

## Phytosanitary Irradiation Treatments: An Important Mitigation Tool in the Agriculture Quarantine Inspection (AQI) Toolbox

#### Laura A Jeffers

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 November, 2016

#### Field Operations

Matthew Royer, Associate Deputy Administrator Carlos Martinez, Executive Director

 Associate Executive Director – Aircraft and Equipment Operations; Outreach Coordinator – States: AR, AZ, LA, NM, OK
 Associate Executive Director – Predeparture, Permitting, Biotech, Export, Accreditation & Trade – States: FL, GA, HI, MS/AL, NC/SC, PR, TN/KY, VA & WV

 Associate Executive Director – Safety & Health – States: AK/WA, ID, ME, MI, MN, MT, ND, NH/VT, NY, OR, SD and WI
 Associate Executive Director – Pest Management; Pest Detection/Cotton – States: CO, IA, IL, IN, KS, MO, NE, UT/NV & WY

 Associate Executive Director – Exclusion & Import; SITC/Canine; VMO; Beltsville Germplasm Lab – States: DE, MA/CT/RI, MD/DC, NJ, OH & PA

 Associate Executive Director – Data Analysis Risk & Targeting; GIS Information Technology Systems

Management; Information Technology Customer Service Administrative Support

#### Osama El-Lissy Deputy Administrator

Phytosanitary Issues Management (Andrea Simao – Assistant Deputy Administrator) International Plant Health Standards (John Greifer – Assistant Deputy Administrator) Analysis and Information Management (Ginger Murphy – Assistant Deputy Administrator)

> Outreach and Communications Labor and Employee Relations. Chief of Staff

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
 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
 -Past 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



#### **Phytosanitary Irradiation**

- APHIS treatments require an absorbed doses between 60-400 Gy
- FDA limits fresh fruit and vegetable treatments to 1000 Gy
- Irradiated food products must bear the Radura





#### **Phytosanitary Irradiation**

Treatment response options:

- Mortality
- Sterilization
- Inactivity or Devitalization
- Inability to Emerge/Fly



Mortality is usually not the target response for APHIS treatments and live insects may remain after treatment



## **Pest Proof Packaging**

# As mortality is not the target response for APHIS treatments, live insects may remain after treatment





## **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

#### **Southern Tier Rule**



http://www.gpo.gov/fdsys/pkg/FR-2012-07-20/pdf/2012-17725.pdf



## **Southern Tier Rule**

As of July 2012, establishment of port of entry phytosanitary irradiation facilities are allowed in the Southern U.S. states

Additional Requirements:

- Approval by State Representative to the National Plant Board (State Plant Regulatory Official)
- Refrigerated Conveyance of Commodity
- Maps of Surrounding Agricultural Production Areas
- Pest Trapping or Monitoring
- Additional Facility Safeguarding



## **Upon Arrival Facilities**



National Center for Electron Beam Research (NCEBR)

- Certified 2012
- College Station TX
- E-beam



## **Upon Arrival Facilities**

#### **Gateway America**

- Certified 2013
- Gulfport MS
- <sup>60</sup>Co

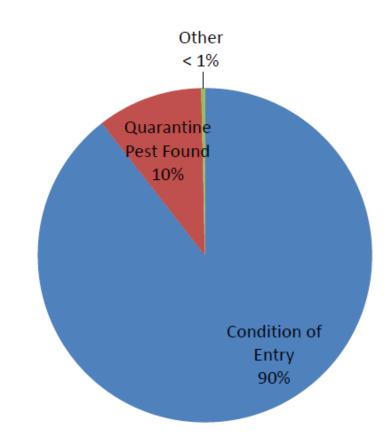




#### **Future of Upon Arrival Irradiation**

# Condition of Entry Treatment

#### **Emergency Action**



US Imports: MB Usage



# What commodities are eligible for upon arrival irradiation?



## Framework Equivalency Workplan

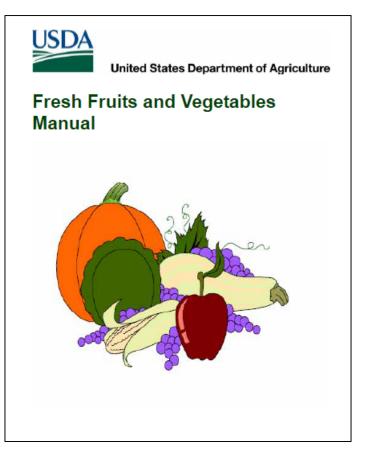
- Mutual agreement between two countries stating that each country will legally accept the other's system of irradiated products
- As of 3/01/2017, 13 FEWPs are signed with U.S. trading partners
  - Australia
  - Dominican Republic
  - Ecuador
  - Granada
  - India
  - Laos
  - Malaysia

