



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

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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”

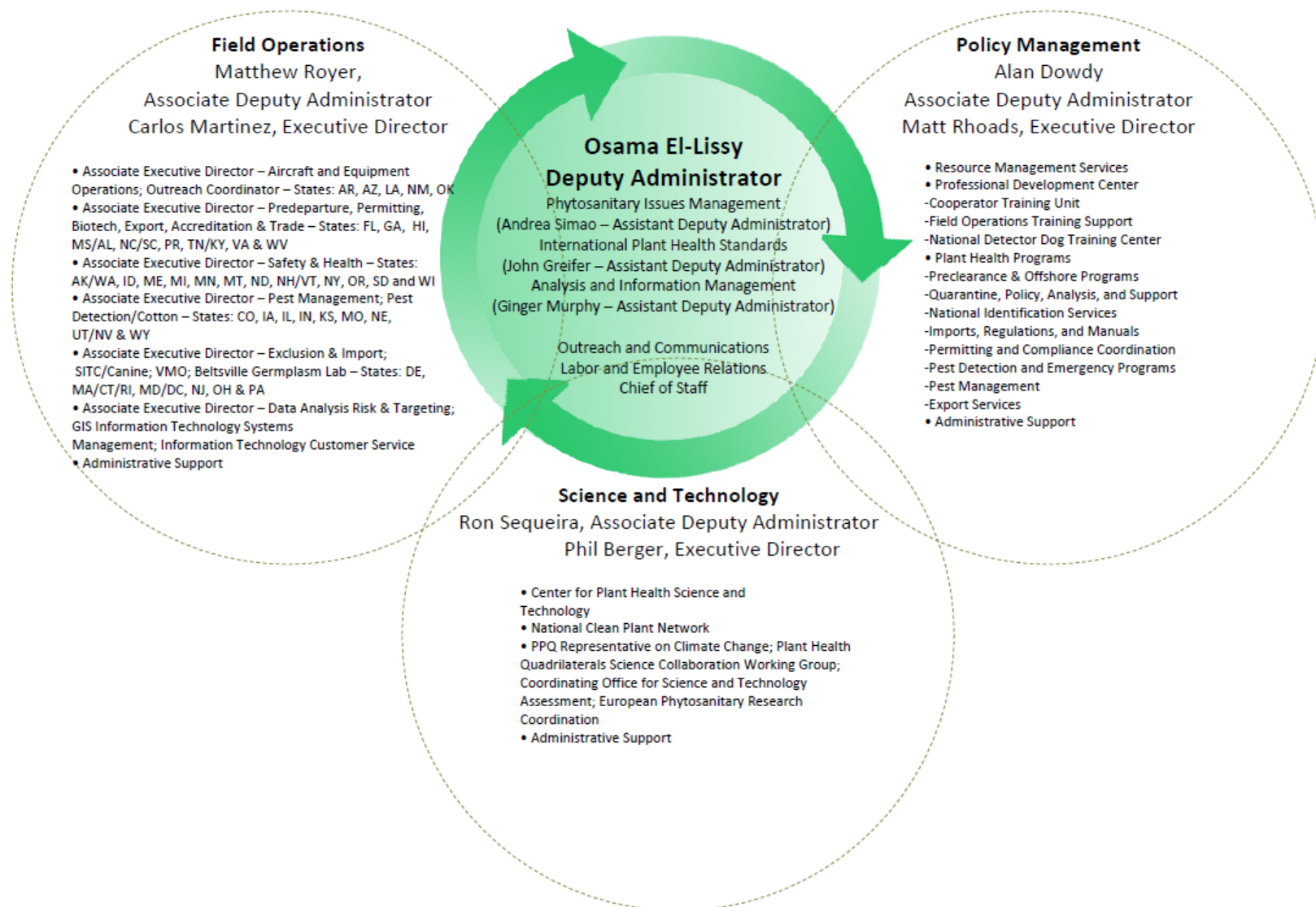
Facilitate import, export, and interstate commerce of agricultural products and other commodities that pose a risk of harboring certain plant pests

