Pest Risk Analysis (PRA)  
Stage 1: Initiation
Stages of PRA

- **Stage 1: Initiation**
- **Stage 2: Pest Risk Assessment**
  - Step 1: Pest Categorization
  - Step 2: Assessment of the Probability of Introduction
  - Step 3: Assessment of Impacts
  - Step 4: Overall Assessment of Risk
  - Step 5: Uncertainty
- **Stage 3: Pest Risk Management**
Initiation Stage

1. Initiation Point
2. Determination of an organism as a pest
3. Definition of the PRA Area
4. Previous PRA
5. Conclusion
Initiation Stages

Initiation Point

• Pest
• Pathway
• Policy

Organism a pest

Identification of PRA Area

Previous PRAs

Conclusion
Initiation Points-3 Ps

- Identification of a Pathway
- Identification of a Pest
- Policy
Initiation Points

- **Pathway**
Pathway

- Any means that allow the entry or spread of a pest; could be
  - an imported commodity
  - a means of transportation or storage
  - packaging, or other articles associated with the commodity
  - a natural means of spread (e.g., wind)
An Imported Commodity

- Consider the commodity itself and pest that might be associated with it either directly as the host or as hitchhiker.
Pathway

A means of transportation or storage

- A pathway may also be a means of transportation or storage, regardless of the commodity with which it is associated.
Pathway

Packaging or other articles associated with the commodity

- Articles associated directly with the commodity may be a pathway for spread of plant pests
  - Soil on carrots
  - Wooden pallets
  - Growing Media
Pathway

Natural means of spread (e.g., wind)

• A natural means of spread may also be a pathway, as some species are naturally much more mobile than others.
Examples

• A request to import something that has not previously been imported from the proposed country of origin

• A different end-use is proposed for a commodity that is already being imported
Examples

• A new treatment is proposed for a commodity that is already being imported
  – Sulfuryl fluoride rather than methyl bromide fumigation of *red beans*

• An interception is made
  – Live pests are found on a previously unidentified pathway or commodity
Identification of pests associated with a pathway

- For a PRA initiated by a pathway, a list of pests associated with pathway at origin should be prepared

- For a commodity import for example, the list should include the following information
The list should include the following information

- Pest list with scientific name
- Taxonomic status
- Part of the plant attacked by the pest
- Presence or absence in the exporting and importing country
- Preliminary assessment of whether a pest follows the pathway
- Information sources
Initiation Point

Pest
Pest

- A pest has been intercepted on an imported commodity
- A new pest has been reported in an exporting country
- New hosts are discovered for a pest of concern
- A pest is reported to be more injurious than previously realized
Pest

- A new pest is discovered in the PRA area

- A request is made to import an organism for industrial, research, biocontrol, or other purposes

- An organism is discovered to be a vector for other pests
Pest

- A request is made to import a new plant species or variety planting
- A proposal is made to import or release a living modified organism
- An organism is reported that is new to science or for which there is little information available
Identification of Pathways for a Pest

- A list of potential pathways that could allow the entry of a particular pest is prepared
  - Fruits
  - Cut flowers and foliage
  - Clothing of international passengers
Policy

- An NPPO decides to review an existing policy, phytosanitary regulation, requirements or operations
Initiation

Initiation Point

- Pest
- Pathway
- Policy

Organism a pest

Identification of PRA Area

Not a pest

End
What is a Pest?

• A pest is “…any species, strain or biotype of plant, animal or pathogenic agent, injurious to plants or plant products”

• an insect, fungus, bacterium, virus, nematode, invasive plant

• any type of living organism that is harmful to plants
Determination of an organism as a pest

• Comparison to predictive indicators such as
  – Known to be a pest elsewhere

  – Shares characteristics with known pests
    • has similar biology & effects on plants

  – Found in connection with signs of injury to plants or beneficial organisms
Determination of an Organism as a pest

– Related to known pests

– Known as a vector for known pests

– Known to cause adverse effects on non-target organisms beneficial to plants
Describing the Pathway

• **Onions from Argentina**
  
  – Fresh, frozen, dried, canned?
  – Cleaned? Plant debris associated with shipment?
  – Have they been fumigated? Hot water treated? Inspected?
  – Are they packed or wrapped? Bagged?
  – Type of containers
  – Shipment by air, ship, passenger baggage?
Pathway Description

- Method of production / harvesting
  - Origin
  - Wild grown or cultivated
  - Pest management practices
  - Method of harvesting
  - Pre-shipment processing, e.g. seed cleaning, de-barking, surface sterilization...
Pathway Description

• Intended end-uses
  – Multiplication or planting
  – Consumption
  – Processing
  – Industrial applications
  – Research
  – Others?
Pathway Description

• The more you know about the pathway, the more accurate the PRA will be and the more effective or appropriate any subsequent phytosanitary measures will be

  – Ask questions
  – Consider all aspects of pathway
  – Get detailed descriptions
  – Understand it
Initiation

- Initiation Point
- Pest
- Pathway
- Policy

Organism is a pest

Identification of PRA Area
Definition of the PRA Area

- Area in relation to which a pest risk analysis is conducted [FAO, 1995]

- PRA area must be clearly defined
  - Whole country
  - Part of a country
  - Several countries together

- This is the area which is considered in all subsequent parts of the PRA
Previous PRAs

- Check for previous PRAs
  - Same pest or pathway
  - Related pest or pathway

- Are any previous PRAs
  - Still relevant?
  - Up-to-date?

- Benefits of checking for previous PRAs
  - Efficiency
  - Consistency
  - Background information
  - History of previous recommendations
End of Stage 1

• Organism has been determined to be a pest, PRA continues

• Organism is not a pest, the PRA stops