NE, KS, HI
- Associate Executive Director Forest Pest, Biocontrol, Permitting-States: MN, WI, MI, IA, IL, IN, OH, MO, KY, TN
- Associate Executive Director-AQI, PIS, Treatments, Beltsville Germplasm Lab-States: ME, VT, NH, MA, RI, CT, NY, NJ, PA, DE, MD, WV
- Associate Executive Director-Pest Management, Pest Detection, Emergency Response, Farm Bill-States: VA, NC, SC, GA, FL, AL, MS, PR
- Associate Executive Director-Cotton & Field Crops, SITC, Compliance, AEO-States: AZ, MN, OK, TX, AR, LA
- Associate Executive Director-Data Analysis Risk & Targeting, IT End User Tools, Information Technology Customer Service
- Administrative Support

#### Osama El-Lissy Deputy Administrator

#### Phytosanitary Issues Management

(Andrea Şimao – Assistant Deputy Administrator)

(John Greifer – Assistant Deputy Administrator)

Analysis and Information Management

(Ginger Murphy – Assistant Deputy Administrator)

(Paula Henstridge – Assistant Deputy Administrator)
Outreach and Communications

Labor and Employee Relations –

(Angela French-Bell) Chief of Staff

(Pamela Stanziani)

#### Policy Management Alan Dowdy Associate Deputy Administrator

Matt Rhoads, Executive Director

- Resource Management Services
- Professional Development Center
- -Cooperator Training Unit
- -Field Operations Training Support
  -National Detector Dog Training Center
- -National Detector Dog Training Cen
- Plant Health Programs
- -Preclearance & Offshore Programs
- -Quarantine, Policy, Analysis, and Support
- -National Identification Services
- -Imports, Regulations, and Manuals
- -Permitting and Compliance Coordination
- -Pest Detection and Emergency Programs
   -Pest Management
- -Export Services
- Administrative Support

#### Science and Technology

Ron Sequeira, Associate Deputy Administrator Phil Berger, Executive Director

- · Center for Plant Health Science and Technology
- National Clean Plant Network
- PPQ Representative on Climate Change; Plant Health Quadrilaterals Science Collaboration Working Group; Coordinating Office for Science and Technology Assessment; European Phytosanitary Research Coordination
- Administrative Support



#### **APHIS AQI CBP AQI Functions Functions** Clearance of Trade **Propagative** Risk Analysis **Regulations Compliance Material** Clearance of **Passengers Predeparture** Pathway & Policies & Market **Inspection HI &** Trend Analysis Manuals **Surveillance** Clearance of Cargo **Delegated Post Entry** Methods **Penalty Quarantine Development Authority Investigations** Clearance of Conveyances **Phytosanitary** Regulatory **Diagnostics** Issues **Treatments** Status of Pest Management **Penalty** Issuance Pesticide and Offshore and Offshore Pest **Military** Environmental **Programs Identification Port Risk Preclearance** Clearances Analyses, Targeting, and **Trend Analysis Port Environs Pest Detection** International **Training** Response Surveillance Standards Offshore Outreach **Operational** Regulatory Scientific **Enforcement** & Development

# AQI Agricultural Quarantine Inspection

## **Regulatory Summary**

- Market access granted
- Framework equivalency work plan signed
- Operational work plan signed
- Commodity-specific addendum signed
- Facility plan approved
- Facility certified
- Importer compliance agreement signed
- Importer permit granted
- Packaging approved
- Process configuration approved



## **Irradiation Program Types**

#### **Preclearance and Offshore**

Irradiation of U.S. Imports in Country of Origin

**Upon Arrival** (Port of Entry)

Irradiation of U.S. Imports in United States

#### **Domestic Quarantine**

Irradiation for Domestic Movement out of Federal Quarantines

#### **Exports**

Irradiation of U.S. Exports

## The Genesis of Port of Entry



#### **Sadex Corporation**

- Certified 2009
- Sioux City IA
- Pakistan Mangos
- E-beam

## **Upon Arrival Facilities**

**Gateway America**Gulfport, MS

National Center for Electron
Beam Research
College Station, TX

**Sadex**Sioux City, IA





## What's available today?

**Dominican Republic:** mango

Grenada: ambarella, purple mombin, yellow mombin

Mexico: guava, mango, manzano pepper, fig, grapefruit, sweet lime, sweet orange, tangerine

<u>Pakistan:</u> mango

Peru: blueberry, fig, pomegranate

South Africa: persimmon, litchi



## Mombin?!?





## **Generic and Pest-specific Doses**

Table 5-2-12 Pest-Specific Minimum absorbed dose (Gy)

Scientific Name	Common Name	Minimum Absorbed Dose (Gy)	
Cryptophlebia illepida	Koa seedworm	250	
Cylas formicarius elegantulus	Sweet potato weevil	150	
Cydia pomonella	Codling moth	200	
Euscepes postfasciatus	West Indian sweet potato weevil	150	
Grapholita molesta	Oriental fruit moth	200	
Omphisa anastomosalis	Sweet potato vine borer	150	
Pseudaulacaspis pentagona	White peach scale	150	
Rhagoletis pomonella	Apple maggot	60	
Sternochetus mangiferae	Mango seed weevil	300	
7	All other fruit flies of the family Tephritidae which are <b>not</b> listed above	150	
<b>→</b>	Plant pests of the class Insecta <b>not</b> listed above, except pupae and adults of the order Lepidoptera	400	

