PTIN Food Safety Incident Management Workshop

Big Sky, Montana, USA
14-15 May 2011

Asia-Pacific Economic Cooperation (APEC)
Food Safety Cooperation Forum (FSCF)
Partnership Training Institute Network (PTIN)

APEC
Asia-Pacific Economic Cooperation

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FOOD STANDARDS Australia New Zealand
Te Mana Kounga Kai – Ahitereiria me Aotearoa

Australia's National Food Incident Response Protocol

National Food Incident Response Protocol

A guide for the coordination of Australian government agencies responsible for food safety and food issues in the event of a national food incident

Version: July 2009

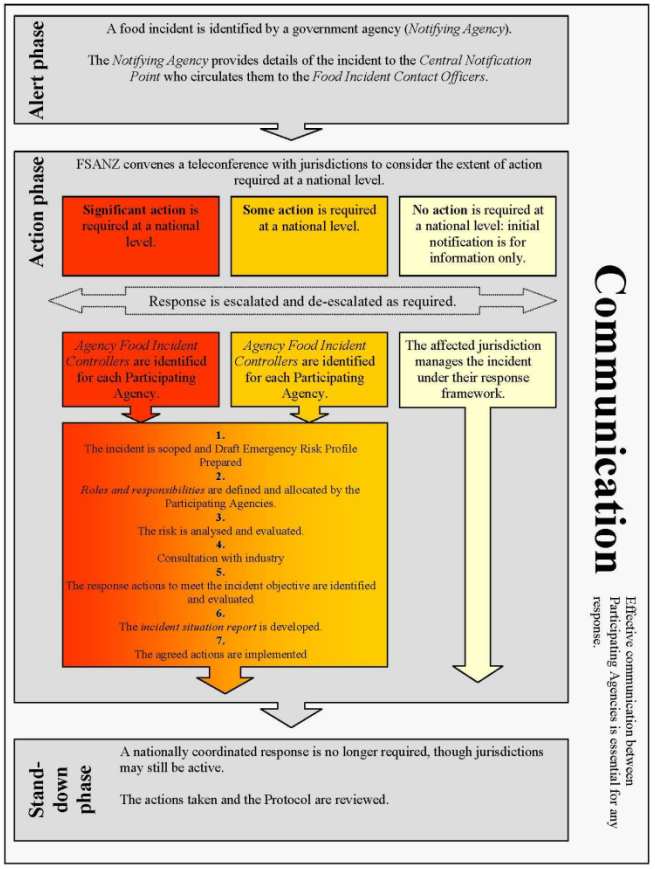
How Does the Protocol Work?

Three phases:

ALERT

ACTION

STAND DOWN



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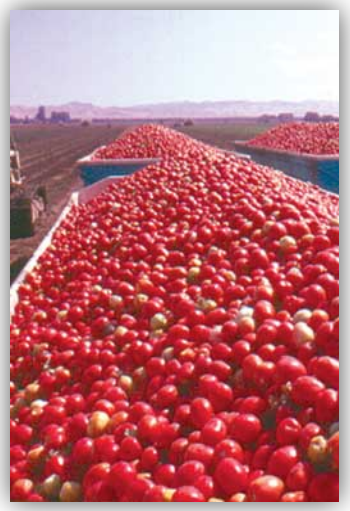
Food Incidents

Incidents

- 2007 – 01: *Clostridium botulinum* type A, nachos
- 2007 – 02: plastic contamination, chocolate bars
- 2007 – 03: wheat gluten
- 2007 – 04: apple juice contamination
- 2007 – 05: *Listeria monocytogenes*, meat products
- 2008 – 01: cyanogenic glycosides, vegetable crackers
- 2008 – 02: metal contamination, meat and frozen products
- 2008 – 03: Contaminated baby formula from China
- 2008 – 04: Contaminated pork from Ireland
- 2009 – 01: Hep A linked to consumption of semi-dried tomatoes
- 2009 – 02: Cassava RTE chips
- 2010 – 01: Bonsoy milk suspected link to thyroid dysfunction
- 2010 – 03: *Listeria* in melons
- 2010 – 04: Sibutramine in weight loss products
- 2011 – Japan Nuclear Reactor Contamination

Hepatitis A linked to semi-dried tomatoes: the Australian story



Dr Paul Brent
Dr Barbara Butow

Food Standards Australia New Zealand

APEC FSCF Incident Management Seminar
May 14th – 16th
Montana USA

Outline

- Elements of the incident
  - Chronology
  - Semi dried tomato industry
- Challenges
- Lessons learnt

