



Phytosanitary Irradiation: A Flexible Solution in a Rigid Regulatory World

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Field Operations

USDA APHIS PPQ



PPQ Mission

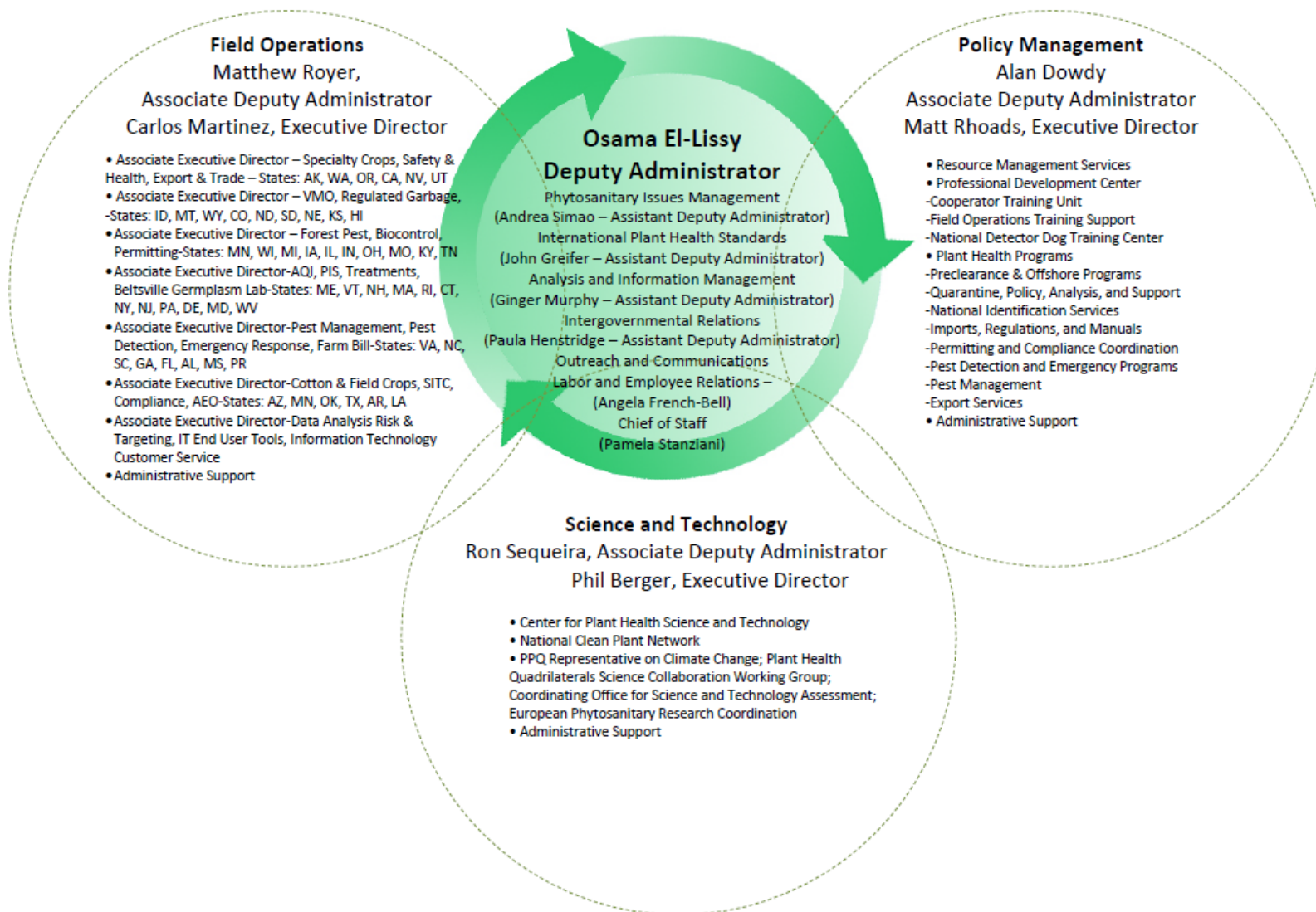
Regulate the movement of any commodity capable of harboring invasive, threatening plant pests, including noxious weeds, in order to protect the “agriculture, environment, and economy of the United States”

