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
  o Papaya
  o Cherry
  o Mango
  o 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.
  
  o **150 Gy** for all fruit flies
  
  o **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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