Hepatitis A in Australia

- Incidence of HAV declined since 1990's

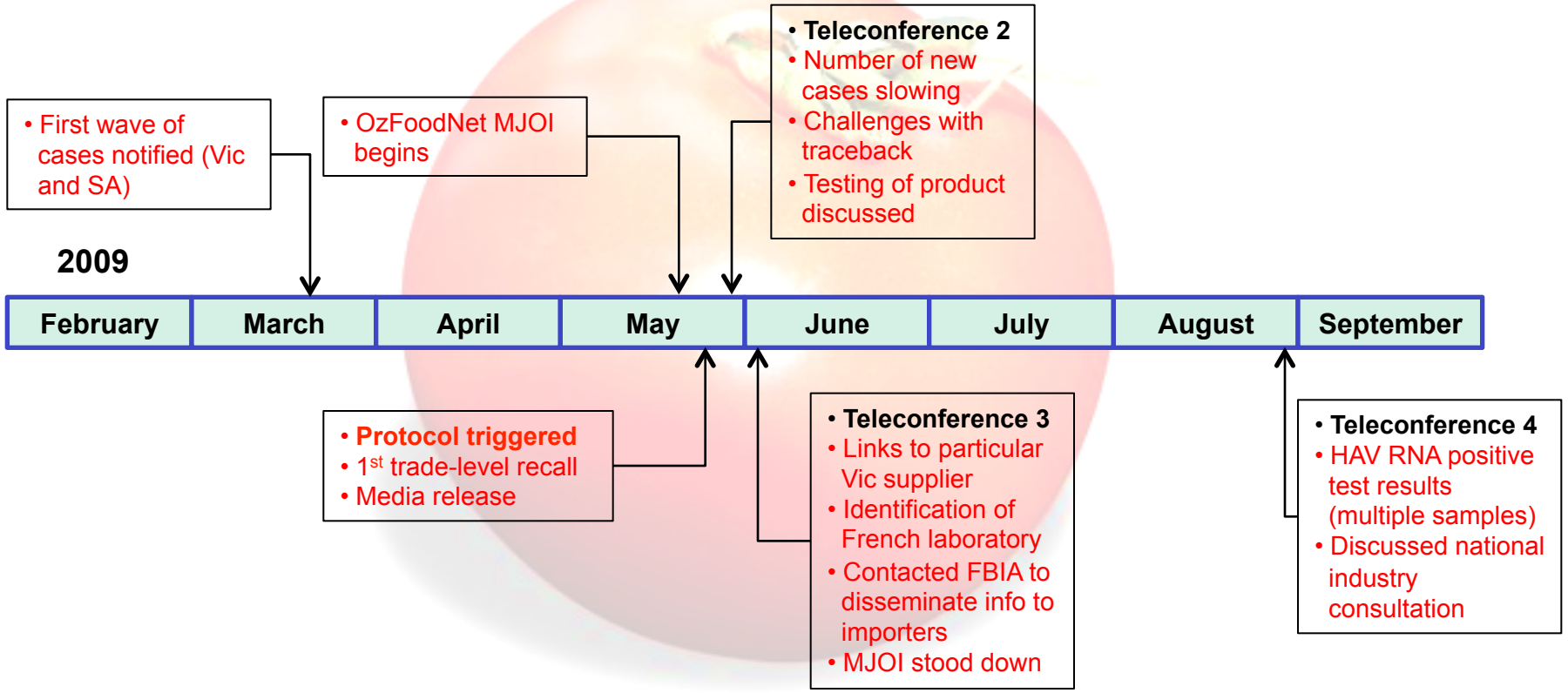
Years	Average notifications per year
1991-2000	1,974
2003-2008	300

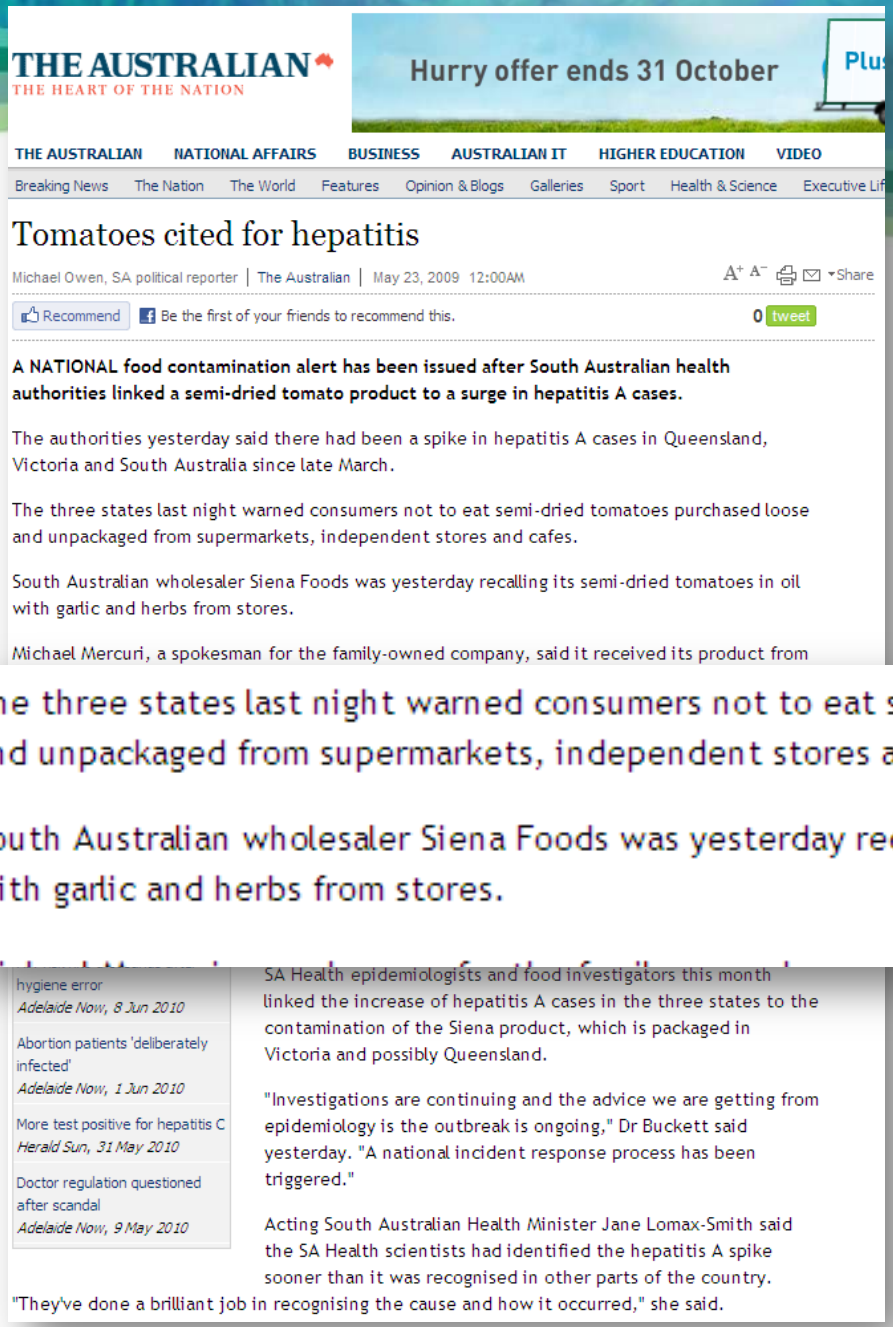
- In 2008, 55% of cases acquired overseas (travel-associated)

