



## **Division Food and Associated Industries NRCS**

# **CANNED FISH & FISHERY PRODUCTS**

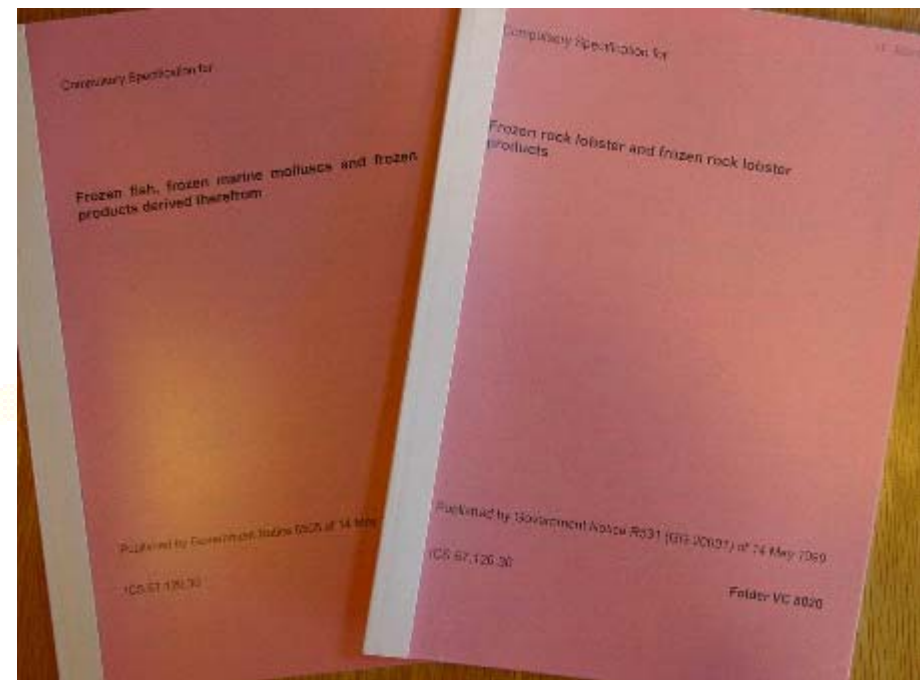
**Kobus van der Merwe**

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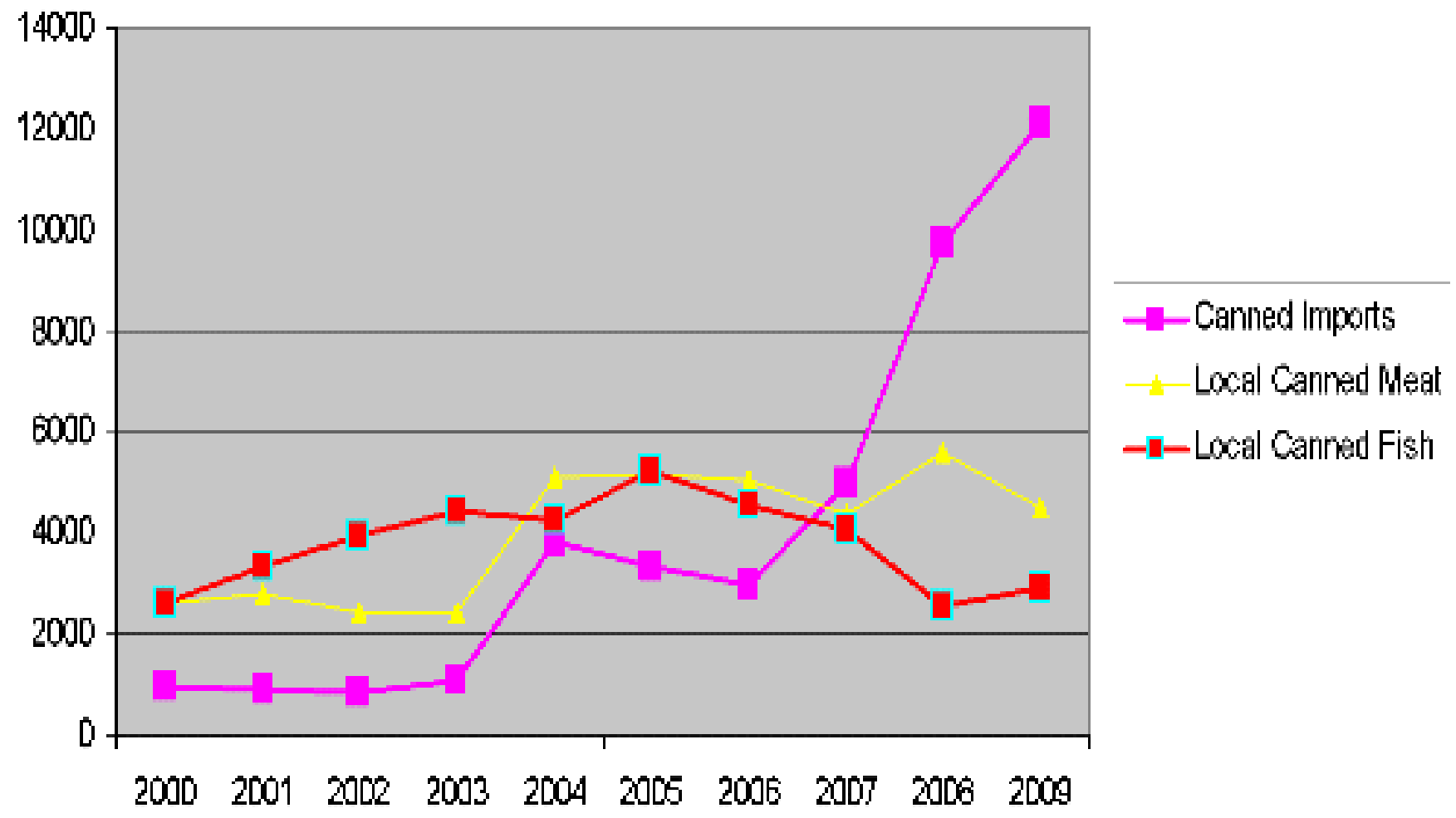
# Compulsory Specifications

- **Canned Fish, Canned Marine Molluscs and Canned Crustaceans**
- **Frozen Fish and Frozen Marine Molluscs**
- **Frozen Shrimps, Langoustines and Crabs**
- **Frozen Rock Lobster**
- **Smoked Snoek**
- **Canned Meat products**



# ***PRODUCTION STATISTICS -TRENDS-***

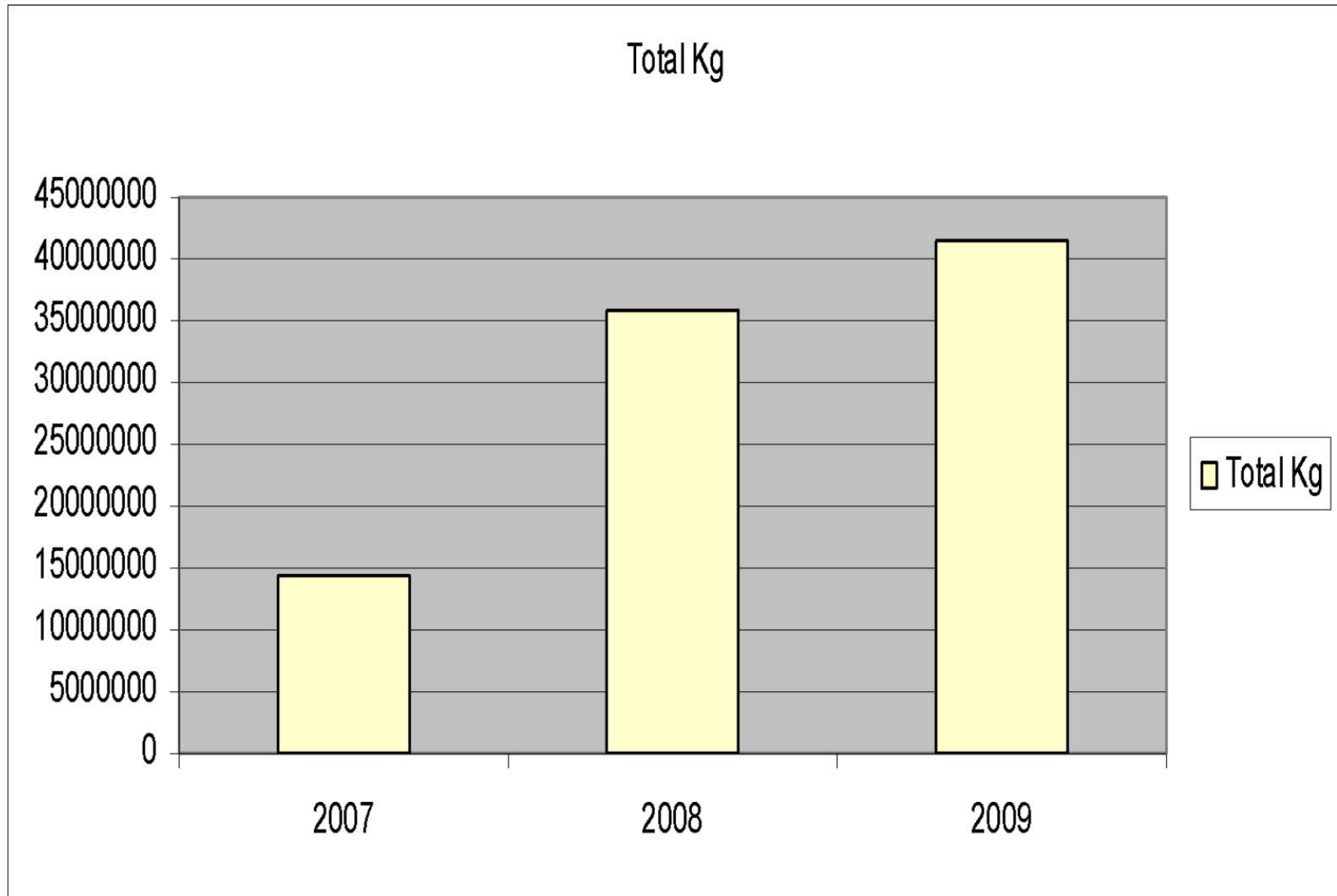
# LOCAL CANNED FISH PRODUCTIONS & CANNED FISH IMPORTS 2000-2009



