APHIS PPQ Phytosanitary Irradiation Program

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United States Department of Agriculture
Outline

- APHIS PPQ Overview
- General Information
- Regulatory Overview
- Program Types
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
Approved Source Types

**Gamma**: $^{60}$Cobalt or $^{137}$Cesium emits photons during decay

**E-beam**: High energy electrons propelled from an electron gun

**X-ray**: High energy electrons are converted to X-rays (photons)
Phytosanitary Irradiation

APHIS treatments require minimum absorbed doses between 60-400 Gy

FDA limits fresh fruit and vegetable treatments to 1000 Gy

Radura must be visible at the point of sale for fresh fruits and vegetables
Pest Proof Packaging

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

- Market access granted
- Framework equivalency work plan signed
- Trust fund established
- Operational work plan signed
- Commodity-specific addendum signed
Regulatory Summary

- Facility plan approved
- Facility certified
- Importer compliance agreement signed
- Importer permit granted
- Packaging approved
- Process configuration approved
Irradiation Program Types

Preclearance and Offshore Programs
Offshore irradiation of US imports

Port of Entry Program
Domestic irradiation of US imports

Domestic Quarantine Program
Irradiation for domestic movement

Export Program
Irradiation of US exports
Preclearance: India

Krushak
- First certified overseas facility
- Certified 2007
- $^{60}\text{Co}$
Pre Clearance: Thailand

Synergy Health Ltd
- Certified 2008
- $^{60}\text{Co}$

Thai Irradiation Center
- Certified 2007
- $^{60}\text{Co}$
Preclearance: Vietnam

An Phu Irradiation
- Certified 2009
- $^{60}$Co

Son Son Corporation
- Certified 2008
- E-beam
Preclearance: Mexico

Sterigenics
• Certified 2008
• $^{60}\text{Co}$

Benebión
• Certified 2011
• $^{60}\text{Co}$
Preclearance: South Africa

High Energy Processing (HEPRO)

- Certified 2012
- $^{60}$Co
# Preclearance Totals

(in kg)

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<th></th>
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<th>Mexico</th>
<th>South Africa</th>
<th>Thailand</th>
<th>Vietnam</th>
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<td>2007</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>276,000</td>
<td>262,000</td>
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<td>5,672,000</td>
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<td>1,540,000</td>
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<td>80,000</td>
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<td>2012</td>
<td>217,500</td>
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<td>16,500</td>
<td>937,500</td>
<td>1,764,500</td>
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<td>2013</td>
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<td>1,060,500</td>
<td>1,967,500</td>
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<td>2014</td>
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<td>10,119,500</td>
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<td>843,000</td>
<td>2,293,000</td>
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Offshore Program

Australia Mango and Lychee Irradiation Pilot Program - 3 years

Steritech
- Certified 2015
- $^{60}$Co
- Fruit exports to New Zealand
Port of Entry

Sadex Corporation

- Certified 2009
- Sioux City IA
- E-beam
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
Southern States: Port of Entry

NCEBR
- Certified 2012
- College Station TX
- E-beam

Gateway America
- Certified 2013
- Gulfport MS
- $^{60}$Co
Southern States: Port of Entry

Issues

• Additional safeguarding at the facility
• Pre-approve packaging
• Process configuration approval upon arrival
Process Configuration Testing

Condition of Entry Treatment

Emergency Action

US Imports: 2014 MB Usage
Domestic Movement

Hawaii Pride
- 1st PPQ-certified facility
- X-ray

Pa’ina Hawaii
- Certified 2012
- $^{60}\text{Co}$
PPQ Irradiation Treatment Site

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

Irradiation Treatment

Last Modified: Jun 26, 2015

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 U.S. 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?
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- ☑ Plant Health in the US (Domestic)
- □ Manuals Updates
- □ Import Inspection Manuals
  - ☑ Agricultural Quarantine Inspection Monitoring (AQIM) Handbook
  - ☑ Animal Product Manual
  - ☑ Canadian Border Agricultural Clearance Manual
  - ☑ CITES II-III Timber Species Manual
  - ☑ Cut Flowers and Greenery Import Manual
  - ☑ Export Program Manual (XPM)
  - ☑ Federally Recognized State Managed Phytosanitary (FRSMP) Program Manual
  - ☑ Fruits and Vegetables Import Requirements (FAVIR) database
  - ☑ Fresh Fruits and Vegetable Manual
  - ☑ Hawaii Manual
  - ☑ Japanese Beetle Program Manual for Airports
  - ☑ Manual for Agricultural Clearance
  - ☑ Mexican Border Job Aid
PPQ
Stakeholder Registry
“Any policy is a success by sufficiently low standards and a failure by sufficiently high standards.” - Thomas Sowell