- HAV incident 2009: 622 cases, 70% locally acquired.

Source: OzFoodNet

Chronology of events





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Tomatoes cited for hepatitis

Michael Owen, SA political reporter | The Australian | May 23, 2009 12:00AM

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A NATIONAL food contamination alert has been issued after South Australian health authorities linked a semi-dried tomato product to a surge in hepatitis A cases.

The authorities yesterday said there had been a spike in hepatitis A cases in Queensland, Victoria and South Australia since late March.

The three states last night warned consumers not to eat semi-dried tomatoes purchased loose and unpackaged from supermarkets, independent stores and cafes.

South Australian wholesaler Siena Foods was yesterday recalling its semi-dried tomatoes in oil with garlic and herbs from stores.

Michael Mercuri, a spokesman for the family-owned company, said it received its product from

hygiene error
Adelaide Now, 8 Jun 2010

Abortion patients 'deliberately infected'
Adelaide Now, 1 Jun 2010

More test positive for hepatitis C
Herald Sun, 31 May 2010

Doctor regulation questioned after scandal
Adelaide Now, 9 May 2010

SA Health epidemiologists and food investigators this month linked the increase of hepatitis A cases in the three states to the contamination of the Siena product, which is packaged in Victoria and possibly Queensland.

"Investigations are continuing and the advice we are getting from epidemiology is the outbreak is ongoing," Dr Buckett said yesterday. "A national incident response process has been triggered."

Acting South Australian Health Minister Jane Lomax-Smith said the SA Health scientists had identified the hepatitis A spike sooner than it was recognised in other parts of the country.

"They've done a brilliant job in recognising the cause and how it occurred," she said.