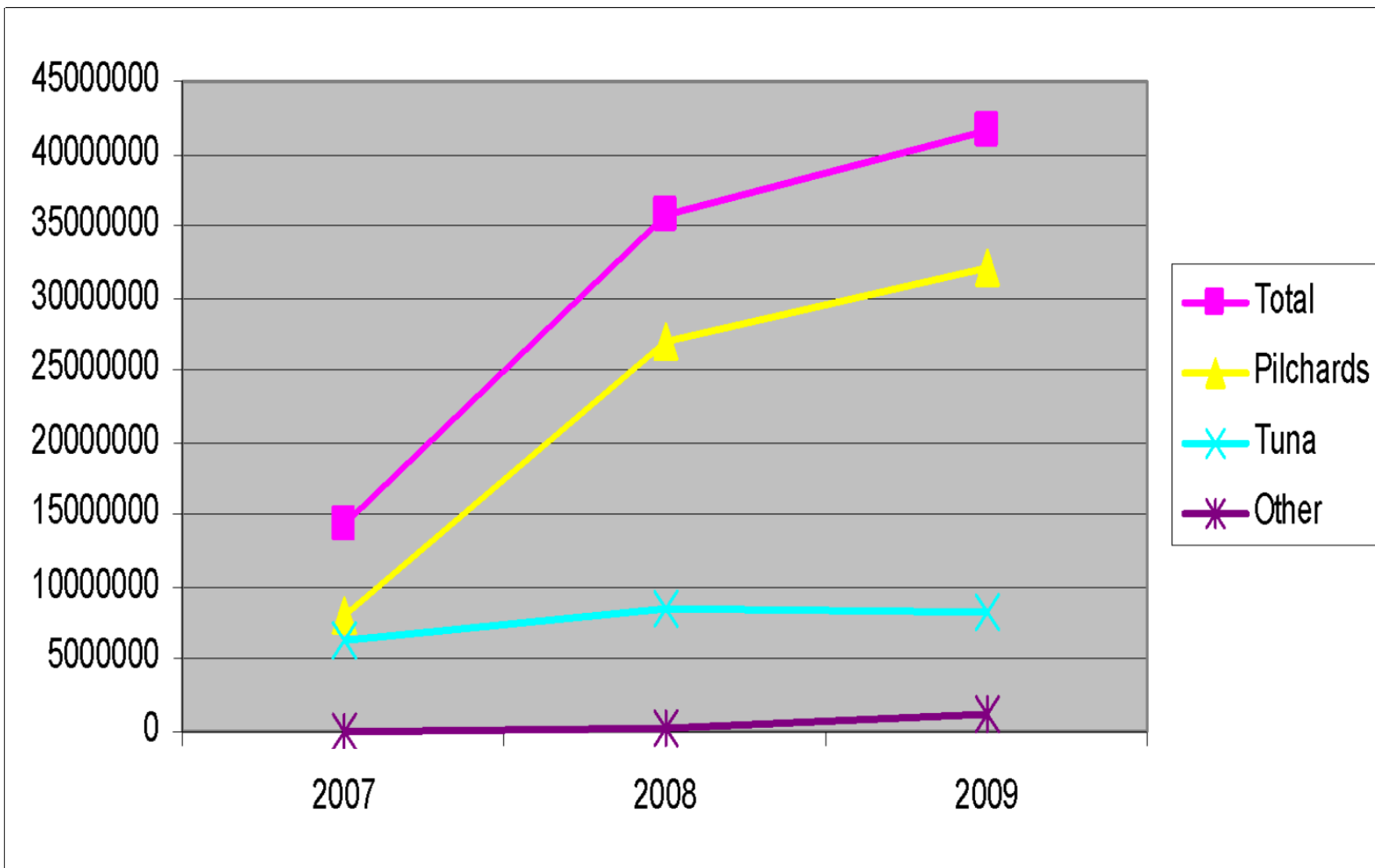
# TOTAL CANNED PRODUCTS IMPORTED FROM 2007-2009

<b>Year</b>	<b>Total cartons</b>	<b>Total Kg</b>
2007	2 744131	14 438006.7
2008	7 110745	35 819701.52
2009	8 221179	41 487500.45

