



**NEED OF HARMONIZED COLD TREATMENT SCHEME FOR FRUIT FLY IN  
FRESH FRUITS**

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# Need of harmonized cold treatment scheme for fruit fly in fresh fruits

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Animal and Plant Quarantine Agency



# I. Introduction

- Official definition under the IPPC

**Treatment(s) are...**

for the control of regulated pests on regulated articles, primarily those moving in international trade.

[ISPM 28: Phytosanitary treatments for regulated pests]

- Need of international standards

- To suggest further experiments needed in future for harmonized scheme of cold treatment of a few important pest species
- To develop ISPM on minimum effective requirement of temperature and duration for each pest species with available data



# I. Introduction

- All plants and plant products could be imported except for the prohibited articles
  - Prohibited articles are...
    - Host plants and plant products from the origin of the prohibited pest (prohibited area) including those in transit through the prohibited area
      - \* Prohibited pests: Fruit fly, Codling moth, PCN, Fire blight, etc.
- Lift a ban after PRA/IRA on the prohibited articles
  - Prohibited articles from the relevant countries cannot be imported without PRA/IRA



## II. Approved cold treatment condition

- PRA/IRA including Pest Risk Management on pests of concern

- Pest Risk Managements are...

- Cold treatment: Orange, Lemon, Grapefruit, Grape...
- Hot water treatment: Mango, Papaya...
- Fumigation (Methyl bromide): Cherry, Mangosteen
- KD treatment: *Pinus* spp.

- Lift a ban after PRA/IRA

- 23 countries, 27 items, 44 cases



## II. Approved cold treatment condition

- Introduction to cold treatment in Korea
  - What kind of pests can be applied?
    - \* Prohibited pests: Fruit fly
- Examples for Fruit importation
  - Items: *Citrus* spp. (orange, lemon, grapefruit)
  - Countries: Argentina, USA(Florida), Spain, South Africa, Taiwan, Israel, Australia, Egypt
- Why harmonization?
  - Items (Countries): Orange (8 countries)
  - Cold treatments: 15 conditions

# II. Approved cold treatment condition

## Market access in Korea

### ● Market access with cold treatment



# II. Approved cold treatment condition

Condition on *Citrus* spp.

Country	Since	Item	Temperature	Duration	Target pests
USA	2000	Orange	0.6°C	14 days	<i>Anastrepha suspensa</i>
		Grapefruit	0.8°C	16 days	
		Tangerine	1.1°C	17 days	
			1.4°C	19 days	
			1.7°C	20 days	
Australia	2000	Orange	1±0.5°C	16 days	<i>Bactrocera aquilonis</i> <i>B. halfordiae</i> <i>B. jarvisi</i> <i>B. neohumeralis</i> <i>B. trivittis</i> <i>B. tryoni</i> <i>Ceratitis capitata</i>
			2±0.5°C	18 days	
			3±0.5°C	20 days	
		Lemon	1±0.5°C	14 days	
			2±0.5°C	16 days	
			3±0.5°C	18 days	
Taiwan	1995	Pongkang orange	1.0°C	14 days	<i>Bactrocera dorsalis</i> <i>B. cucurbitae</i> <i>B. tsuneonis</i> <i>B. caudatus</i> <i>B. latifrons</i> <i>B. Tau</i>



# II. Approved cold treatment condition

Condition on *Citrus* spp. (continued)

Country	Since	Item	Temperature	Duration	Target pests
Spain	2004	Orange	2°C	16 days	<i>Ceratitis capitata</i>
Egypt	2007	Orange	1.7°C	16 days	<i>Bactrocera zonata</i> <i>Ceratitis capitata</i>
Argentina	2010	Orange	2±0.5°C	21 days	<i>Anastrepha fraterculus</i> <i>A. obliqua</i> <i>A. serpentina</i> <i>Ceratitis capitata</i>
Israel	1999 2011	Orange Sweetie Grapefruit	1.5°C 2.2°C	16 days 18 days	<i>Cryptophlebia leucotreta</i> (FCM) <i>Ceratitis capitata</i>
South Africa	1999 2012 2012	Orange Lemon Grapefruit	-0.6±0.6°C	24 days	<i>Ceratitis capitata</i> <i>C. quinaria</i> <i>C. rosa</i>