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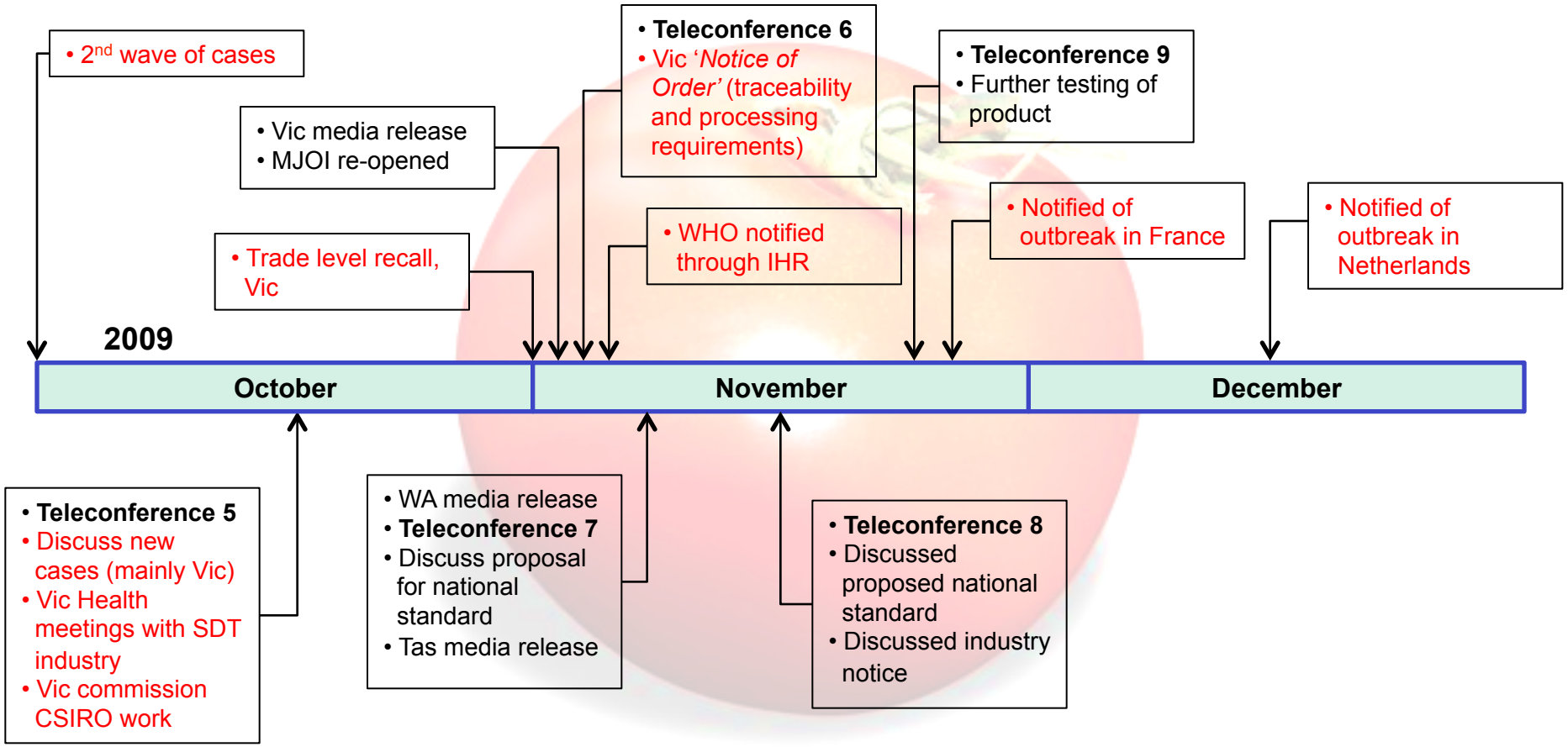
FOOD STANDARDS Australia New Zealand
Te Mana Kounga Kai – Ahitereiria me Aotearoa

23 May, 2009

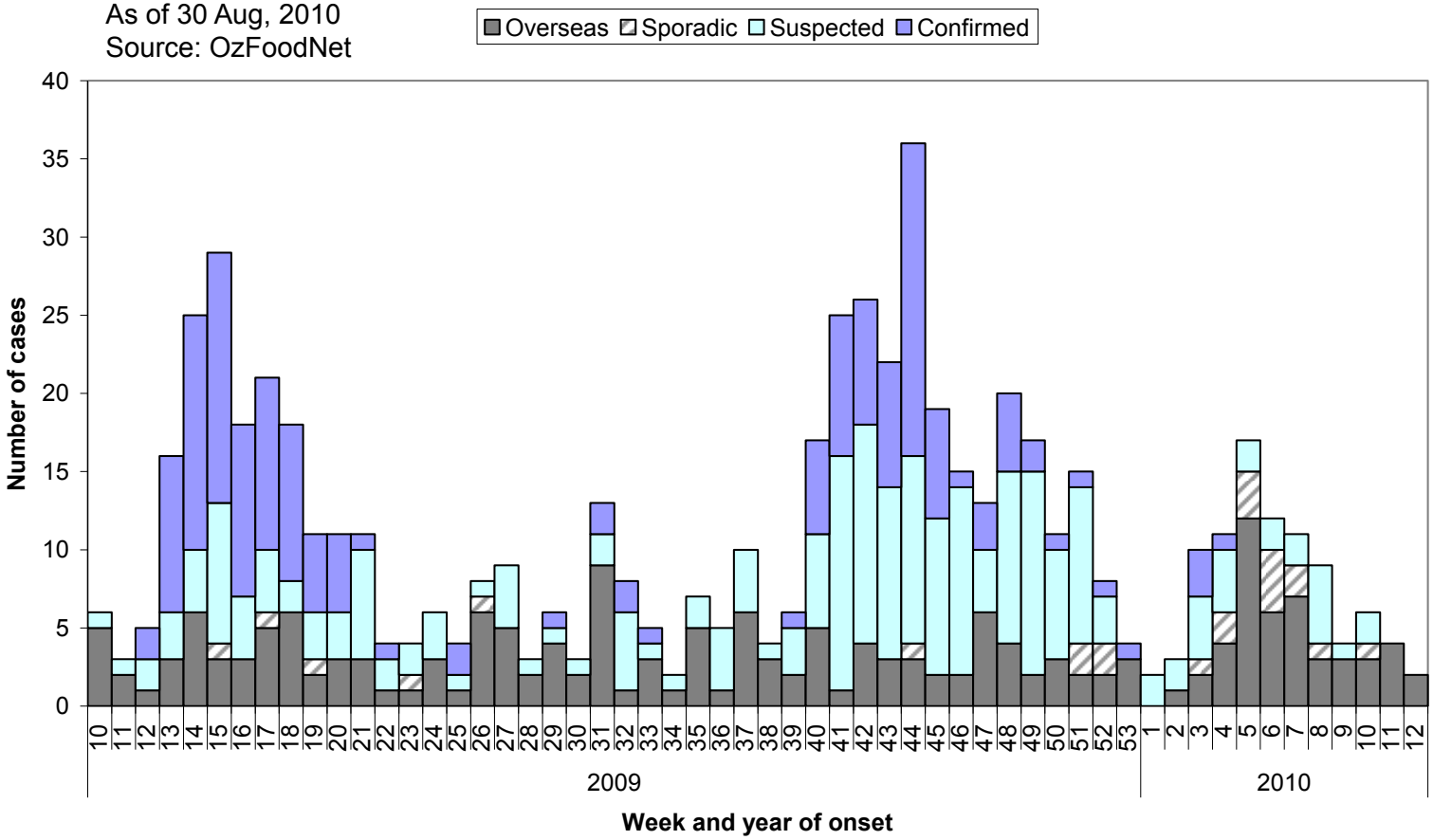
http://www.theaustralian.com.au/news/tomatoes-cited-for-hepatitis/story-e6frg6of-1225715005915