# TOTAL CANNED PRODUCTS IMPORTED FROM 2007-2009



# TOTAL CANNED PILCHARDS & TUNA PRODUCTS IMPORTED FROM 2007-2009





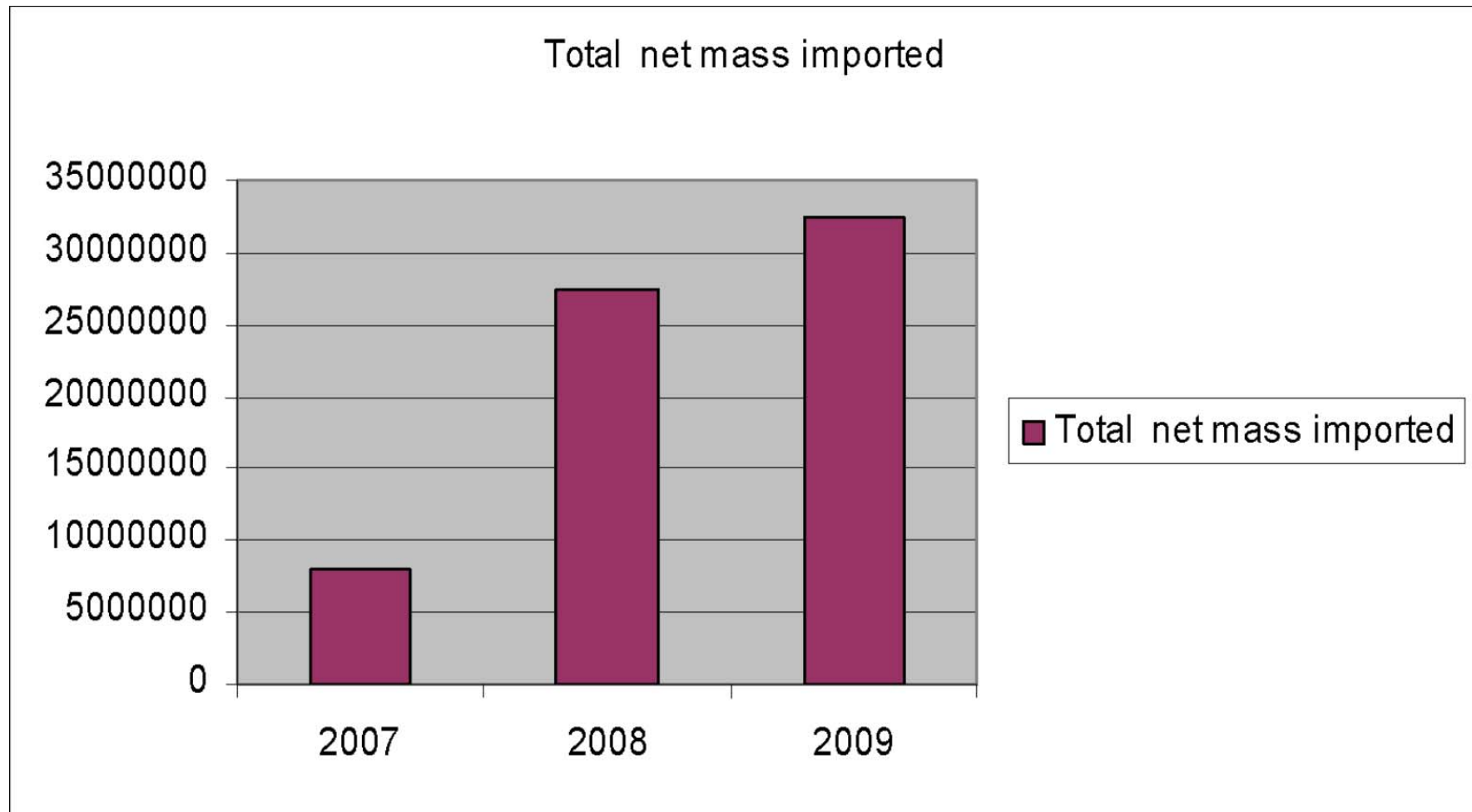
# CANNED PRODUCTS IMPORT STATISTICS

## Canned products excluding Tuna products

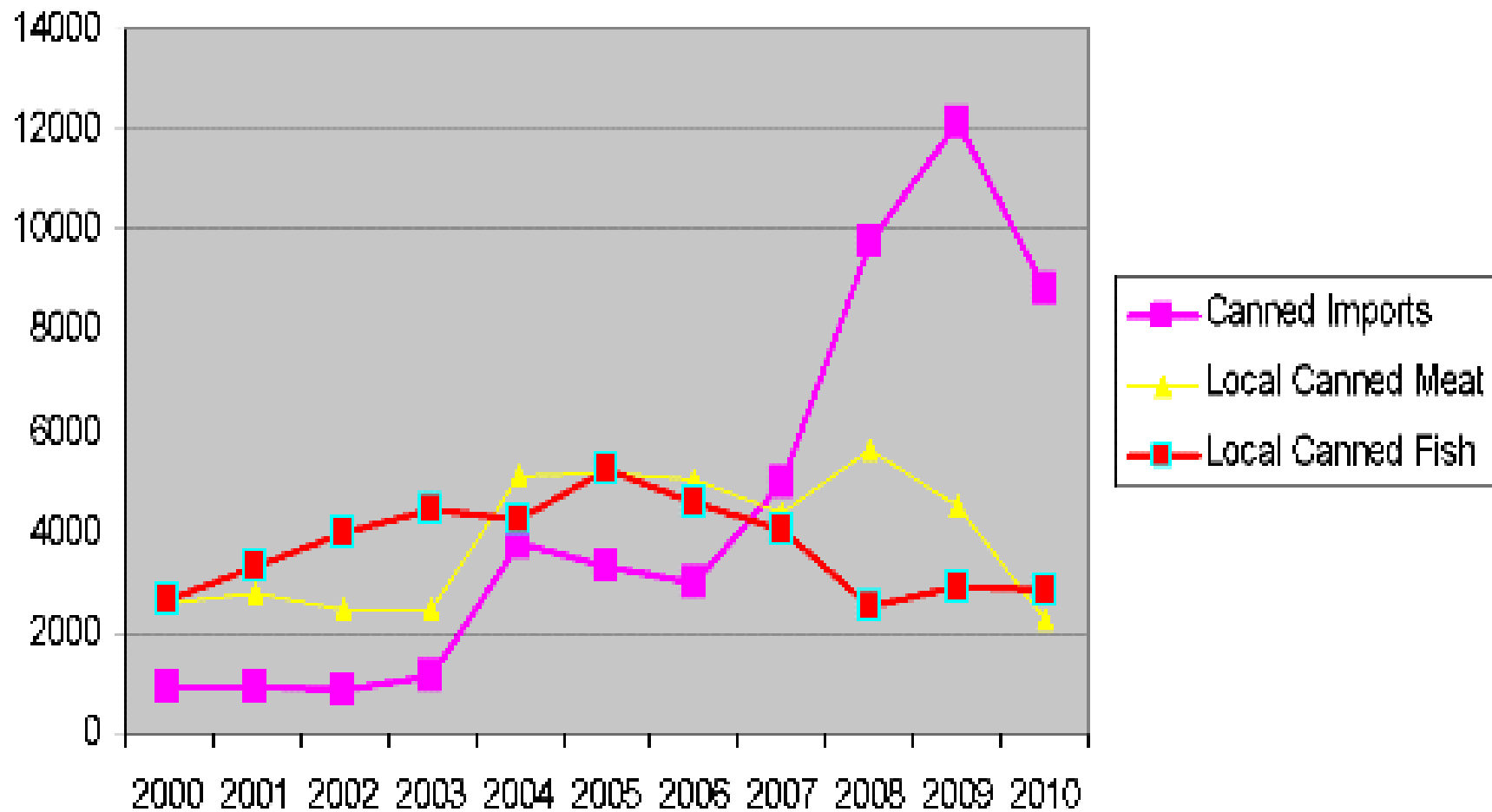
	2007	2008	2009
<b>Total codes imported</b>	1689	5344	8092
<b>Total net mass imported</b>	8 053282Kg	27 345360Kg	32 434385Kg

# CANNED PRODUCTS IMPORT STATISTICS

## Canned products excluding Tuna products

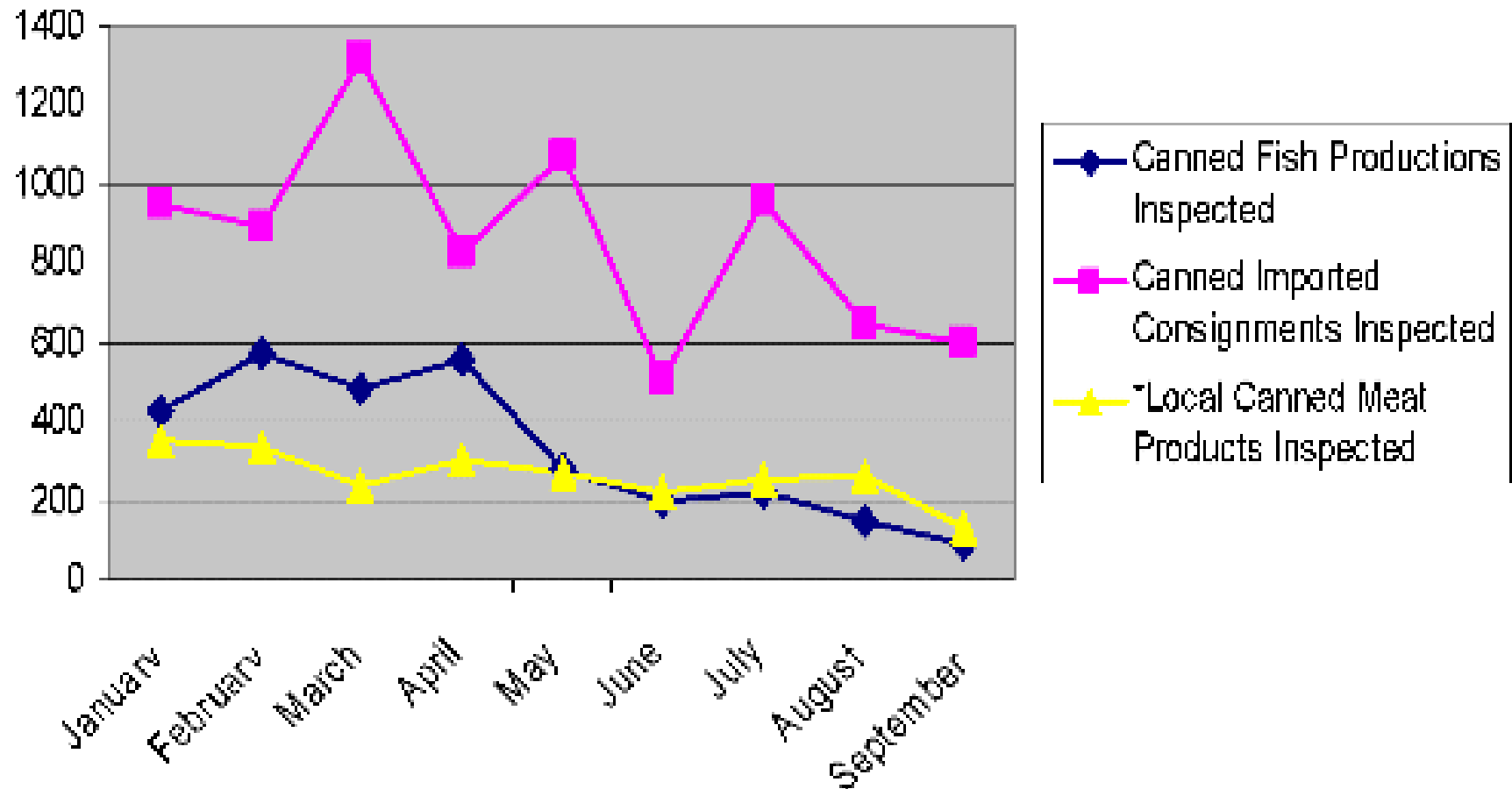


# LOCAL CANNED FISH PRODUCTIONS & CANNED FISH IMPORTS 2000-September 2010



# LOCAL CANNED FISH PRODUCTIONS & CANNED FISH IMPORTS 2010 (September)

## LOCAL CANNED FISH PRODUCTIONS & CANNED FISH IMPORTS 2010



# CANNED PRODUCTS IMPORTED

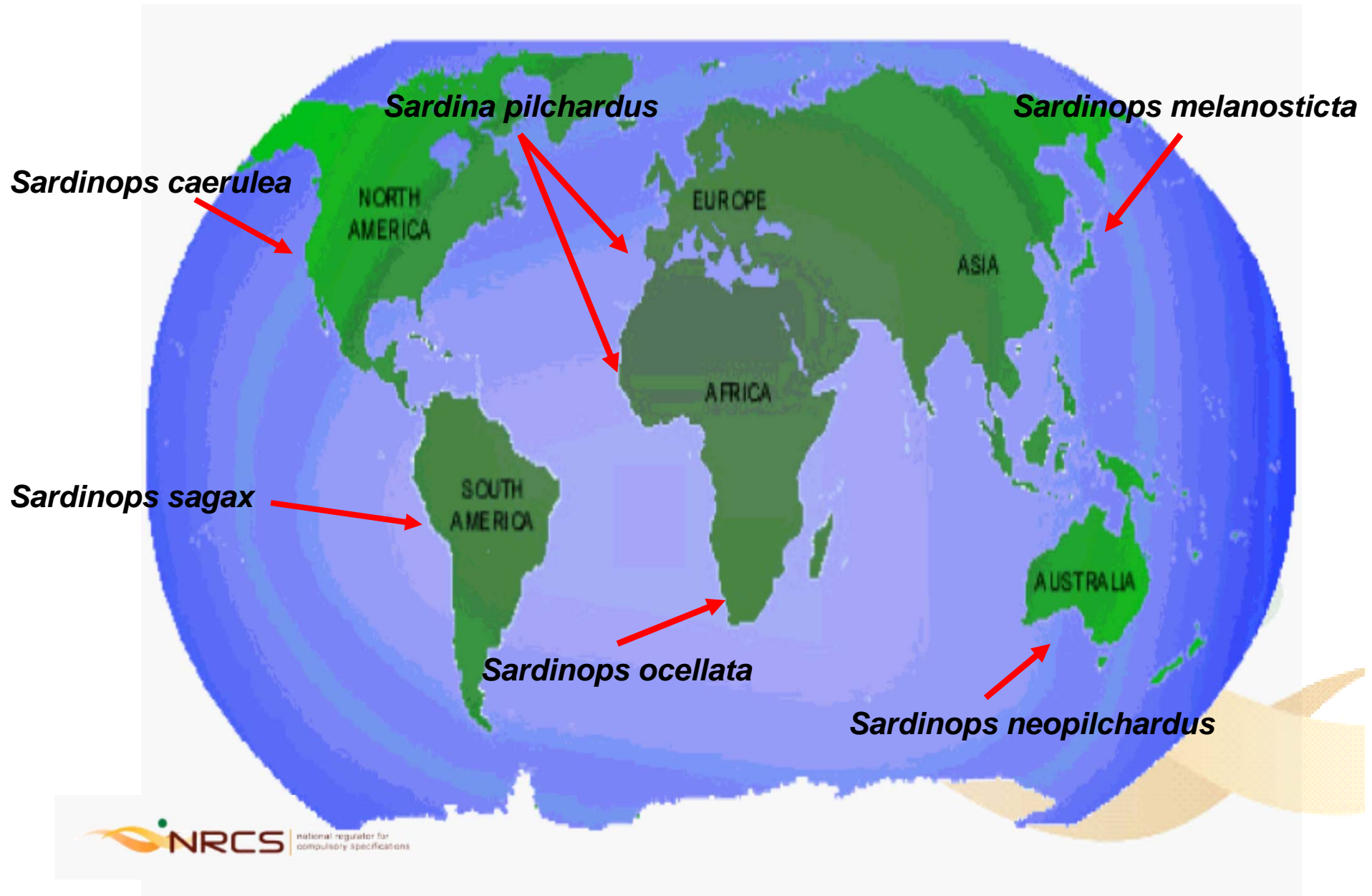
## CHALLENGES

- **Sampling**
  - Containers per month
- **Evaluation of pre-importation samples**
  - July 2009 – 58 pre-importation samples
  - Business companies not traditionally related to fishing industry
- **Label evaluations – product descriptions**
  - Various fish species presented as “Pilchards”
- **Illegal & undeclared imports**
- **Product withdrawals from retail market**
  - +- 96 000 cans