- Mexico
- Pakistan
- Peru
- Philippines
- South Africa
- Thailand
- Vietnam



## **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



## What's available today?

Dominican Republic: mango

<u>Mexico:</u> guava, mango, manzano pepper, fig, grapefruit, sweet lime, sweet orange, tangerine

<u>Pakistan:</u> mango

<u>Peru:</u> fig, pomegranate, fig

South Africa: persimmon, litchi



#### **PPQ Irradiation Treatment Site**

#### USDA APHIS $\rightarrow$ Plant Health $\rightarrow$ Import into the US $\rightarrow$ Quarantine Treatments $\rightarrow$ Irradiation

		rtment of Agriculture Inspection Service	About APHIS   Ask The Expert   Careers   Contact Us   Help	
Home Our Focus	<ul> <li>Resources •</li> </ul>	Newsroom - Blog	🔊 🖂 🖬 You 🚻 🔍	
Plant Health / Import	nto the U.S. / Quara	ntine Treatments		
Plant Health		Irradiation Treatme	ent	
Program Overview		Last Modified: Jun 26, 2015	🖨 Pri	
Pests and Diseases		In order to meet U.S. entry requireme	In order to meet U.S. entry requirements, certain fresh fruits and vegetables require the application of a quarantine	
Import into the U.S.			treatment to mitigate pests that may pose a phytosanitary risk to US agriculture and natural resources. Irradiation is a viable option utilized for this purpose in some instances.	
Export from the U.S.		Click the links below for information to	Click the links below for information to determine if an irradiation treatment is an option, and if applicable, the	
International		requirements to utilize irradiation trea	tments.	
Manuals		I want to use irradiation as a treatment	nt to import a commodity. Where do I start?	
		importation into the U.S. and listed in commodity is not listed in FAVIR ther Animal and Plant Health Inspection S request from the Plant Protection Org	mes eligible for irradiation treatment into the U.S. it must first be approved for the Fruits and Vegetables Import Requirements Database (FAVIR). If a it is not currently eligible for entry and must be approved for importation via the ervice (APHIS) commodity import approval process. This process begins with a anization of the originating country. For more concerning the commodity import ty Import Request Process APHIS web page.	
		Lchecked FAVIR. The commodity is educed to a commodity is educed and a commodity of the com	eligible for entry, but irradiation is not listed as an approved treatment. What do	
		I checked FAVIR. The commodity is e	ligible for entry, and irradiation is an approved treatment. What are my options?	
		Are there non-phytosanitary import re	equirements that I should be aware of?	

Lam interested in having an irradiation facility certified by APHIS to apply guarantine treatments for fresh fruits and vegetables. Where can Lget more information?



## **PPQ Stakeholder Registry**

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



#### Email Updates

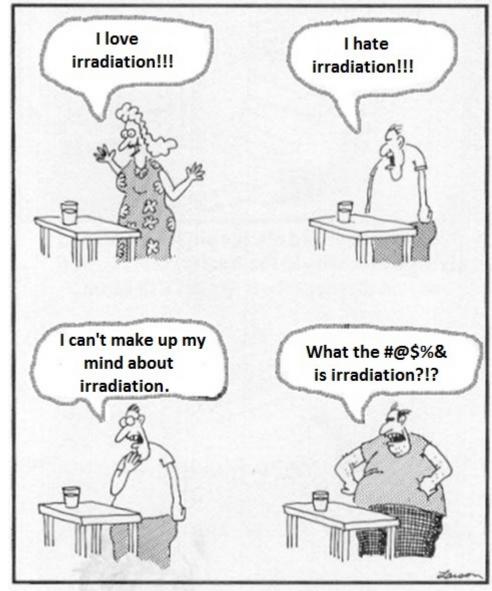
To sign up for updates or to access your subscriber preferences, please enter your contact information below.

Subscriptio	n Type	Email V
*Email Add	lress	
Submit	Cancel	
Your	contact informa	

Privacy Policy - Help



# Final Thoughts & Questions



The four basic personality types