Chronology of events



Hepatitis A notifications during outbreak period

As of 30 Aug, 2010
Source: OzFoodNet



Challenge #1: semi-dried tomato industry in Australia

- Mainly small, family-owned businesses
- No national industry body
- Either
  1. Dry and dress locally grown tomatoes
  2. Purchase frozen semi-dried tomatoes from Australian or imported sources, and then dress; or distribute to other companies for dressing

Semi-dried tomatoes

Fresh tomatoes cut, placed on drying racks

↓

Dried
(time/temp dependant on product)

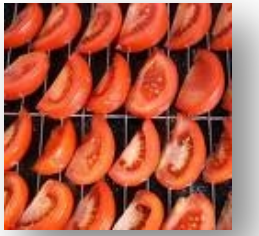
↓ / ⇢ Vacuum-packed and/ or frozen (≤2 year shelf life) ⇢ ↓

↓

Dressed
(addition of canola oil or vinegar, herbs, spices, salt..)

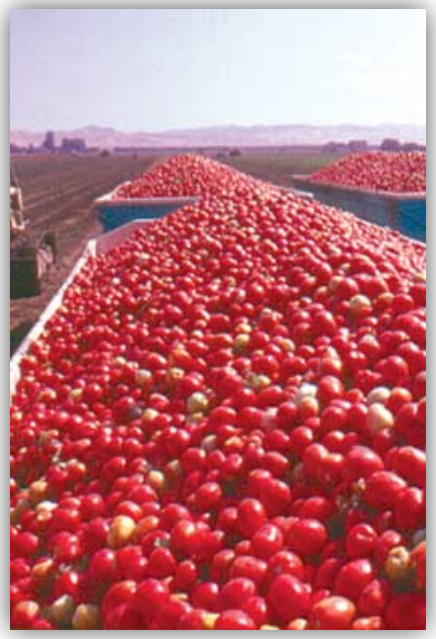
↓

Packed
(bulk container or sealed packs for consumers)