Plant Protection Act of 2000



Plant Protection and Quarantine Organizational Structure

Current as of November, 2016



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
- ^{60}Co

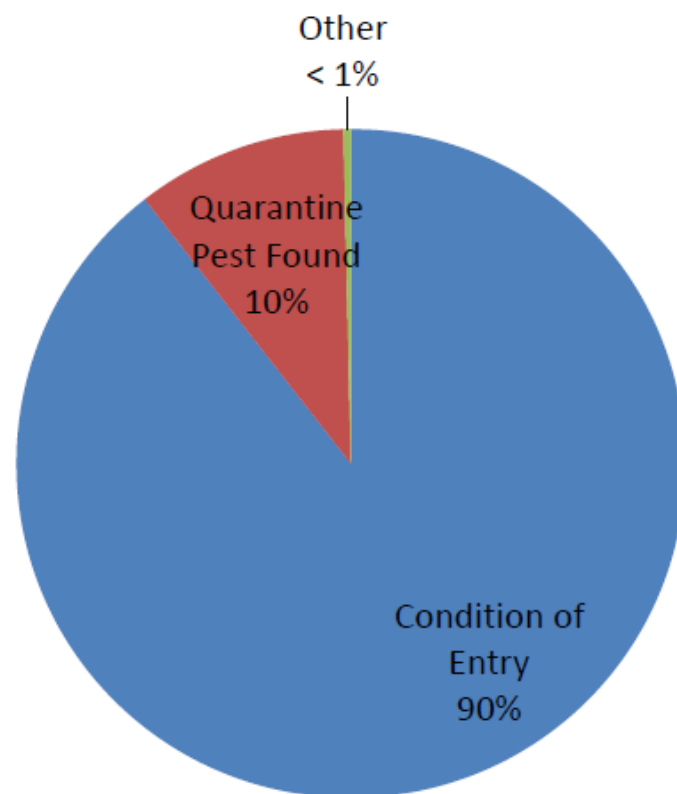


Future of Upon Arrival Irradiation

Condition of Entry
Treatment



Emergency Action



US Imports: MB Usage



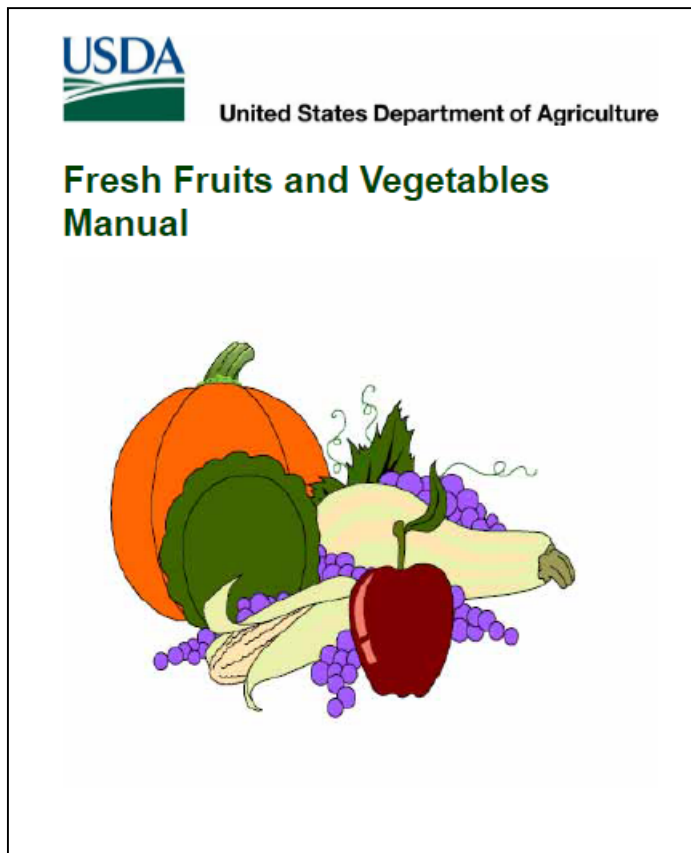
**What commodities are eligible for
upon arrival irradiation?**

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

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

Pakistan: mango

Peru: fig, pomegranate, fig

South Africa: persimmon, litchi



United States Department of Agriculture

PPQ Irradiation Treatment Site

USDA APHIS → Plant Health → Import into the US
→ Quarantine Treatments → Irradiation

USDA United States Department of Agriculture
Animal and Plant Health Inspection Service

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Irradiation Treatment

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Print

In order to meet U.S. entry requirements, certain fresh fruits and vegetables require the application of a quarantine 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.

Click the links below for information to determine if an irradiation treatment is an option, and if applicable, the requirements to utilize irradiation treatments.

[I want to use irradiation as a treatment to import a commodity. Where do I start?](#)

Before a fresh fruit or vegetable becomes eligible for irradiation treatment into the U.S. it must first be approved for importation into the U.S. and listed in the Fruits and Vegetables Import Requirements Database (FAVIR). If a commodity is not listed in FAVIR then it is not currently eligible for entry and must be approved for importation via the Animal and Plant Health Inspection Service (APHIS) commodity import approval process. This process begins with a request from the Plant Protection Organization of the originating country. For more concerning the commodity import approval process, view the [Commodity Import Request Process APHIS web page](#).

