

IDIDAS: Out of the Box

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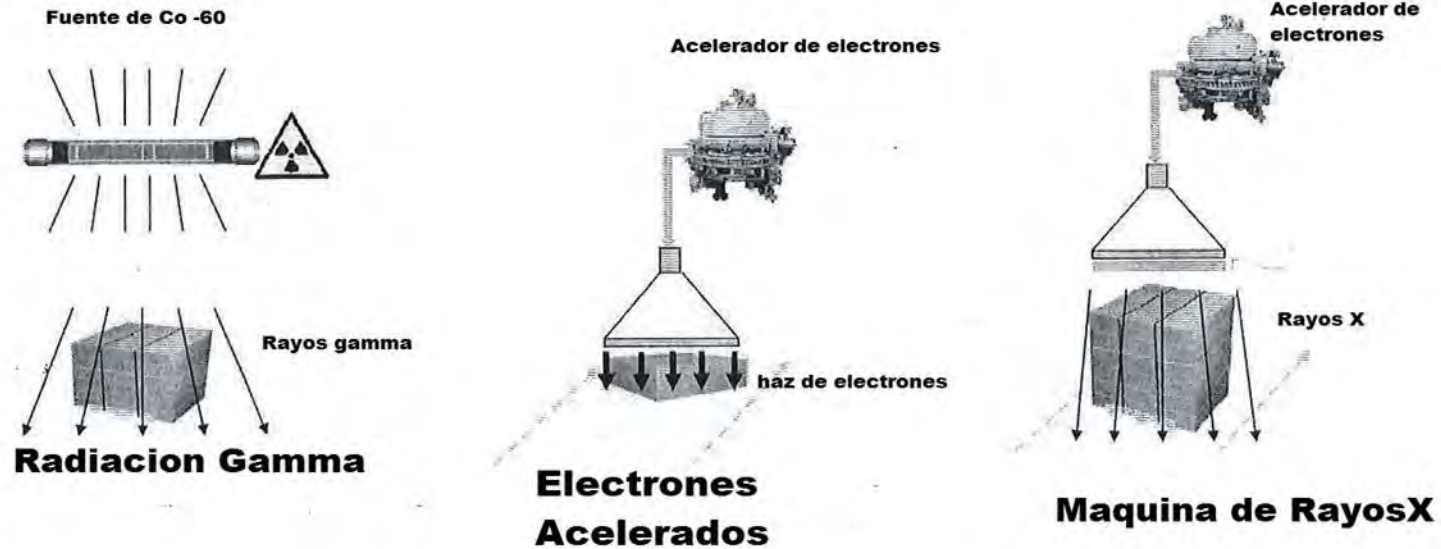
Phytosanitary Irradiation

- A contemporary risk management measure; first used in 1986
- Irradiation has many characteristics that make it unique among phytosanitary treatment methods

Range of responses

- Mortality
- Sterility or limited fertility
- Limited development
- Non-emergence
- Devitalization (of seed)
- Inactivation (of microorganisms)
- Sprout inhibition

Range of application technologies



Improves commodities

- Many products (but not all) are improved by irradiation treatment
- Increase quality and shelf life
 - Papaya
 - Cherry
 - Mango
 - Figs



Acceptance of live pests

- Mortality is not required to achieve quarantine security
- Must have confidence in the dose and application
- Focus on integrity of the treatment and inability of pests to establish
- Change in inspector's mindset

Absorbed Dose

- Efficacy measured by dose absorbed by the pest that achieves the desired response
- Application achieves the minimum dose at every point in the load
- Dose is the same for every commodity
- No need for research on every commodity or regulatory approvals for every commodity

Generic Dose

- Research demonstrates the effectiveness of one dose for groups of pests, e.g.
 - **150 Gy** for all fruit flies
 - **400 Gy** for arthropods except mites and lepidopteran pupae/adults
- Generic doses for regulatory applications are internationally approved by the IPPC

Opportunity!!!

Every commodity that is affected by a pest which has either a specific dose or generic dose is eligible for irradiation as a phytosanitary measure if...

the commodity can tolerate the dose.

Where's the information?

- Some specific tolerance research
- Most tolerance information is in dose research
- Phytosanitary irradiation research spans 40 years and more than 50,000 articles
- The International Atomic Energy Agency IDIDAS Database contains most of this research, which will soon be searchable for tolerance data.

IDIDAS -Tolerance

Data and information about tolerance of fresh horticultural products treated by irradiation

<http://nucleus.iaea.org/sites/naipc/ididas/SitePages/home.aspx>

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- Dr. Rui Cardoso
- Lic. Melanie Smith
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