Challenge #2: Source of contamination

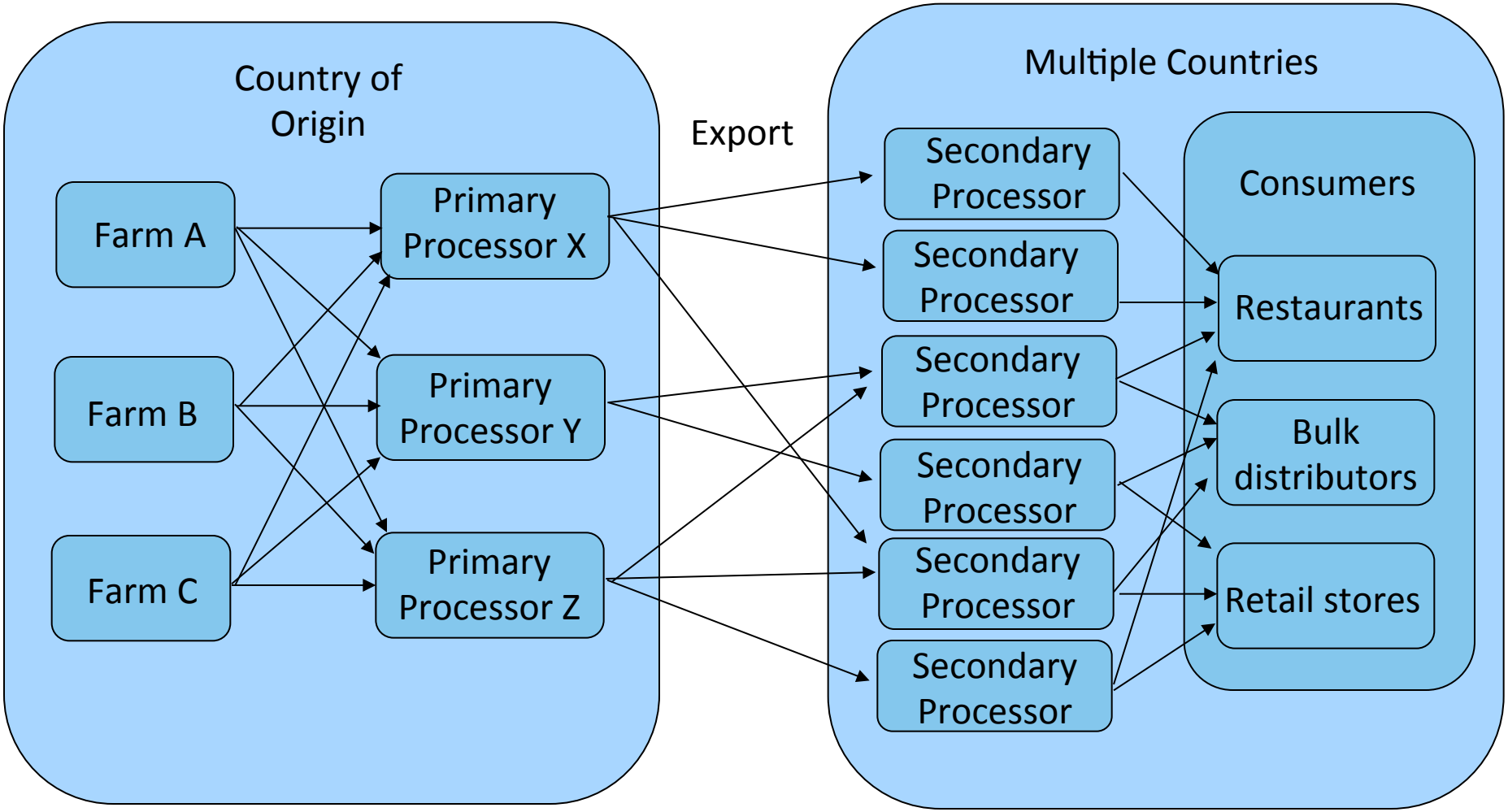
Production?



Processing?

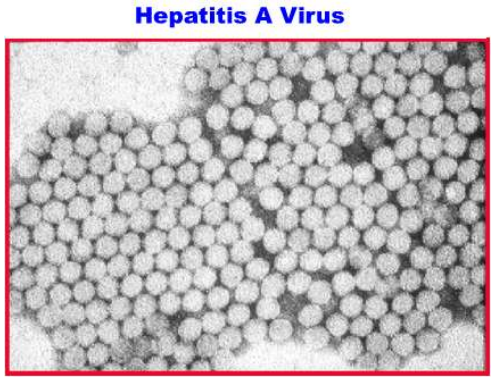
Handling?

Semi-Dried Tomatoes: Complex Production & Distribution Chain



Challenge #3: Nature of the hazard

- HAV is a picornavirus transmitted primarily through the fecal-oral route
- Incubation period: Average 30 days (range 15-50 days)
- Virus is shed in feces before symptoms of illness begin
- Illness ranges from inapparent infection to severe hepatitis



A.Ellis INFOSAN

Some unique features of hepatitis A virus

- 'Non-enveloped' RNA virus
  - Persists in the environment
- Requires host cells to replicate
  - Does not 'grow' in food/environment
- Difficult to culture in the laboratory
  - Requires use of molecular techniques to detect and characterise

Control measures

- Processing
  - Sanitisation of raw product
  - Heat inactivation

Validation studies - highly dependent on food matrix

- Prevention of faecal contamination is key
  - Inputs eg. irrigation water
  - Handling

Challenge #4: detection and interpretation of results

- Laboratory capability to detect hepatitis A virus in food(s)
  - Australia
  - Internationally
- Interpretation of results from molecular detection methods
  - Was the genetic material from an 'infectious' virus particle?

What worked well?

National Food Incident Response Protocol

- Triggered in May 2009
- Total of 9 teleconferences held over the course of the incident (May, 2009-March, 2010).
- Participants included:
  - Commonwealth, State and Territory health/food departments
  - Epidemiologists
  - Laboratories
  - Communicators

International collaboration

- Strong epidemiological link to semi-dried tomatoes sourced from Turkey
- World Health Organization notified in early November 2009 (International Heath Regulations)
- Information sought from other countries
  - Increased notification of specific HAV genotype ?

NFIRP Debrief

- Purpose:
  - Review the operation of the National Food Incident Response Protocol during the Hepatitis A in semi dried tomato incident
- Outcomes:
  - To identify corrective actions and recommendations for improving future responses to food incidents / emerged food issues.

