

Sampling Perspectives in Korea

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Continuous improvement of sampling

Balance among

- risk (intended use, commodity characteristics, interception record etc.)
- reliable inspection/detection,
- possible diversion of intended use,
- work load,
- speedy clearance (perishables) etc.

Continuous improvement of sampling

Tendency to decrease sampling rate

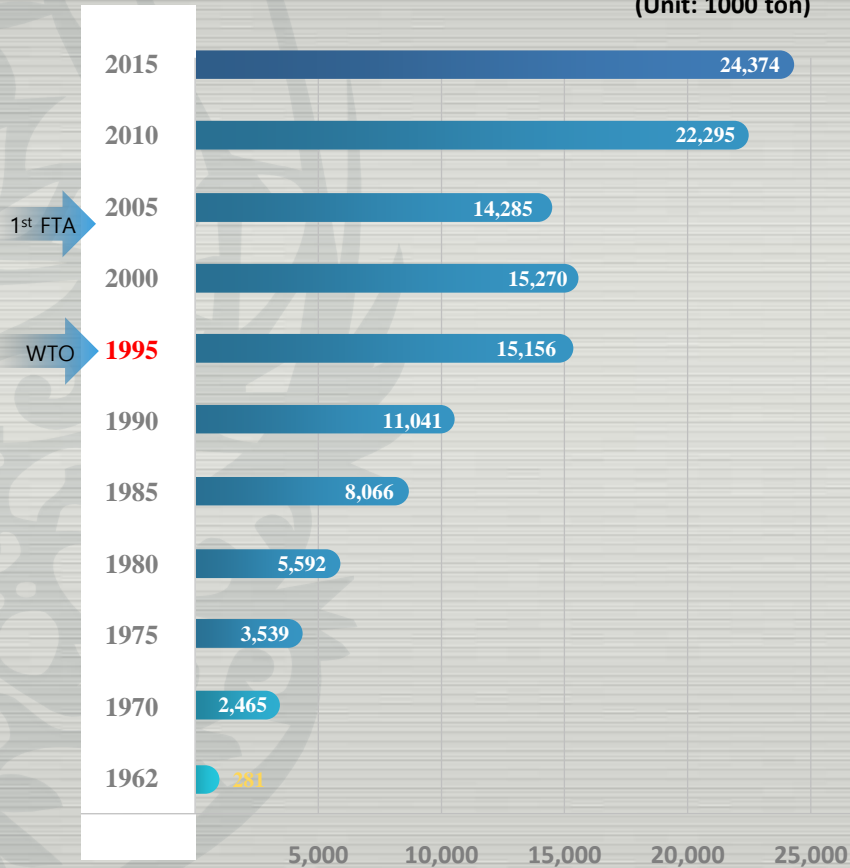
Weak scientific base!