# INTERNATIONAL PILCHARD DISTRIBUTION

<b>Scientific Name</b>	<b>Common name</b>	<b>Distribution</b>
<b><i>Sardina pilchardus</i></b>	<b>Pilchard / Sardine</b>	<b>Atlantic - Europe</b>
<b><i>Sardinops caerulea</i></b>	<b>Californian Pilchard</b>	<b>Pacific</b>
<b><i>Sardinops sagax</i></b>	<b>Chilean Pilchard</b>	<b>Pacific - S. America</b>
<b><i>Sardinops melanosticta</i></b>	<b>Japanese Pilchard</b>	<b>Japan</b>
<b><i>Sardinops ocellata</i></b>	<b>South African Pilchard</b>	<b>Atlantic - W. Africa</b>
<b><i>Sardinops neopilchardus</i></b>	<b>Pilchard / Picton herring</b>	<b>Australia / New Zealand</b>

# PILCHARDS DISTRIBUTION



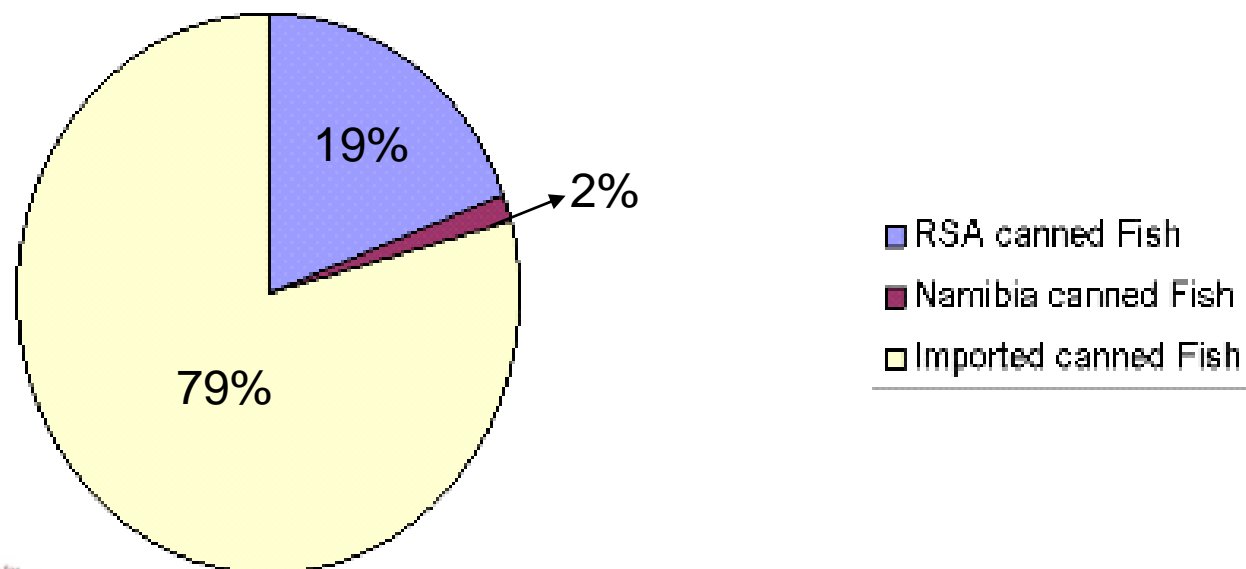
# ***PRODUCTION STATISTICS -2009-***



# CANNED PRODUCTS INSPECTED 2009

Origin	Productions
RSA canned Fish	2941
Namibia canned Fish	275
Imported canned Fish	12124
<b>Total</b>	<b>15340</b>

Productions

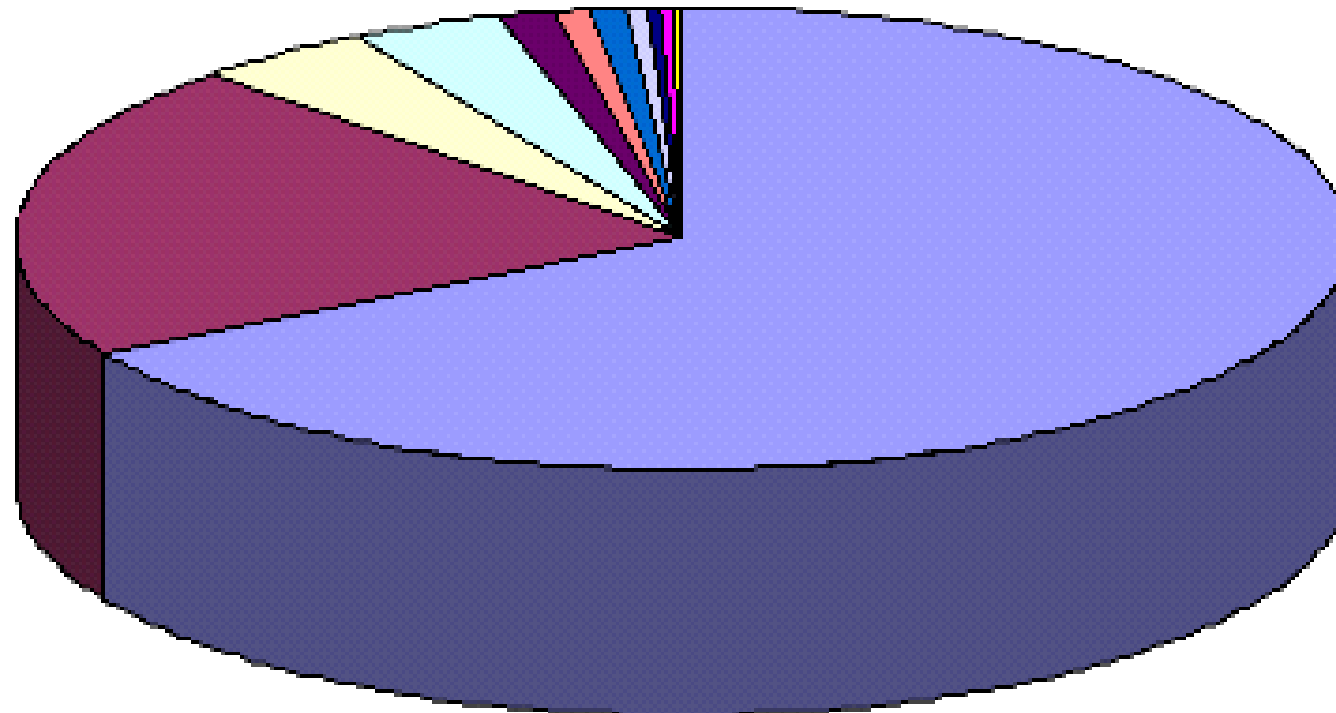


# IMPORTED CANNED PRODUCTS INSPECTED 2009

<b>Product</b>	<b>Percentage</b>
<b>Pilchards</b>	<b>66.77</b>
<b>Tuna</b>	<b>20.60</b>
<b>Mackerel</b>	<b>4.47</b>
<b>Sardines</b>	<b>3.69</b>
<b>Mussels</b>	<b>1.45</b>
<b>Oysters</b>	<b>0.78</b>
<b>Salmon</b>	<b>0.74</b>
<b>Other</b>	<b>0.59</b>
<b>Skipper</b>	<b>0.37</b>
<b>Caviar</b>	<b>0.35</b>
<b>Anchovies</b>	<b>0.06</b>
<b>Herring</b>	<b>0.05</b>
<b>Crustaceans</b>	<b>0.04</b>
<b>Fish paste</b>	<b>0.0</b>

# IMPORTED CANNED PRODUCT INSPECTED 2009

Productions

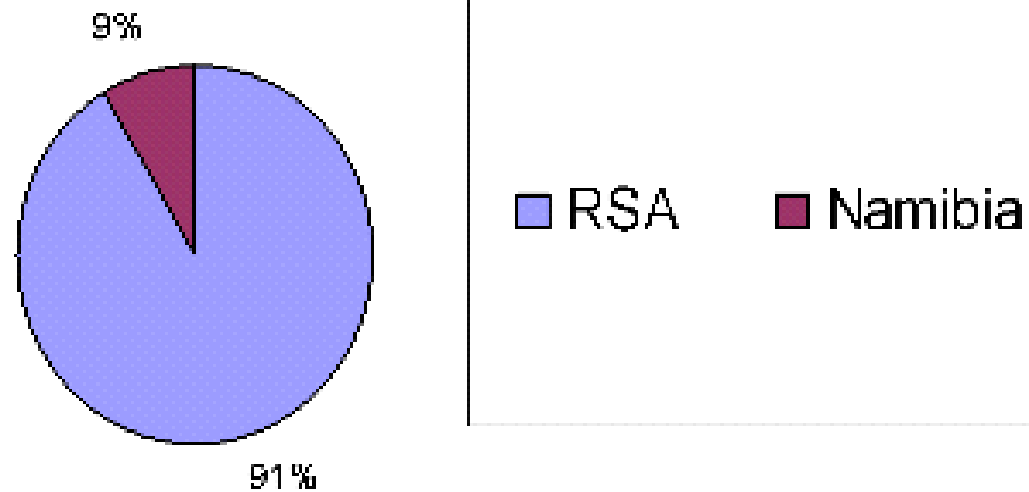


- Pilchards
- Tuna
- Mackerel
- Sardines
- Mussels
- Oysters
- Salmon
- Other
- Skipper
- Caviar
- Anchovies
- Herring
- Crustaceans