# II. Approved cold treatment condition

## Condition on other fresh fruits

Country	Since	Item	Temperature	Duration	Target pests
Taiwan	1997	Litchi	2°C	42 hrs	<i>Bactrocera dorsalis</i>
Peru	2011	Grape	1.1°C 1.6°C	15 days 17 days	<i>Anastrepha fraterculus</i> <i>A. obliqua</i> <i>Ceratitis capitata</i>
Italy	2012	Kiwi	1.1°C 1.6°C 2.2°C	14 days 16 days 18 days	<i>Ceratitis capitata</i>
France	2013	Kiwi	1.1°C 1.6°C 2.2°C	14 days 16 days 18 days	<i>Ceratitis capitata</i>

# II. Approved cold treatment condition

Conditions on fresh orange produced in 6 countries

Country	Since	Item	Temperature	Duration	Target pests
Australia	2000	Orange	1±0.5°C 2±0.5°C 3±0.5°C	16 days 18 days 20 days	<i>Bactrocera aquilonis</i> <i>B. halfordiae</i> <i>B. jarvisi</i> <i>B. neohumeralis</i> <i>B. trivonni</i> <i>Ceratitis capitata</i>
Spain	2004	Orange	2°C	16 days	<i>Ceratitis capitata</i>
Egypt	2007	Orange	1.7°C	16 days	<i>Bactrocera zonata</i> <i>Ceratitis capitata</i>
Argentina	2010	Orange	2±0.5°C	21 days	<i>Anastrepha fraterculus</i> <i>A. serpentina</i> <i>Ceratitis capitata</i>
Israel	1999	Orange	1.5°C 2.2°C	16 days 18 days	<i>Ceratitis capitata</i> <i>leucotreta</i> (FCM) <i>Ceratitis capitata</i>
South Africa	1999	Orange	-0.6±0.6°C	24 days	<i>Ceratitis capitata</i> <i>C. qinaria</i> <i>C. rosa</i>

# III. Need of harmonization

## Condition on Australian orange and Argentine orange

Country	Since	Item	Temperatu	Duration	Target pests
Australia	2000	Orange	<div style="border: 2px solid red; padding: 2px;"> <math>1 \pm 0.5^{\circ}\text{C}</math>  <math>2 \pm 0.5^{\circ}\text{C}</math>  <math>3 \pm 0.5^{\circ}\text{C}</math> </div>	16 days 18 days 20 days	<i>Bactrocera aquilonis</i> <i>Bactrocera halfordiae</i> <i>Bactrocera jarvisi</i> <i>Bactrocera neohumeralis</i> <i>Bactrocera trivitis</i> <div style="border: 2px solid purple; padding: 2px;"><i>Bactrocera tryoni</i></div> <div style="border: 2px solid purple; padding: 2px;"><i>Ceratitia capitata</i></div>
Argentina	2010	Orange	<div style="border: 2px solid red; padding: 2px;"><math>2 \pm 0.5^{\circ}\text{C}</math></div>	21 days	<i>Anastrepha fraterculus</i> <i>Anastrepha obliqua</i> <div style="border: 2px solid purple; padding: 2px;"><i>Anastrepha serpentina</i></div> <div style="border: 2px solid purple; padding: 2px;"><i>Ceratitia capitata</i></div>



# III. Need of harmonization

Cold treatment scheme for fruit fly in fresh fruits

## Present condition

- **To many conditions**

- The required temperatures are various from  $-0.6^{\circ}\text{C}$  to  $3^{\circ}\text{C}$
- The required durations are various from 14days to 24days

## Why?

- **Subject to consideration**

- Target pests
- Items
- Production area
- Others



# III. Need of harmonization

Proposed harmonized cold treatment on fresh fruits

Region	Year	Item	Temperature	Duration	Target pests
Country, Area, etc.	(e.g.) 2013	(e.g.) Orange	(e.g.) Average temperature	(e.g.) Minimal time	(e.g.) <i>Ceratitis capitata</i>
...	...	...	...	...	...

**¡ Muchas gracias !**