Growth of International Trade



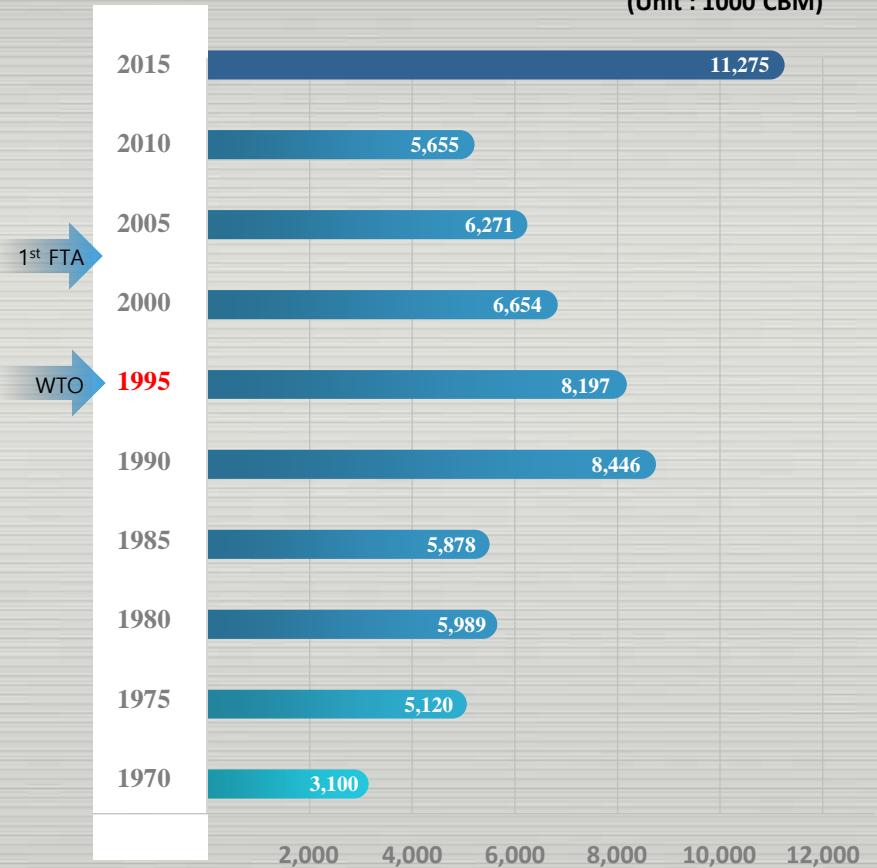
Grain Import

(Unit: 1000 ton)

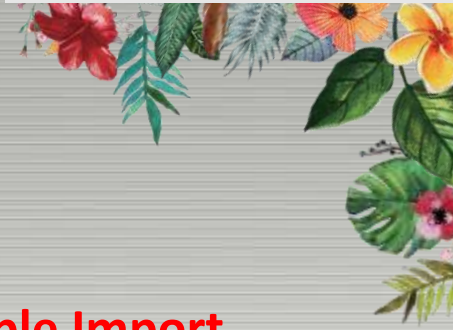


Timber and Lumber Import

(Unit : 1000 CBM)