# LOCAL CANNED PRODUCT INSPECTED 2009

Country	Production
RSA	2941
Namibia	275
<b>Total</b>	<b>3216</b>

Total Productions RSA & Namibia



# LOCAL CANNED PRODUCT INSPECTED 2009

Product	Percentage
Pilchards in Tomato	38.7
Pilchards in Chilli	21.8
Abalone	9.5
Fish Paste	9.0
SA Sardines Vegetable Oil added	4.1
Pilchards Mince	4.0
Pickled Fish	2.9
Curry Fish	2.9
Pilchards in Brine	2.6
Pilchards in Smoked Vegetable Oil	2.5
Pilchards in water salt added	0.7
Smoor Snoek	0.5
SA Herring in Tomato	0.3
Mackerel in Brine	0.2
Mackerel in Tomato	0.1
Curried Pilchards	0.1
SA Herring in Chilli	0.0
Local produced Trail samples	0.0



# ***INSPECTION STATISTICS -2009-***

# *QUALITY*

# *-LOCAL PRODUCED-*

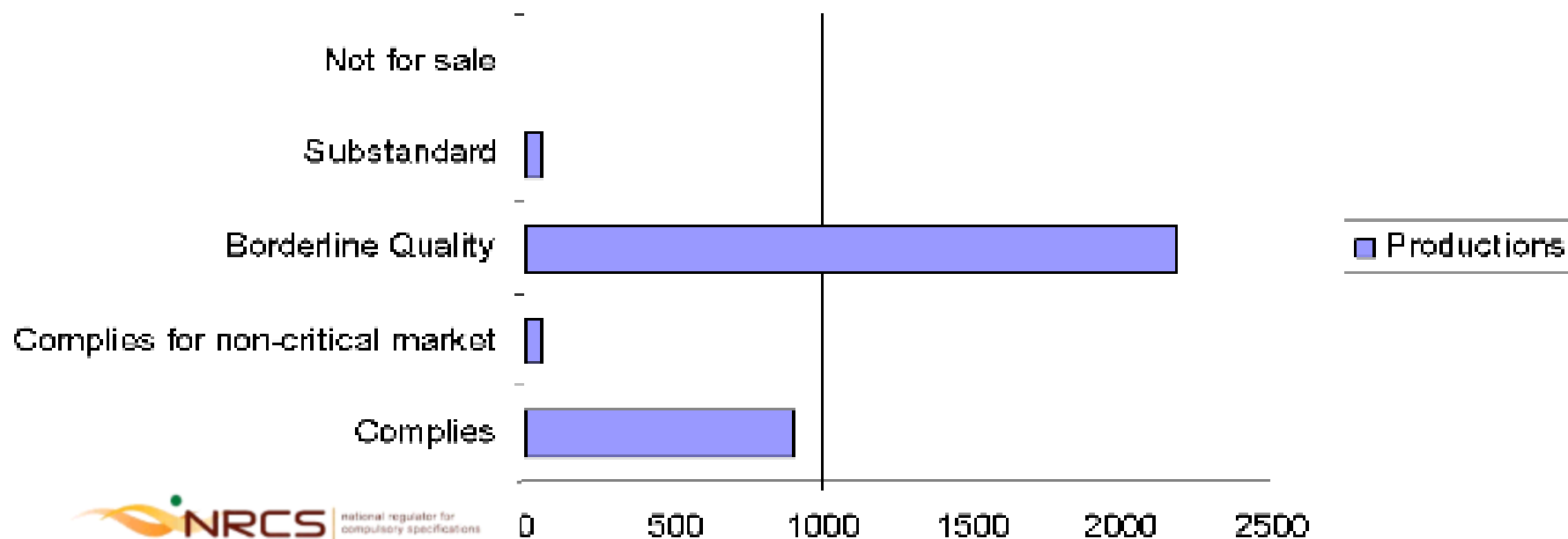




# INSPECTION RESULTS – LOCAL

Grading	Percentage
Complies	28.0
Complies for non-critical market	2.0
Borderline Quality	67.8
Substandard	1.8
Not for sale	0.4

Productions



# QUALITY CONCERNS

## **Canned Pilchards**

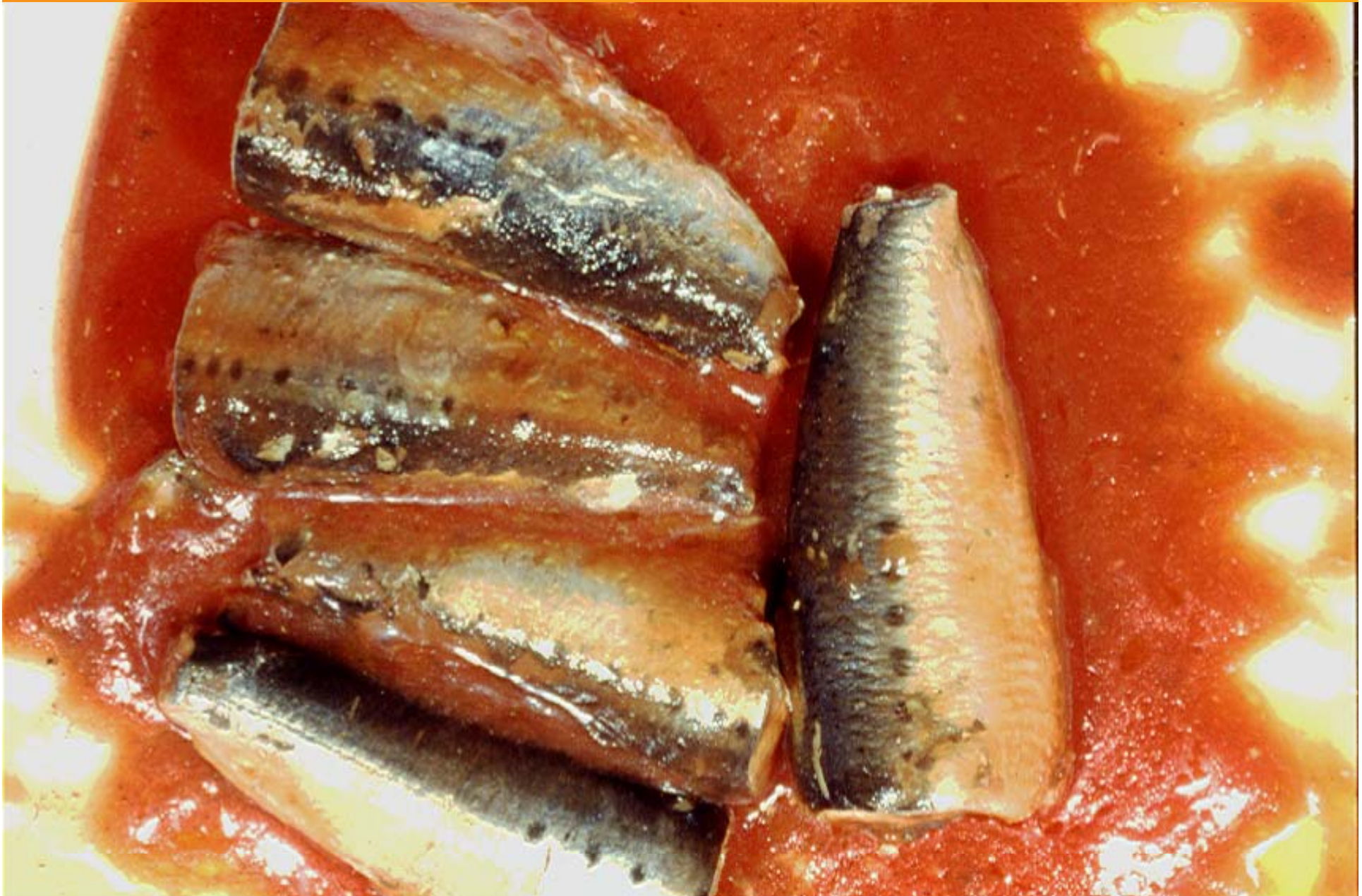
- Reasons for down grading:
  - General appearance
  - Torn bellies
  - Damaged units
  - Sediment in sauce
  - Low drained masses
  - Broken up units
  - Poor thin & watery sauce