Debrief recommendations

- Information sharing
- Traceability
- Breaking deadlocks
- Threshold for action
- Jurisdictional powers
- Viruses as an emerging issue

Ongoing work

- Advice to Australian Quarantine Inspection Scheme (AQIS)
- Consideration of
  - extent and scope of existing traceability requirements, and potential gaps, in the Code
  - Primary Production and Processing Standard

Lessons learnt

- The value of having the National Food Incident Protocol in place
- Importance of effective communication (national and international) throughout the incident
- The need to engage with industry early
  - Understand the production and supply chain (assist with identifying risk factors and possible control measures)
  - Responsibilities of producers, processors and importers re traceability
- Human enteric viruses an emerging foodborne disease issue

Bonsoy – a case study

Outline

- Elements of the incident
- Challenges
- Lessons learnt

The Issue

MEDIA MONITORS

Sydney Morning Herald
Thursday 24/12/2009
Page: 2
Section: Edition Changes - 3rd Edition
Region: Sydney Circulation: 208,210
Type: Capital City Daily
Size: 19.87 sq.cms.
Frequency: MTWTFS-

Soya milk recalled

Authorities are warning against drinking Bonsoy soya milk after 10 people, including a newborn baby, fell ill with thyroid problems in NSW. The product was found to contain unusually high levels of iodine, which may affect the thyroid and cause people to feel unwell, Food Standards Australia said. The milk, which is imported from Japan, is being recalled nationally. - AAP

- clusters of cases of adults and children with thyroid problems associated with consumption of Bonsoy
- iodine levels of 31, 000 µg/L found
- 6 teaspoons sufficient for adult to exceed tolerable daily intake

Kombu – a brown seaweed

- Kombu added to enrich flavour and enhance texture of Bonsoy
- iodine content in *Laminaria* sp. may be as high as 5307 mg/kg
- may cause thyroid dysfunction
  - hypothyroidism
  - hyperthyroidism

TIMELINE OF EVENTS - BONSOY

23rd December 2009

- First cases of thyroid dysfunction reported to public health units in Australia
- FSANZ informed
- Teleconference held with Chief Health Officers
- FSANZ issues fact sheet and media release
- Notifications provided to DAFF/AQIS, DFAT, embassies, WHO and INFOSAN notified

24 December 2009

Bonsoy soy milk recalled

1 April 2010

Reformulated Bonsoy imported for sale in limited release

05 January 2010

- National Food Incident Response Protocol triggered
- Risk assessment carried out

16 March 2010

Heng Fai seaweed recalled

29 March 2010

IHR notification to WHO re Heng Fai seaweed

22 January 2010

AQIS implements holding order

Beverage survey commenced

Seaweed survey commenced

Actions

- Recall of product
- Communication - fact sheet and media release
- Liaison with national and international regulators
- Protocol triggered
- Survey via Food Surveillance network:
  - beverages enriched with seaweed – March 2010 – published on website
  - seaweed – April/May – published early 2011

INFOSAN EMERGENCY ALERT

28 December 2009

For the attention of INFOSAN Emergency Contact Points for Australia, United Kingdom, Germany, China (distribution limited to Hong Kong Special Administrative Region), New Zealand, Singapore and Spain.

Australia has informed WHO that illness (thyrotoxicosis) in nine adults and one infant in New South Wales were linked to a soy milk product, Bonsoy soy milk.
Distribution records indicate that the affected product has been exported to Australia, Germany, China (distribution limited to Hong Kong Special Administrative Region), New Zealand, Singapore, Spain, United Kingdom.

Heng Fai seaweed recall

- advice to doctors on hypothyroidism in infants

Australian Government

Department of Health and Ageing

Alert to doctors regarding potential presentation of acquired hypothyroidism in infants due to maternal exposure to high levels of iodine in food.

Doctors should be aware of the potential for hypothyroidism in infants when their mothers have consumed products containing high levels of iodine during pregnancy or while breast feeding. Relatively short periods of hypothyroidism have the potential to have detrimental long term effects on an infant's neurological development.

Possible exposure of infants to high levels of iodine through consumption of seaweed containing products.

A cluster of cases diagnosed with thyroid conditions is believed to be associated with the consumption of particular seaweed and products containing seaweed; BonSoy soy milk and Heng Fei Brand Dried Seaweed that were found to contain high levels of iodine and subsequently recalled.

Dishes prepared in particular communities may contain significant quantities of seaweed. This includes soup sometimes consumed by mothers with a Korean or Northern Chinese background in the early post-partum period.

Because iodine is concentrated in breast-milk, breast-fed infants may be exposed to sufficient levels to suppress thyroid function.

Congenital hypothyroidism should be detected by the Guthrie test conducted at birth. Hypothyroidism resulting from exposure to excess iodine in breast-milk may not be indicated on the Guthrie test at birth.

Advice for doctors reviewing infants.

The symptoms of hypothyroidism in infants can be non-specific and include:

- Low muscle tone
- Poor feeding
- Sleepiness/sluggishness
- Constipation
- Jaundice
- Hypothermia

If a doctor sees an infant with symptoms consistent with hypothyroidism for which another cause is not evident, they should determine whether the mother has consumed seaweed -containing food products. If there is a history of a symptomatic child's mother having consumed seaweed products, doctors should consider immediate laboratory investigation of the infant's thyroid function.

