



# Case Study of Preclearance Program

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# Background of preclearance program

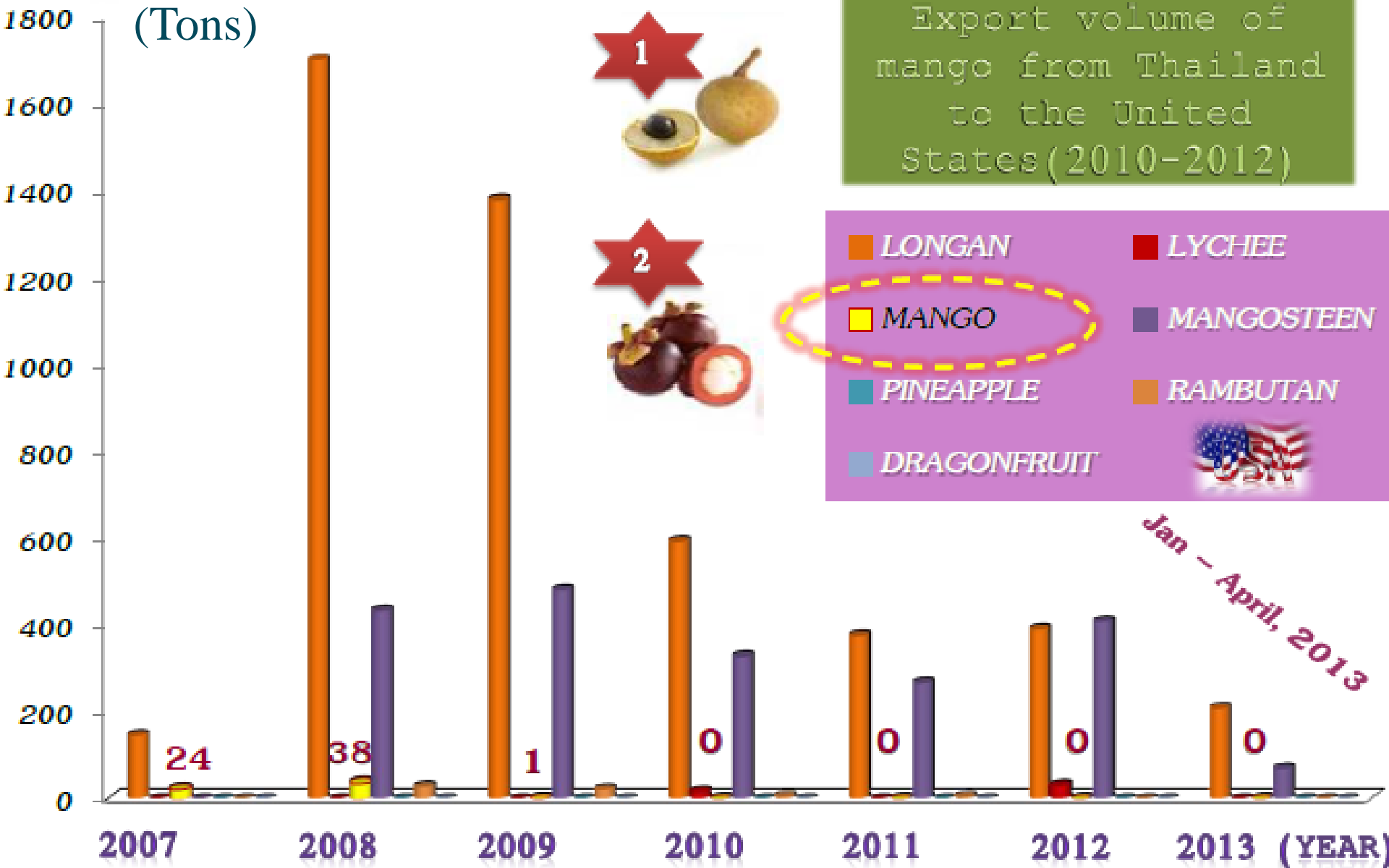


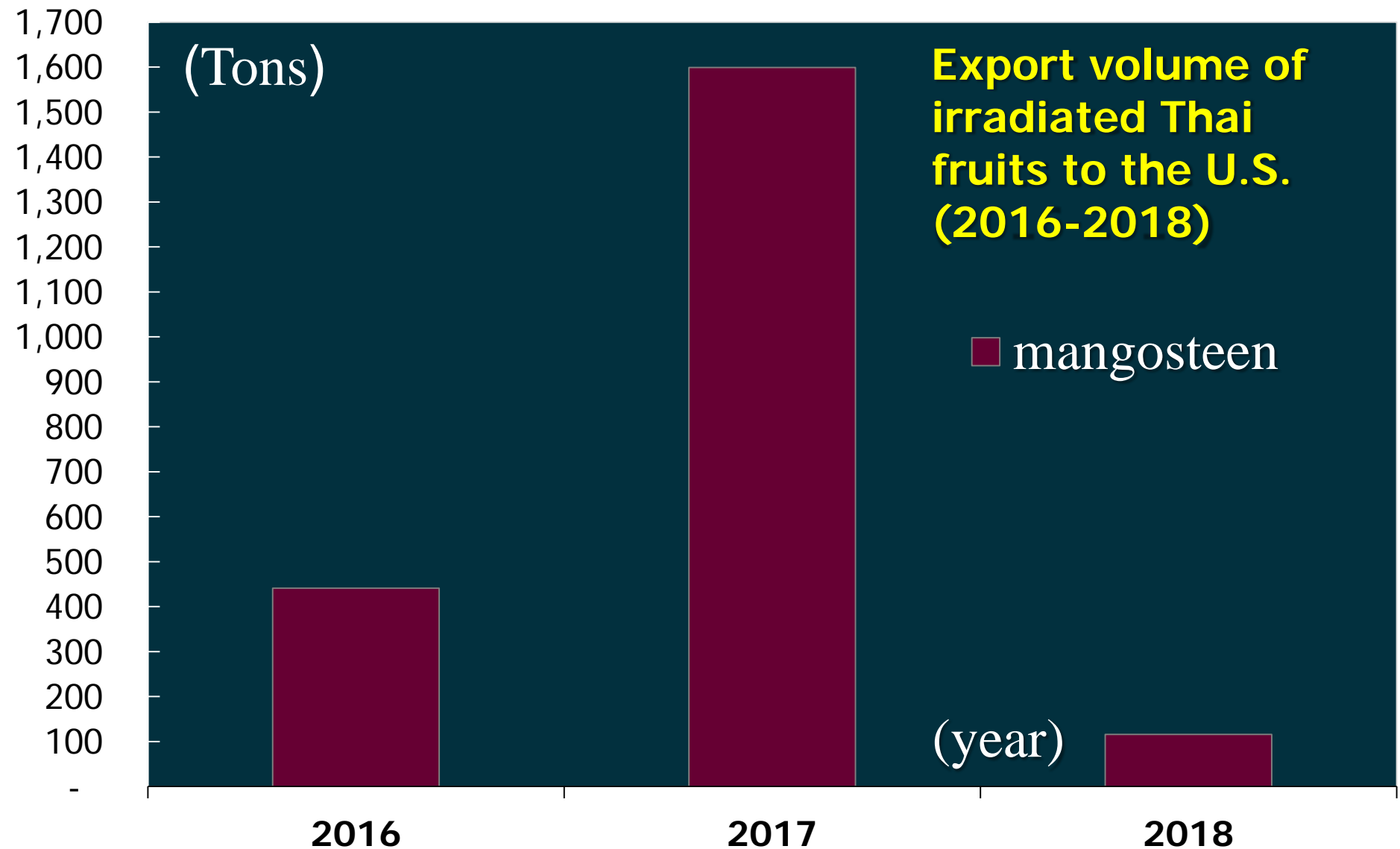
- ❖ In 1986, US-FDA approved irradiation doses up to 1,000 Gy for preservation and disinfestation of fresh fruits and vegetables.
- ❖ In 2006, USDA-APHIS approved generic irradiation doses for quarantine disinfestation of fresh commodities.
  - 150 Gy tephritid fruit flies
  - 400 Gy all insects except Lepidoptera
- ❖ In 2007, Thailand: Seven kinds of fruits approved for export to U.S. using irradiation (400 Gy) as generic dose due to the possible presence of non-fruit fly pests (USDA-APHIS, 2007).

# Background of preclearance program (cont.)

- ❖ These commodities were mango, mangosteen, rambutan, lychee, longan, pineapple, and dragon fruit shipping (APHIS, 2012).







# Mangosteen exports to the U.S.



# CASE STUDY IRRADIATION / MANGO



## CASE STUDY IRRADIATION/ MANGO

How irradiation could be effectively for mango?

- ❖ Internal damage from treatment
  - Fruit maturity ?
  - Varieties of mango?
  - Distribution of radiation is not uniformly?  
(Dmin 400 Gy. – Dmax 1,000 Gy.)
  - Storage temperature?
- ❖ Study to lower dose for specific pests without damaging mango fruit quality
- ❖ Study on mango quality during storage under simulated commercial conditions



# CASE STUDY IRRADIATION : LYCHEE/LONGAN/RAMBUTAN

❖ Study on lychee, longan, rambutan quality during storage under simulated commercial conditions.