## **Most likely courses:**

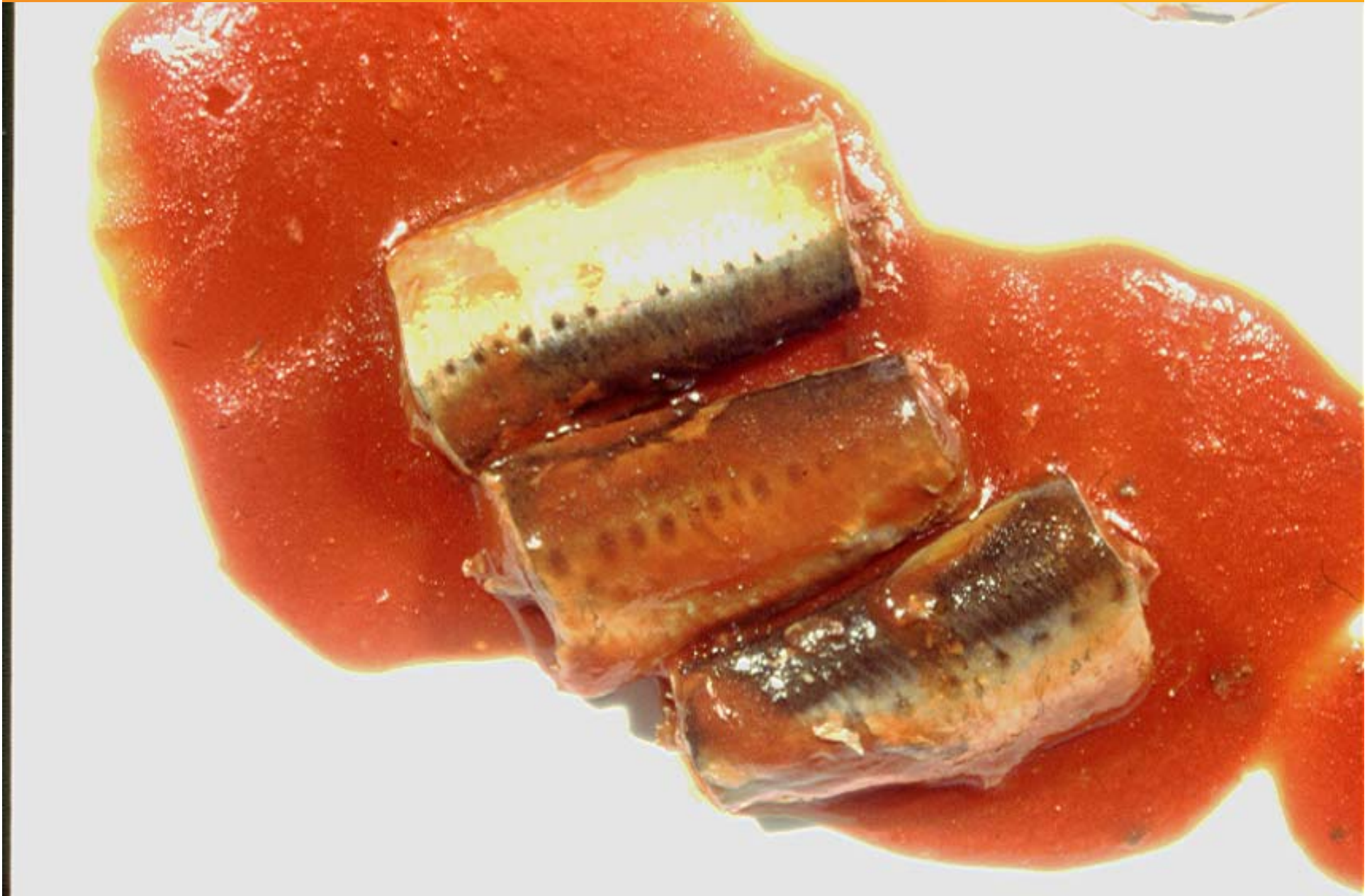
- Quality of raw material
- Processing

# CANNED PILCHARDS - CONTROL SAMPLE





# CANNED PILCHARDS - CONTROL SAMPLE



# CANNED PILCHARDS





# CANNED ABALONE



# PILCHARDS - MOROCCO





# PILCHARDS - MOROCCO





# PILCHARDS - MOROCCO

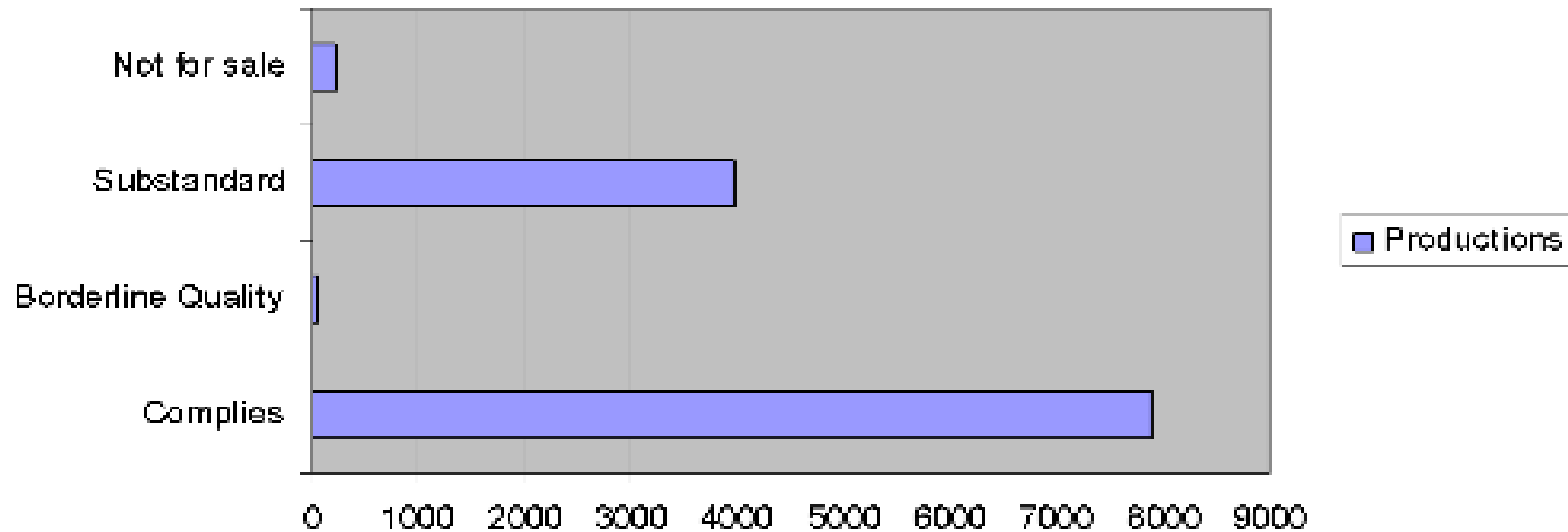


***QUALITY***  
***-IMPORTS-***

# INSPECTION RESULTS - IMPORTS

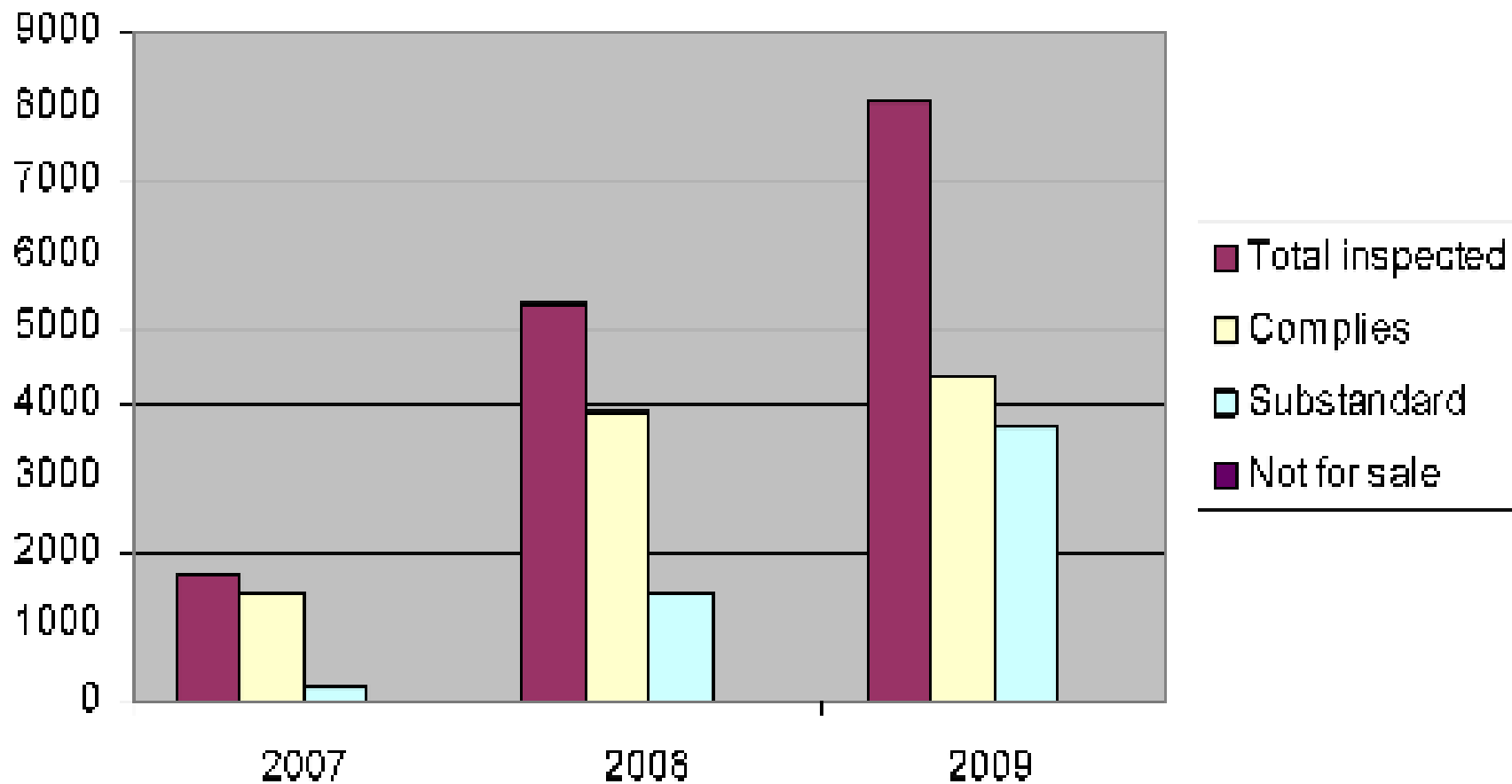
Result	Percentage
Complies	65.04
Borderline Quality	0.42
Substandard	32.63
Not for sale	1.91