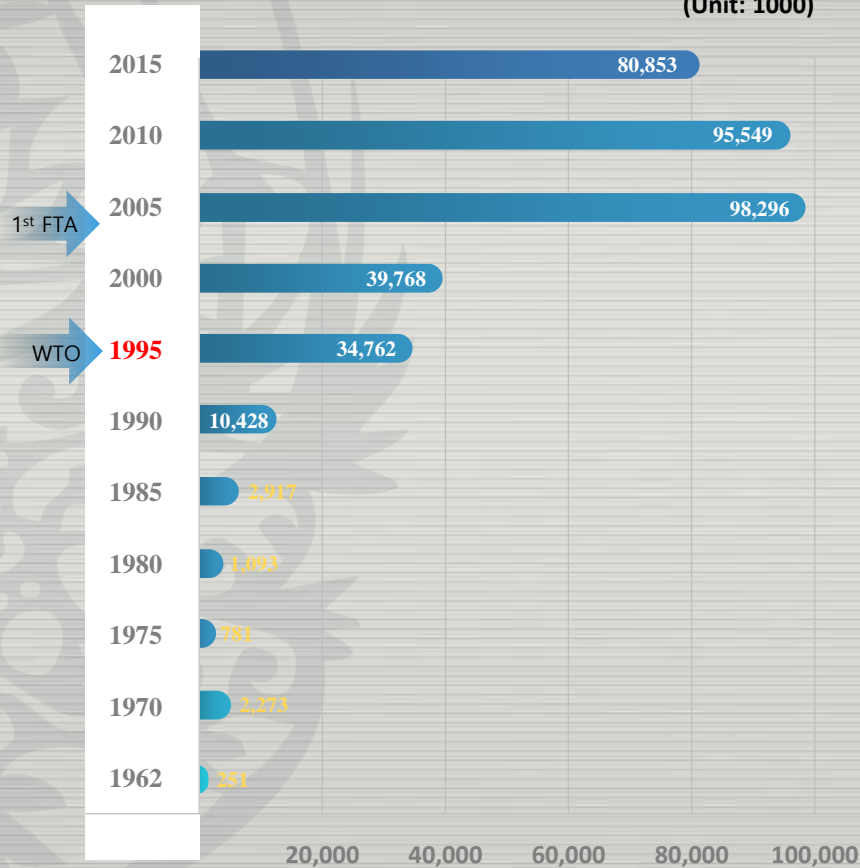


Growth of International Trade



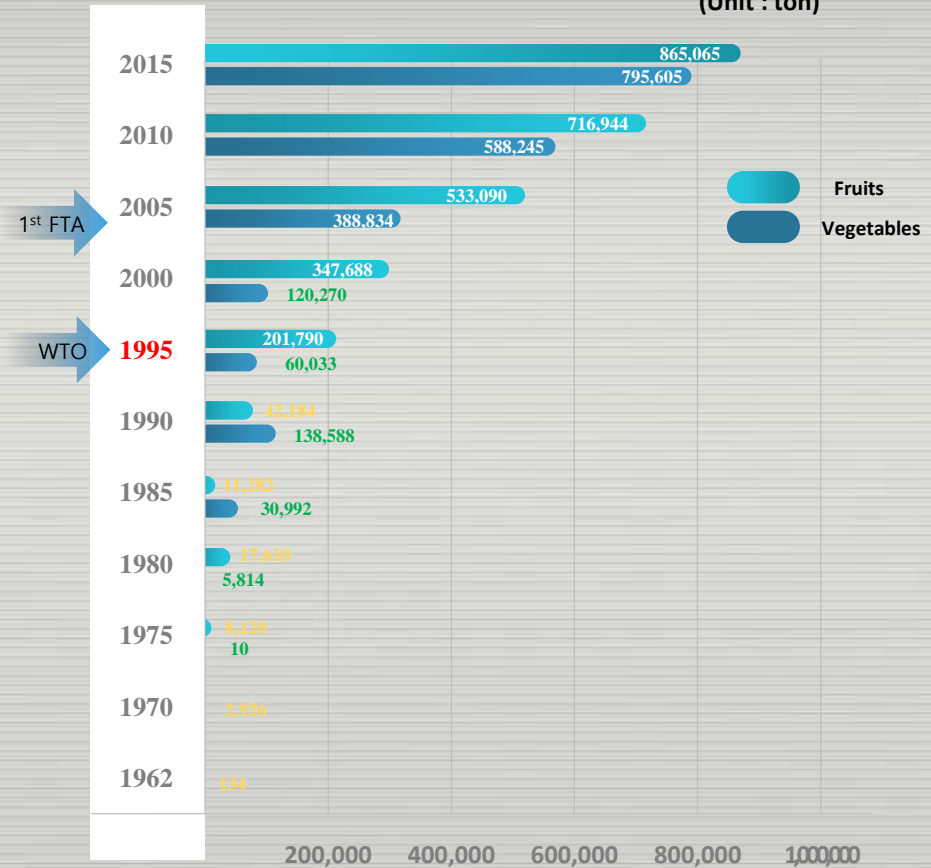
Seedling Import

(Unit: 1000)