➤ By Air

➤ By Ship



# TRENDS OF FRUIT EXPORTS IN THE FUTURE

WHAT COMMODITY DO YOU WANT TO EXPORT TO U.S. ?

➤ Is it prohibited to import to U.S

➤ Can it be treated with irradiation?

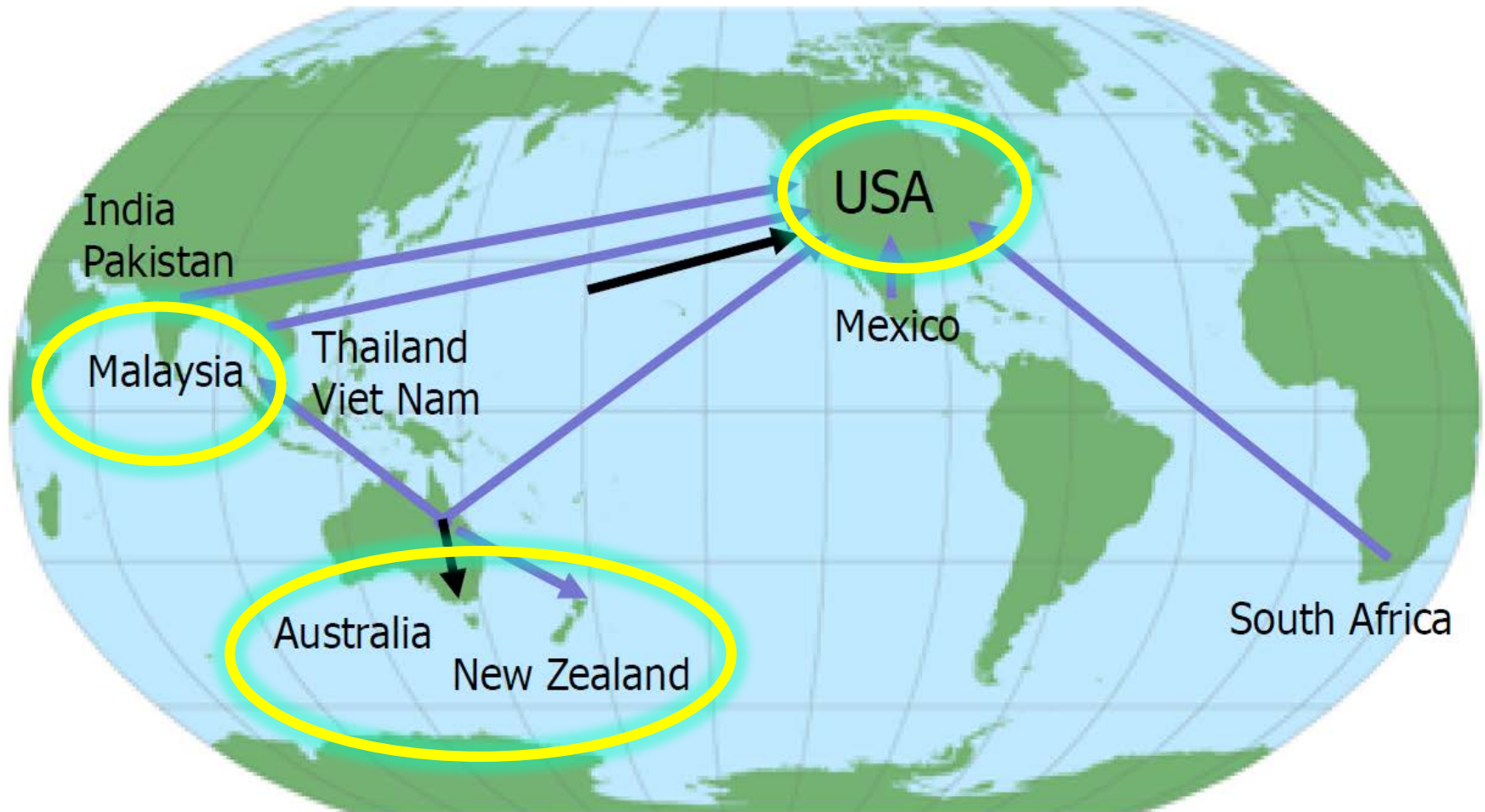
➤ What is the postharvest shelf-life?

➤ Is it fruit as dominant commodity  
in your country?

➤ Do U.S. People like it?



# Trade of produce irradiated for quarantine treatment



Global volume 2013 ( $\geq 20,000$  tonnes)

International Atomic Energy Agency (IAEA)

# Thailand's next steps: irradiation program for fruits export

KEEPING  
QUALITY OF  
FRUITS

CONTROL  
QUARANTINE  
PESTS

MEET THE  
REQUIREMENTS  
OF EXPORTING  
COUNTRIES

Thank you