Productions



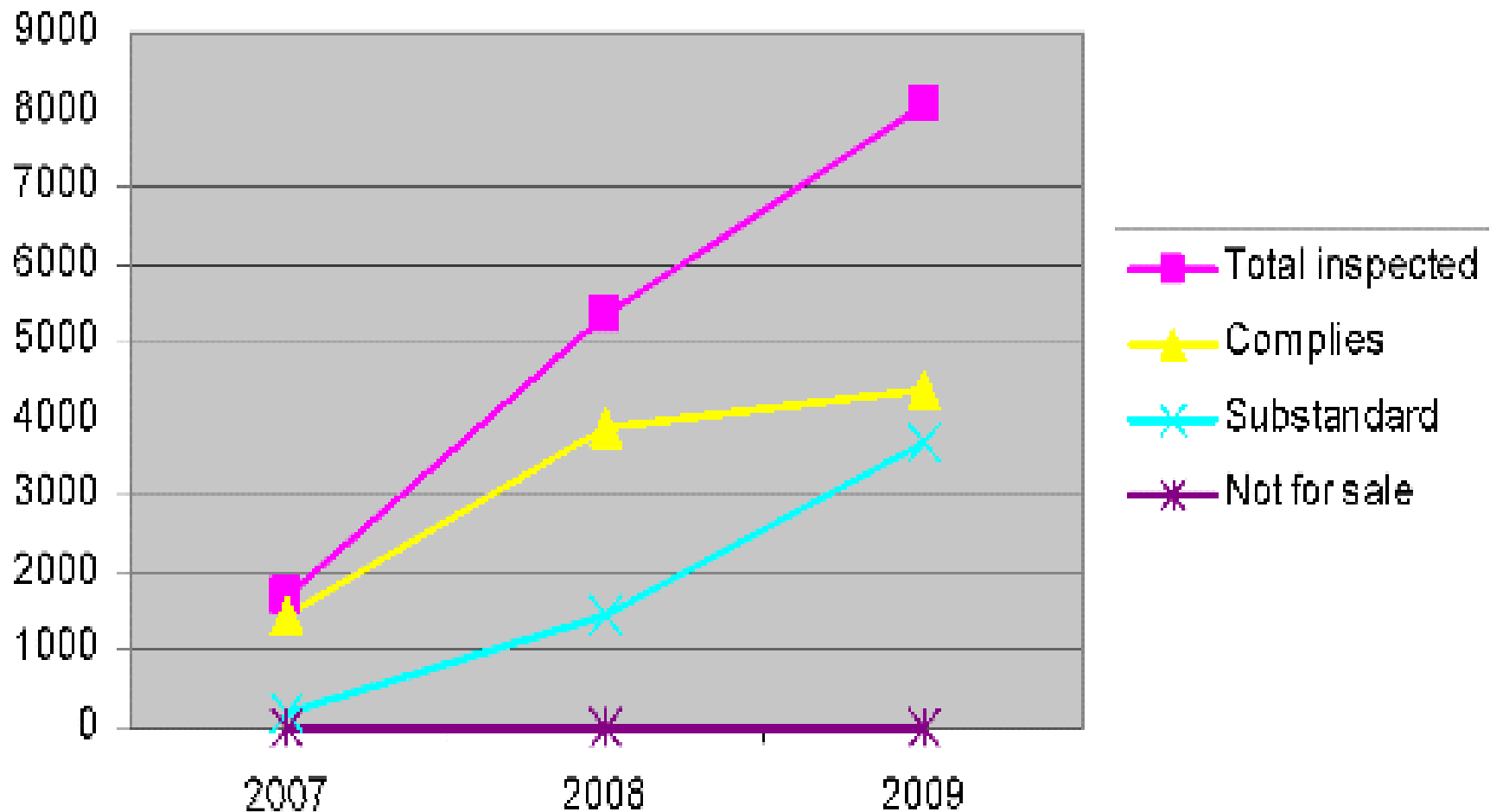
# CANNED PRODUCTS INSPECTION

## Canned products excluding Tuna products



# CANNED PRODUCTS INSPECTION

## Canned products excluding Tuna products



# QUALITY CONCERNS

## **Canned Pilchards**

- General decline in product quality:
  - General appearance
  - Torn bellies
  - Damaged units
  - Sediment in sauce
  - Low drained masses
  - Disintegrated units

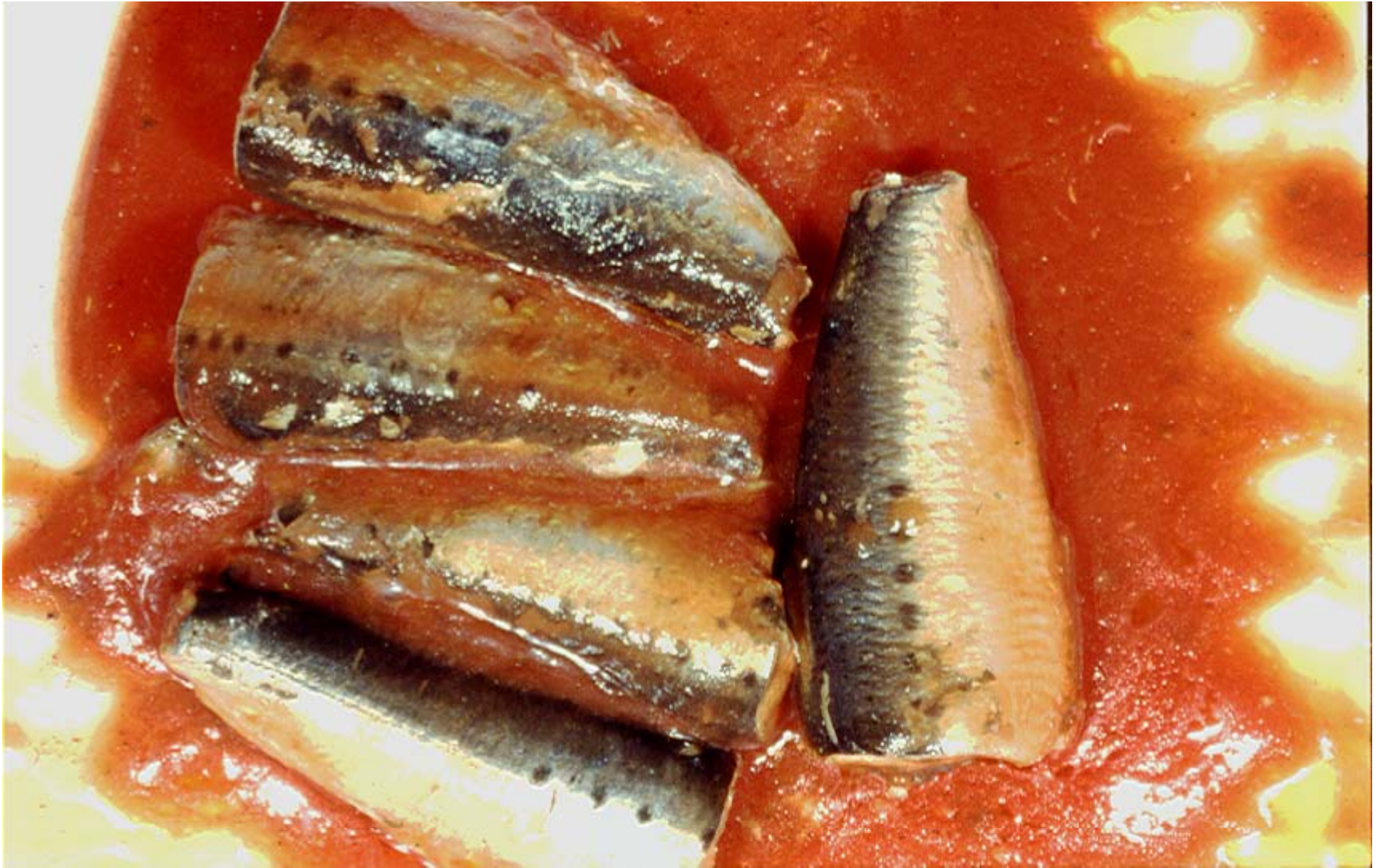


## **Most likely courses:**

- Quality of raw material
- Huge increase in production volumes

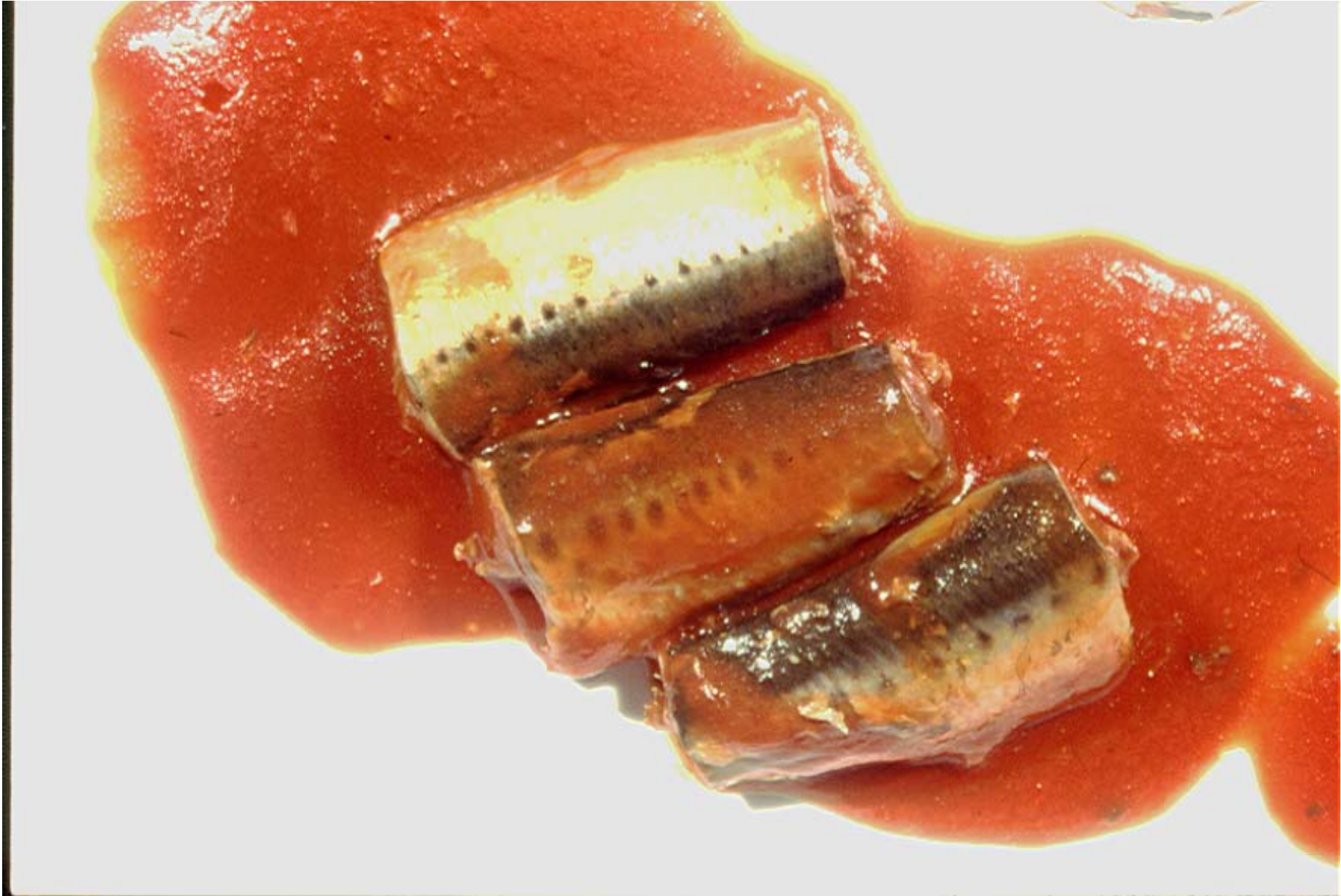


# CONTROL SAMPLE





# CONTROL SAMPLE



# CANNED PILCHARDS





# CANNED PILCHARDS





# CANNED PILCHARDS





# CANNED PILCHARDS





# CANNED PILCHARDS



# CANNED PILCHARDS





# CANNED PILCHARDS



# CANNED PILCHARDS





# CANNED PILCHARDS



# CANNED TUNA





# CANNED TUNA



# CANNED TUNA



# ***FOOD SAFETY -IMPORTS-***

# FOOD SAFETY RELATED ISSUES

## Products adjudged to be “not for sale”

- Physical contamination
- Presence of Parasites
- Extremely poor quality
- Incorrect labelling (fraudulent practices)
  - Products removed from trade – 96 000 cans
- Damaged cans
- Seam defects