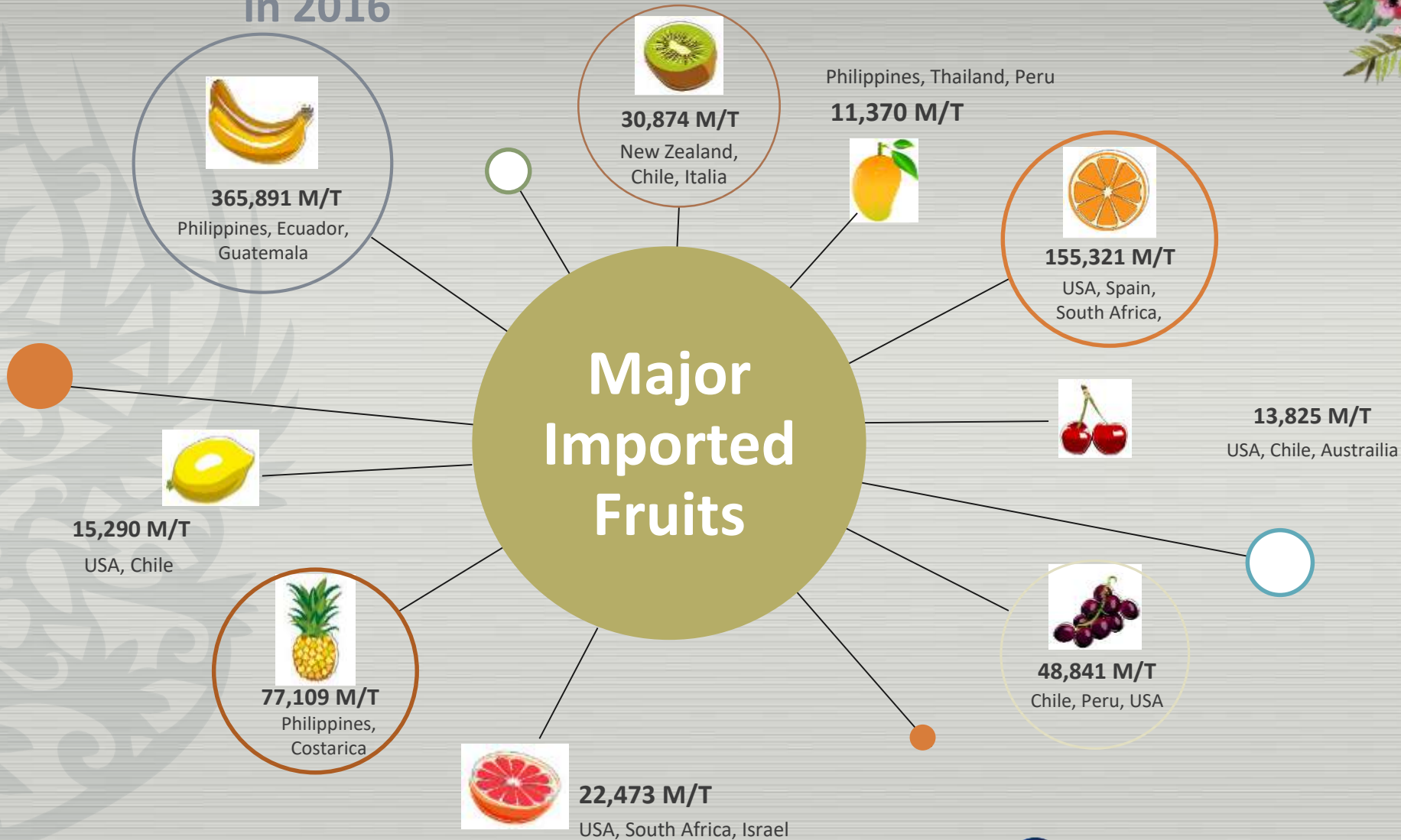


Fruit and Vegetable Import

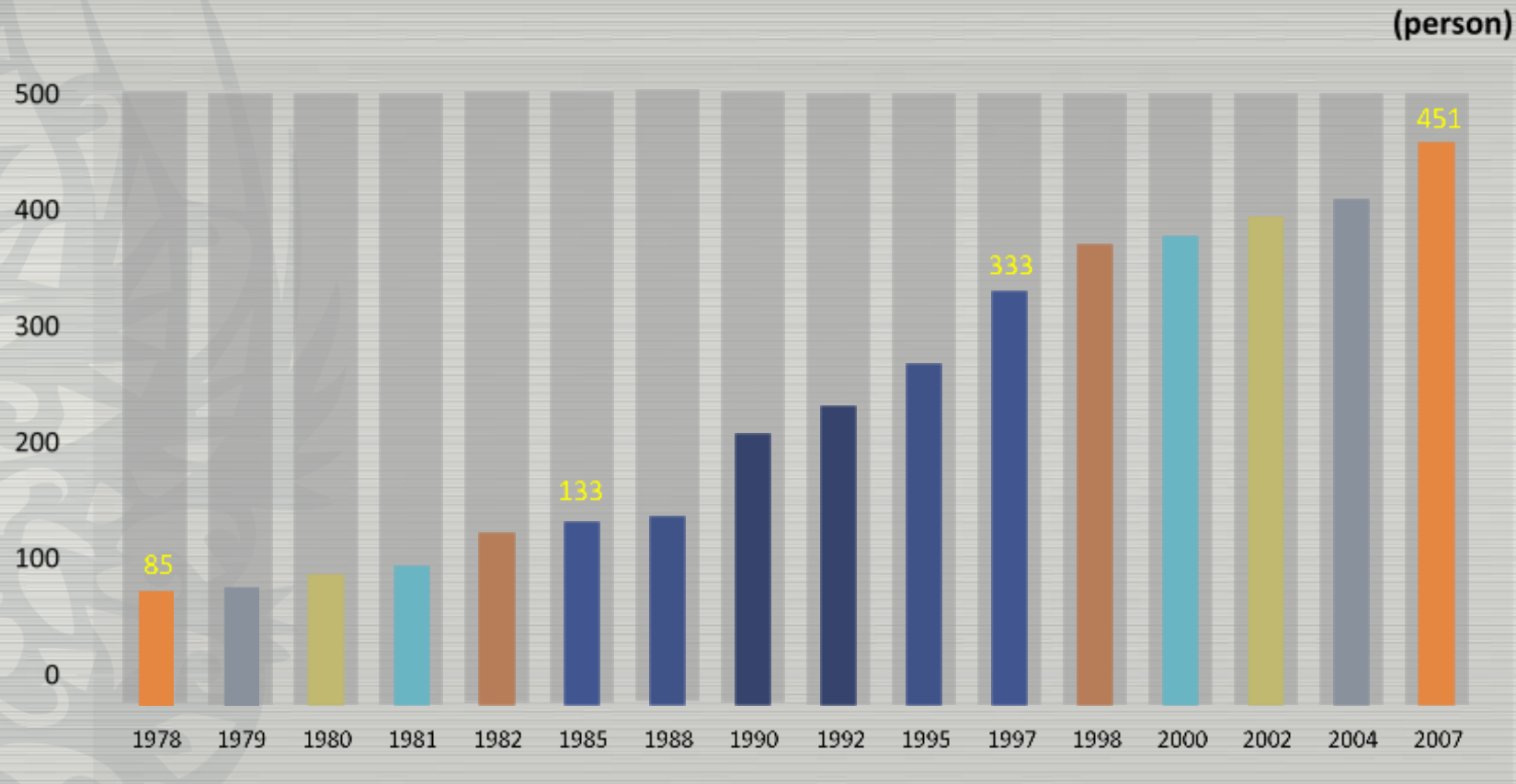
(Unit : ton)



Major Imported Fruits in 2016



☐ Increase of Human Resources



Inspection Categories in Korea

1

Document check only (frozen, dried, powder, skin removed etc.)