Pest-Specific Absorbed Dose

Generic Absorbed Dose

## **Trade Impacts**

#### **Generic Absorbed Doses Facilitate Trade**

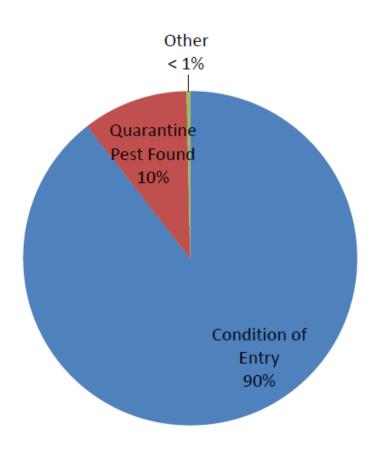
If a risk analysis of a new commodity demonstrates that no pupae or adult Lepidoptera follow a pathway, then export approval can happen without further research



## **Future of Upon Arrival Irradiation**

Condition of Entry
Treatment

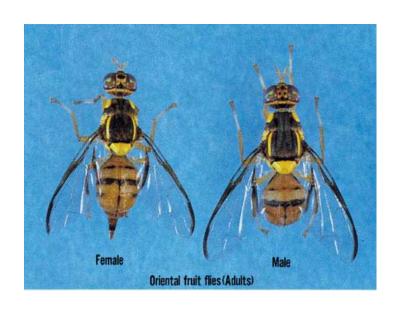
**Emergency Action** 



**US Imports: MB Usage** 



## Bactrocera dorsalis Oriental fruit fly



OFF is a devastating pest with a broad host range of cultivated and wild fruits

Periodic outbreaks in CA, FL

#### **OFF Quarantine**



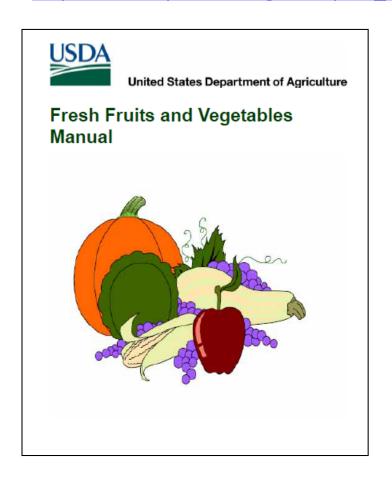
Oriental Fruit Fly
Quarantine 2015/2016
South Florida

Gateway America Gulfport, MS

Treated
28K kg dragon fruit
and
24K kg mamey sapote

## **FF&V Import Manual**

http://www.aphis.usda.gov/import export/plants/manuals/ports/downloads/fv.pdf

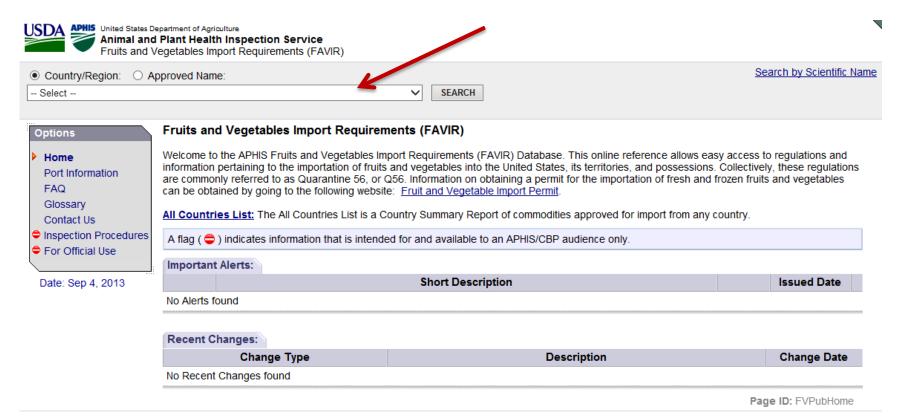


- List of all Enterable Fruits and Vegetables into US
- Condition of Entry Treatments
- Regions of Entry
- Additional Requirements



#### **FAVIR**

#### https://epermits.aphis.usda.gov/manual/index.cfm



## **PPQ Stakeholder Registry**

https://public.govdelivery.com/accounts/USDAAPHIS/subscriber/new



#### **Email Updates**

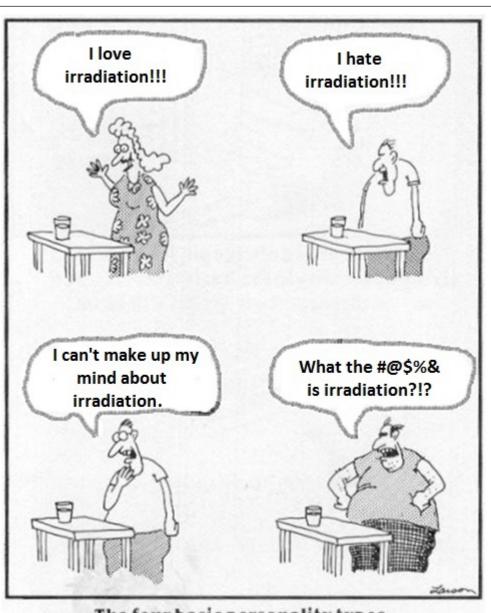
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#### **THANK YOU**



The four basic personality types