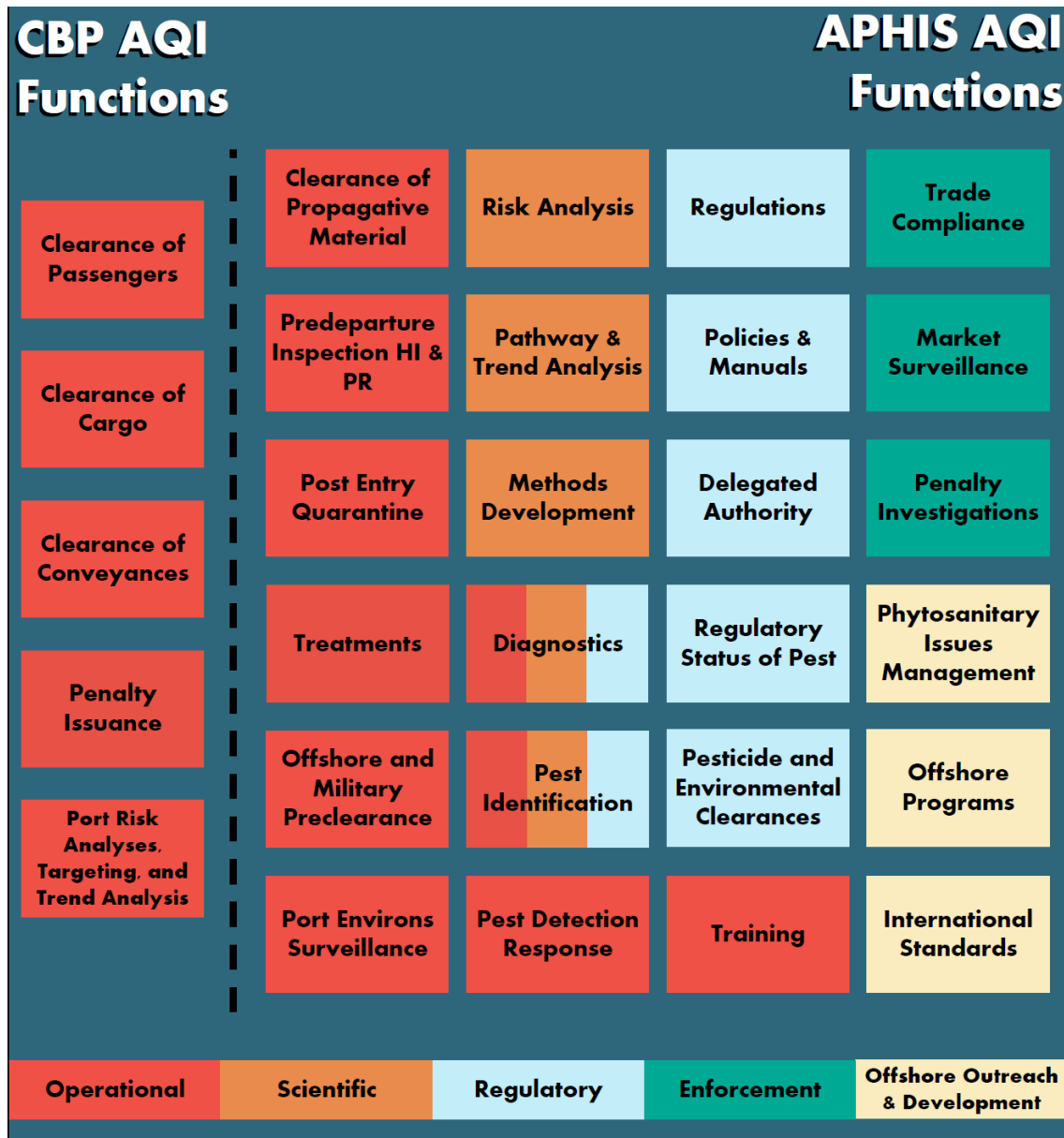
Facilitate import, export, and interstate commerce of agricultural products and other commodities that pose a risk of harboring certain plant pests