[I checked FAVIR. The commodity is eligible for entry, but irradiation is not listed as an approved treatment. What do I do?](#)

[I checked FAVIR. The commodity is eligible for entry, and irradiation is an approved treatment. What are my options?](#)

[Are there non-phytosanitary import requirements that I should be aware of?](#)

[I am interested in having an irradiation facility certified by APHIS to apply quarantine treatments for fresh fruits and vegetables. Where can I get more information?](#)



United States Department of Agriculture

PPQ Stakeholder Registry

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



Email Updates

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Email

*Email Address

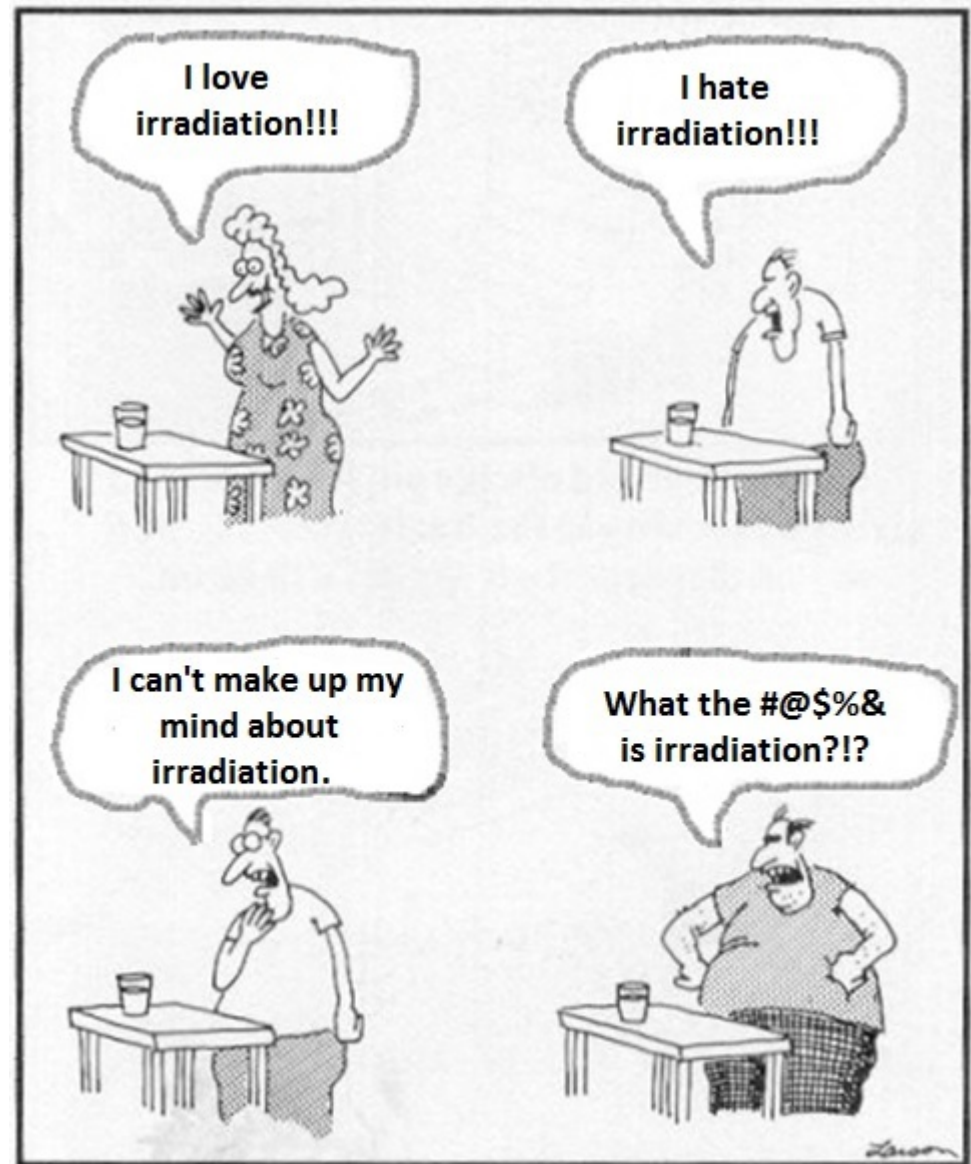
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Final Thoughts & Questions



The four basic personality types