2

Visual Inspection (washed fresh root vegetables, fresh mushroom, grains, herb, medicinal plants, treated fruits etc.,: lab test if necessary): Sampling 1

3

Visual inspection + Lab test (plants for planting, potato, sweet potato, fresh fruits, fresh vegetables, cut flowers etc.): Sampling 2

Sampling based on Inspection Categories in Korea

- Sampling for visual inspection**
- Sampling for lab test**

□ On-site Inspection



- ✓ Conduct in designated inspection site in port area
- ✓ Take samples for laboratory test

Sampling for Visual Inspection

Non-plants for planting

Cut flower and branch (20%)

- > **Fresh vegetables (2%)**
- > **Grains, Herbs, Fibers, Woods,
Wood chip etc. (0.5%)**

Sampling for Visual Inspection

Plants for planting

- Temperate fruit tree nursery stocks (100%)
- > Tropical fruit tree nursery stocks, potato, sweet potato (50%)
- > Nursery stocks of ornamentals and forest tree (30%)
- > Flower bulbs, grain seeds (20%)
- > Seeds of vegetable, flower, tree, forage (10%)
- > Mushroom seeds, tissue culture (3%)

Sampling for Lab Test

Non-plants for planting

Approx. 2% with max. weight or numbers

- Manual describes sampling methods (not random sampling)



Laboratory Test



- ✓ Commodity: seeds and seedlings, fruits and vegetables
- ✓ LMO seed crops: **maize, cotton, pumpkin, carnation etc.**
- ✓ Fungi, bacteria, virus, mite, nematode, insect, weed etc.

Sampling for Lab Test

Plants for planting

Seeds

- More than 1kg consignment
 - Big size seeds: 200g
 - Medium and small size seeds: 50g
 - All seeds for nematode inspection: 500g
- Less than 1kg consignment

Nursery stocks: Min. 2 plants

Sampling for Lab Test

Plants for planting

Flower bulbs

- More than 1kg consignment

Big and medium size bulbs: 20 bulbs

Small size bulbs: 1kg

Potato and Sweet potato: 5kg

Sampling practice

Lot formation

- Homogeneous/non-homogeneous

Accessibility to the consignment

- Inspection at container yard/ship/freight station
- bulk/wood packaged/bag etc.

Mobile pest/Uneven distribution of pest



DANGER

PERIKHATILAH DENGAN BAHAYA

- Low voltage interlocking system with automatic door closure device.
- Attention: The interlocking device will not operate if the door is not closed properly.
- Warning: To prevent all the interlocking devices from operating, the door must be closed properly and latched.



CONTAINER DESIGN DATA
WITH MIN. INSIDE TEMP. OF
-18°C (-0.4°F)
AND MAX. OUTSIDE TEMP. OF
40°C (104°F)
THE REFRIG. EQUIP. MAY NOT
BE SHUT OFF
IF THE REFRIG. EQUIP.
OPERATING ON 3 PHASE
200V 60HZ 3W
ELECTRIC POWER
AND SIGNAL NEXT TRANSFER







Sampling practice

< Mixed use of statistical and non-statistical sampling >

- fixed proportion sampling + random/stratified sampling
ex) seeds, flower bulbs, fruits, vegetables, cut flowers etc.
- fixed proportion sampling + targeted/selective sampling (based on experience, study etc.)
ex) grain, nursery stocks, wood etc.

Sampling practice

< Changes of sampling rate >

- Root vegetables: high risk commodity (soil contamination, nematode, diversion of intended use)

⇒ washed and cleaned

⇒ change to low risk commodity (no mandatory lab test)



Sampling practice

< Changes of sampling rate >

- washed root of *Allium hookeri* → used for planting
- ⇒ change to high risk commodity (lab test including nematode test)



Future improvement

- more study needed for various situations; commodity, intended use, bulk/small commercial package, pest distribution etc.: more risk based
- analytical approach with available data; interception record, pest distribution, export country, exporter/importer
- improved commercial practice
- appropriate measures in exporting countries
- lot formation

Future improvement

- understand of statistics (limitation)
- more systematic monitoring after clearance, traceability
- strengthen audit system