Plant Protection Act of 2000

Plant Protection and Quarantine Organizational Structure

Current as of September 2017





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

Pakistan: 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) |
|--------------------------------------|--|----------------------------|
| <i>Cryptophlebia illepidia</i> | Koa seedworm | 250 |
| <i>Cylas formicarius elegantulus</i> | Sweet potato weevil | 150 |
| <i>Cydia pomonella</i> | Codling moth | 200 |
| <i>Euscepes postfasciatus</i> | West Indian sweet potato weevil | 150 |
| <i>Grapholita molesta</i> | Oriental fruit moth | 200 |
| <i>Omphis anastomosalis</i> | Sweet potato vine borer | 150 |
| <i>Pseudaulacaspis pentagona</i> | White peach scale | 150 |
| <i>Rhagoletis pomonella</i> | Apple maggot | 60 |
| <i>Sternochetus mangiferae</i> | Mango seed weevil | 300 |
| | All other fruit flies of the family Tephritidae which are not listed above | 150 |
| | Plant pests of the class Insecta not 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

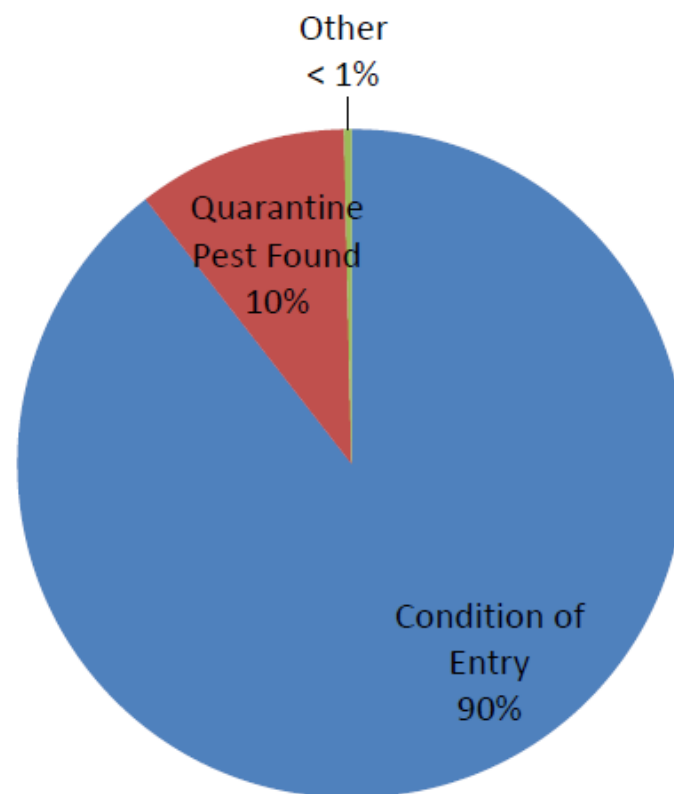


Future of Upon Arrival Irradiation

Condition of Entry
Treatment



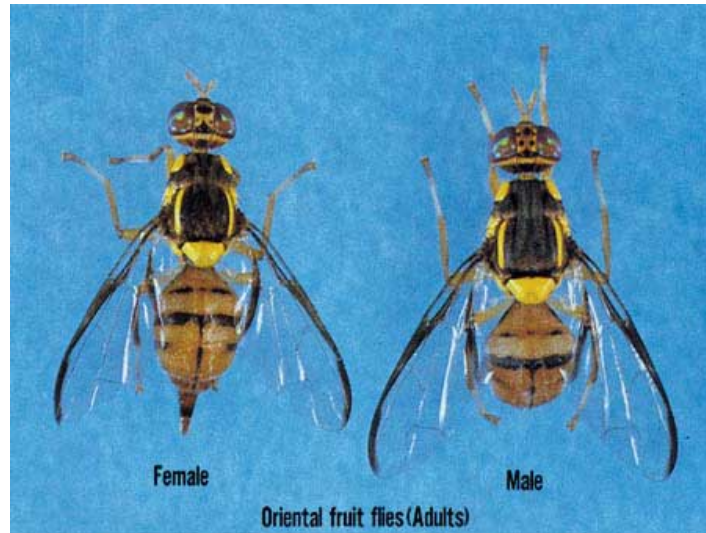
Emergency Action



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



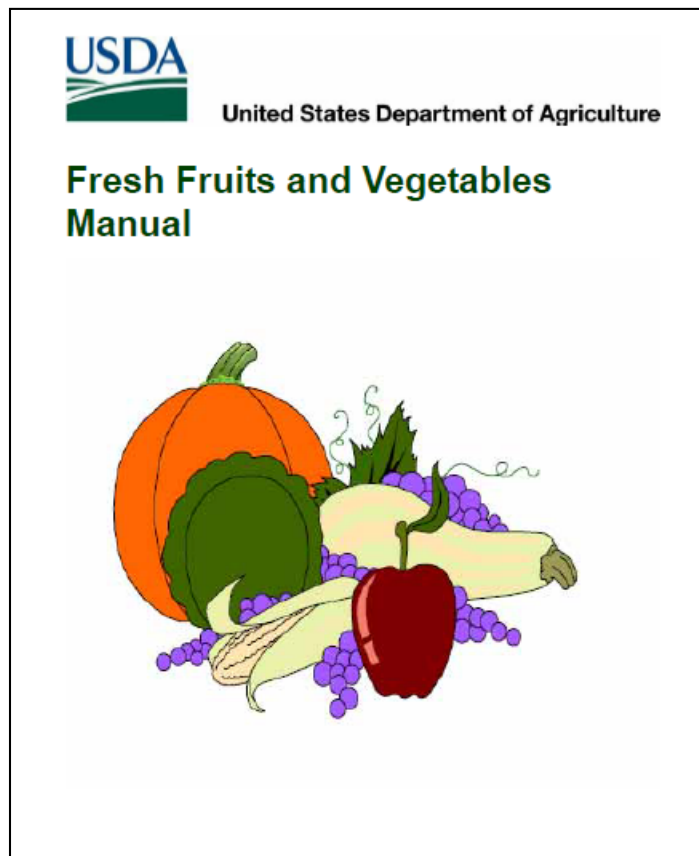
Gateway America
Gulfport, MS

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

Oriental Fruit Fly
Quarantine 2015/2016
South Florida