Pre-term infants (<36 weeks gestation) may be at higher risk of developing hypothyroidism as a result of excess iodine consumption by the mother. Sub-clinical hypothyroidism should be considered for pre-term infants where the mother has a history of consuming significant amounts of seaweed products.

Advice regarding the appropriate management and referral of infants with suspected or confirmed hypothyroidism should be discussed with a paediatrician or endocrinologist.

Cases of hypothyroidism in infants that are suspected to be associated with excess maternal iodine intake should be reported to local public health authorities.

Further information.

Challenges

- Not many…for a change!
  - Classic recall action
  - Agreement of jurisdictions
  - Agreed communication messages
  - Straight forward risk assessment
  - Industry compliance
  - Easy to identify and stop imports

Challenges

- Compliance issues..illicit sale of Bonsoy
- Getting ‘heads-up’ from Chief Medical Officers (to inform/co-ordinate with food authorities)

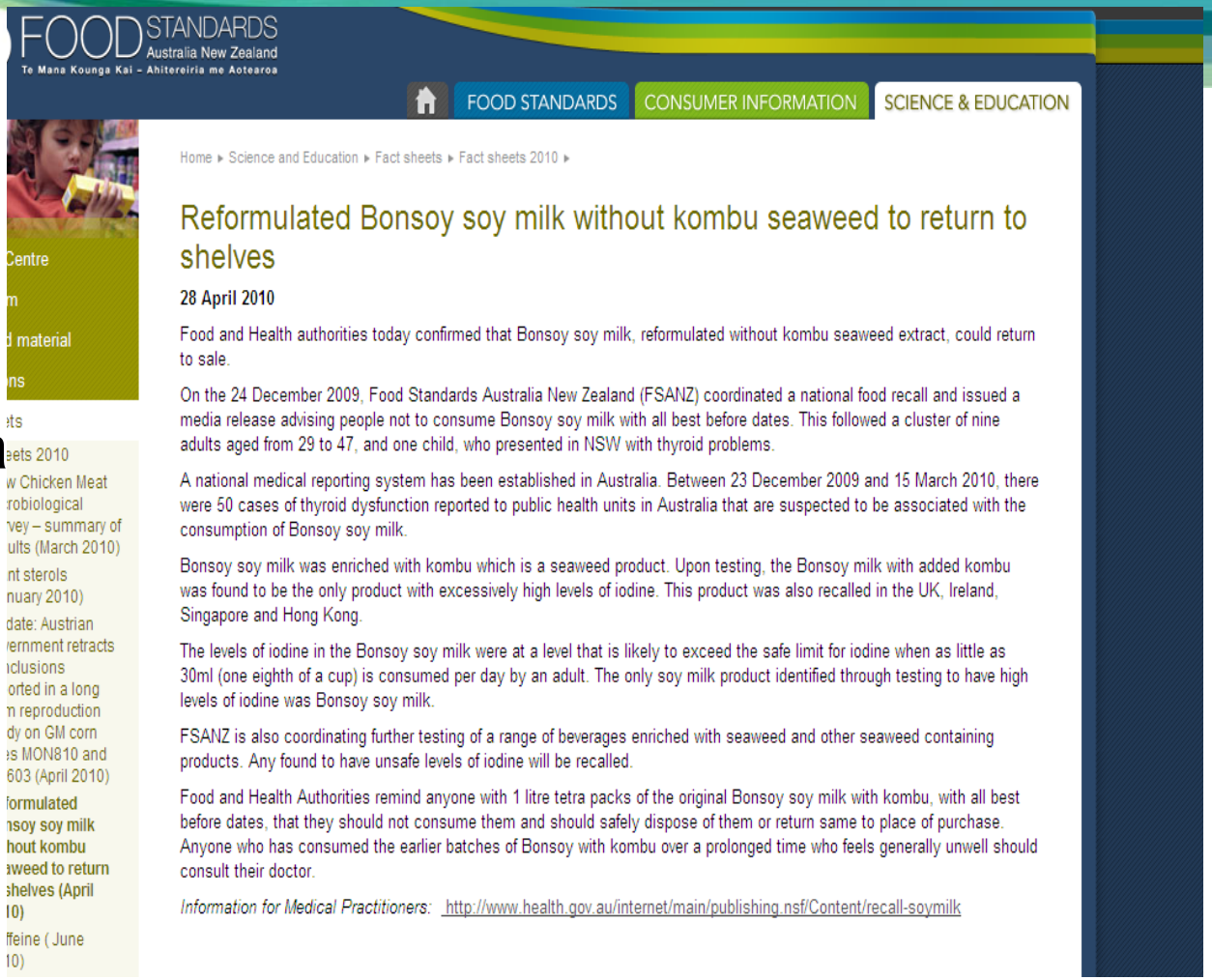
Consequential challenges….

- Consumption data
- Setting Upper Levels for natural products
- Recording and retrieval of documents and data

Lessons learnt..and put into practice

- early risk profiling – enabling action at the border by the Australian Quarantine and Inspection Service
- co-ordinated media releases
- international communication
- involvement of Food Surveillance Network early on

- communication via FSANZ website



Thank you

Any questions?

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