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>

☒ Country/Region: ☐ Approved Name:

-- Select --



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Date: Sep 4, 2013

Fruits and Vegetables Import Requirements (FAVIR)

Welcome to the APHIS Fruits and Vegetables Import Requirements (FAVIR) Database. This online reference allows easy access to regulations and information pertaining to the importation of fruits and vegetables into the United States, its territories, and possessions. Collectively, these regulations are commonly referred to as Quarantine 56, or Q56. Information on obtaining a permit for the importation of fresh and frozen fruits and vegetables can be obtained by going to the following website: [Fruit and Vegetable Import Permit](#).

All Countries List: The All Countries List is a Country Summary Report of commodities approved for import from any country.

A flag () indicates information that is intended for and available to an APHIS/CBP audience only.

Important Alerts:

| | Short Description | Issued Date |
|--|-------------------|-------------|
|--|-------------------|-------------|

No Alerts found

Recent Changes:

| Change Type | Description | Change Date |
|-------------|-------------|-------------|
|-------------|-------------|-------------|

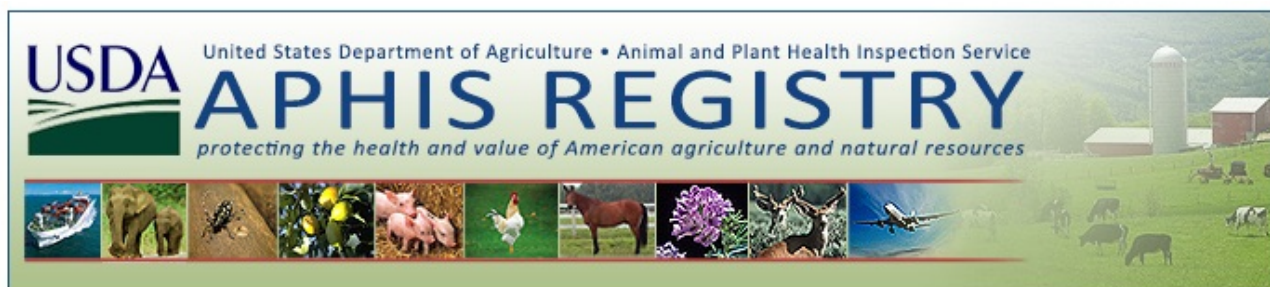
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United States Department of Agriculture

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.

Subscription Type

Email

***Email Address**

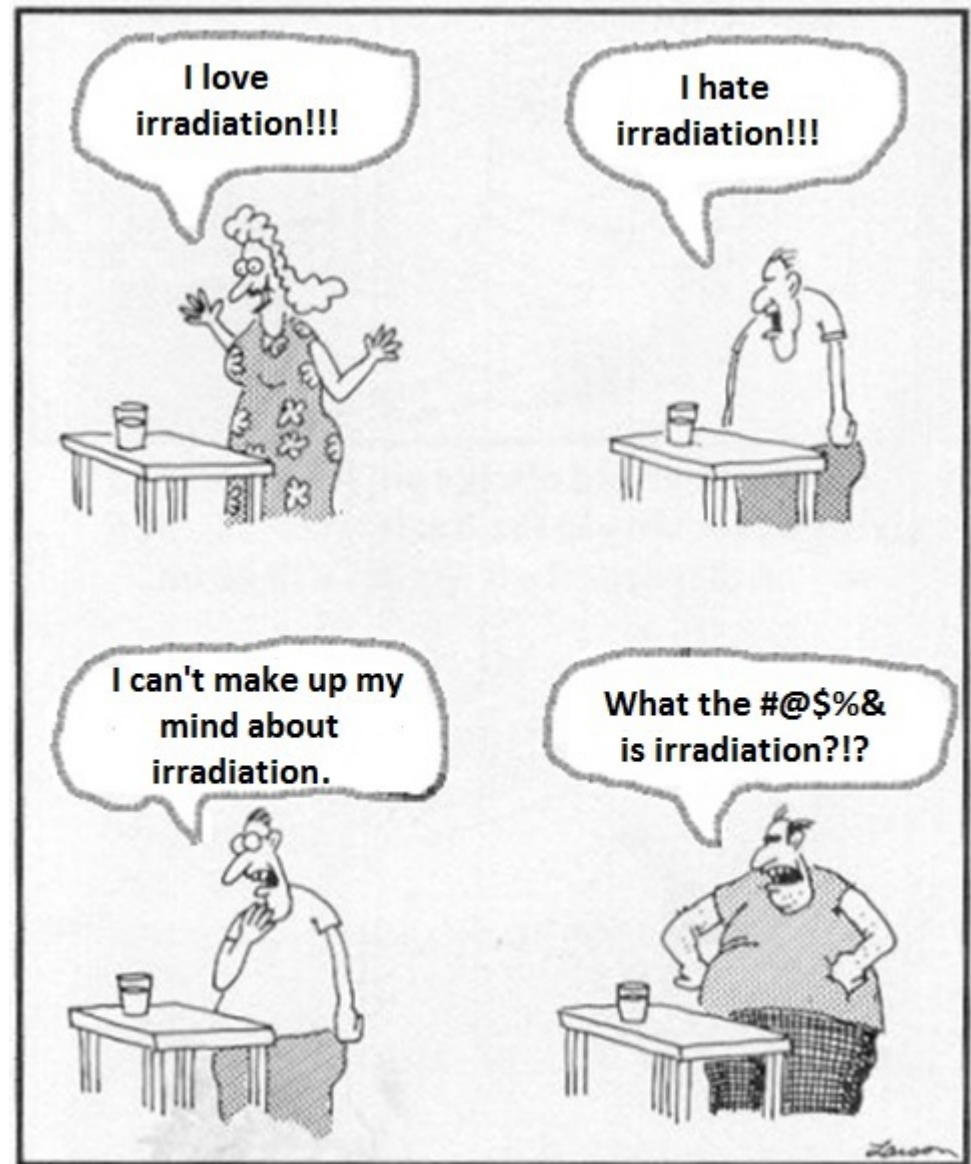
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THANK YOU



The four basic personality types