# CANNED PILCHARDS





# CANNED PILCHARDS









# CANNED PILCHARDS





# CANNED PILCHARDS





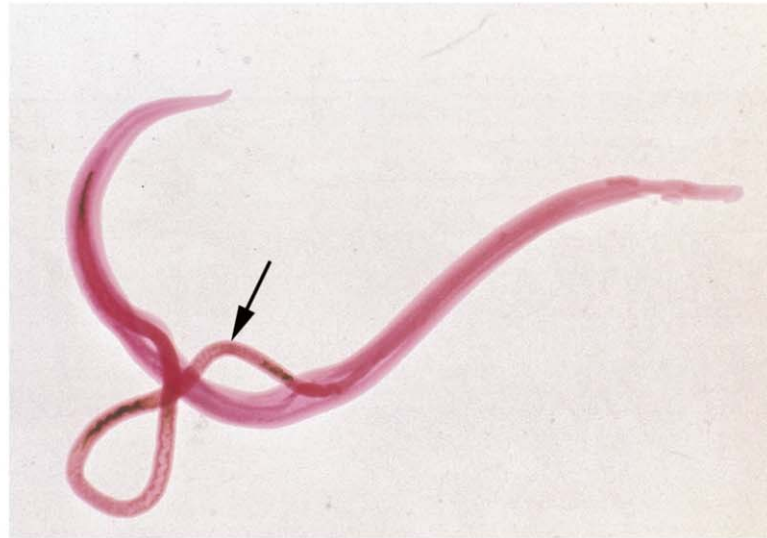
# CANNED PILCHARDS







# CANNED MACKEREL - PARASITES



**Parasitic nematode**

# CANNED MACKEREL

## Parasitic isopod



# CANNED MACKEREL

## Parasitic isopod



# SMOKED MUSSELS – FOREIGN MATERIAL

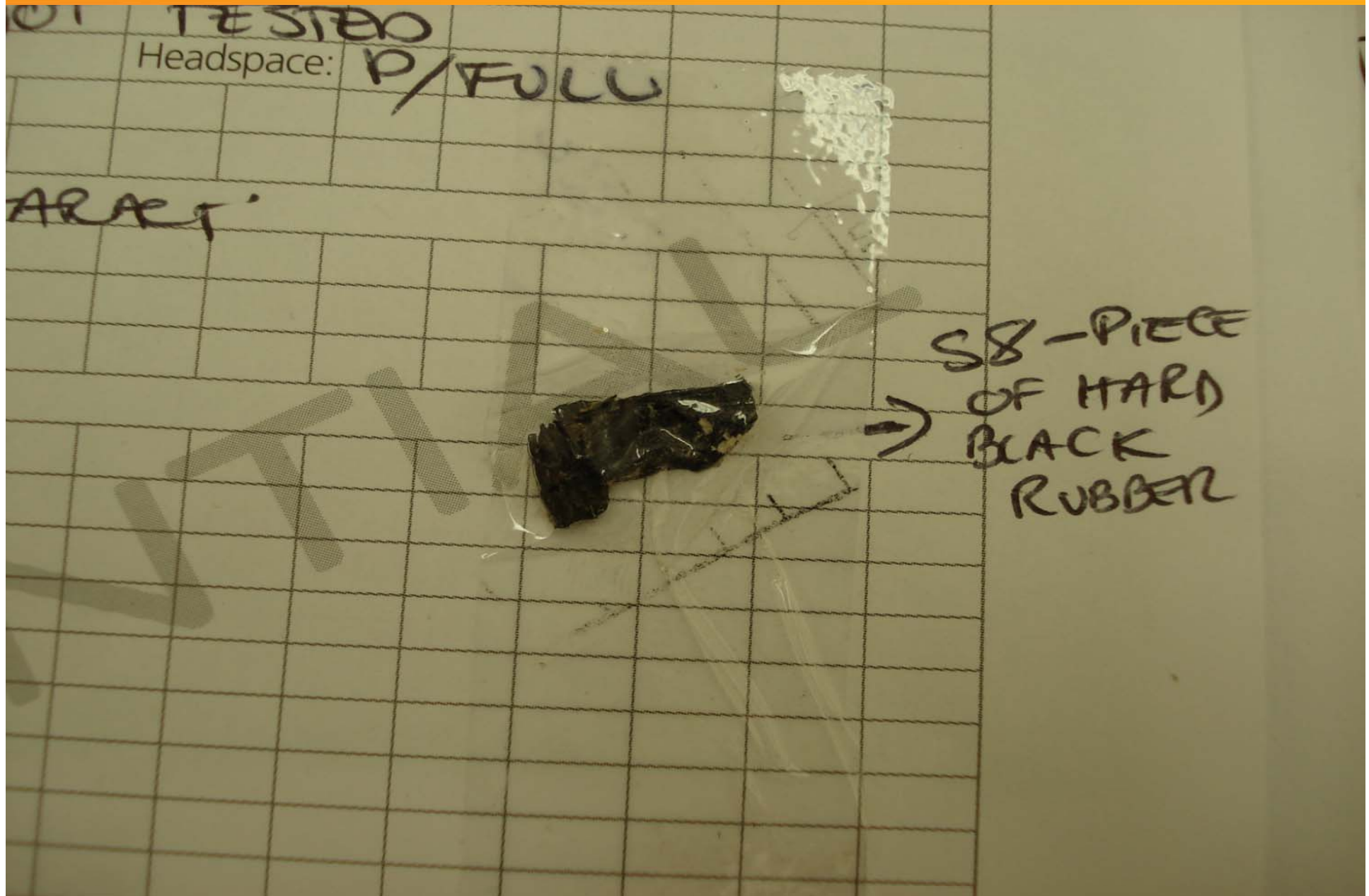




# SMOKED MUSSELS – FOREIGN MATERIAL



# FOREIGN MATERIAL





# FOREIGN MATERIAL





# INCORRECT LABELLING



# LOW DRAINED MASSES





# INCORRECT LABELLING & POOR QUALITY





# INCORRECT LABELLING & POOR QUALITY



# INCORRECT LABELLING & POOR QUALITY





# INCORRECT LABELLING & POOR QUALITY





# INCORRECT LABELLING & POOR QUALITY





# TRAIL SAMPLES



# TRAIL SAMPLES





# TRAIL SAMPLES



# ***FOOD SAFETY -LOCAL PRODUCED-***

A decorative graphic at the bottom of the orange box, consisting of a stylized wave in shades of orange and yellow, with a small orange circle above it.

# FOOD SAFETY RELATED ISSUES

## Products adjudged to be “not for sale”

- Can and seam defects





# FOOD SAFETY

## Damaged 1m empty cans resulting in serious seam defects

- 17 April 2009\_empty cans were damaged at factory during operations
- Damaged cans removed but not properly sorted
- Remainder of cans utilized in different productions
- Damaged cans resulted in serious seam defects & leaking cans
- Productions identified – 6 productions isolated
- Screening process
- +- 48 000 cans destroyed of the specific can manufacturers code

# SERIOUS SEAM DEFECTS



# SERIOUS SEAM DEFECTS





# DESTRUCTION OF EMPTY CANS



# FOOD SAFETY

## Side seam failure – Jitney cans

- On 2009-05-22 NRCS inspector discovered leaking cans in warehouse
- Embargo placed on the distribution and sale of all Jitney cans
- Investigation by can manufacturer
- Defect identified & isolated
- Cans produced by can manufacturer on 31 May, 1-2 April 2009
- 3 Factories affected
- Product recalled from trade – 13200 cans
- Cans destroyed – 344 927

# FOOD SAFETY

## Side seam failure – Jitney cans

### Investigation

#### THE DEFECT

- Cold weld seams

#### THE ROOT CAUSE

- Two different metal plates from different sources used during can manufacturing
- The apparently trouble free changeover from the one plate type to the other challenged the welding process latitude and resulted on a cold welding process on the side seams



# SIDE SEAM SPLIT





# DESTRUCTION OF JITNEY CANS





# DESTRUCTION OF JITNEY CANS





# DESTRUCTION OF JITNEY CANS





# DESTRUCTION OF JITNEY CANS





# CHAFED CANS - SEAMS





# SIDE SEAM RUST





# SIDE SEAM RUST



# DAMAGED SEAMS





# *conclusion*

The background of the slide is a solid orange color. In the lower right corner, there is a decorative graphic consisting of three overlapping wavy lines in shades of orange and yellow, and a small orange circle above them, mirroring the NRCS logo's design.

# CHALLENGES

- **WORLD ECONOMIC CRISIS AND DEPLETION OF RESOURCES AFFECTING PROFITABILITY AND GENERAL STATE OF FISHING INDUSTRY**
- **OPERATIONAL CHANGES DUE TO CHANGING INDUSTRY NEEDS - INCREASE IN IMPORTED CANNED PRODUCTS**
- **TO MINIMIZE THE CHANCES OF UNINSPECTED PRODUCTS ENTERING THE TRADE, ESPECIALLY HIGH RISK PRODUCTS**

# FOOD SAFETY

## UNITED KINGDOM

**Food Poisoning Facts –By Dr Yunes Teinaz Acting Head of Environmental Health London Borough of Hackney**

- **“The World Health Organization (WHO) reports that each year two billion illnesses are caused by unsafe food; globally this number is growing. In Asia 700,000 people die each year as a result of food poisoning illnesses. Each year in the developing world, diarrhea illness from contaminated food and water causes 2 million deaths in young children.”**
- **“In Britain the incidence of food poisoning has been increasing for many years and it is now a major public health problem. According to the Food Standards Agency (FSA), it is estimated that up to 5.5 million people in the UK are affected from food poisoning each year “**



# FOOD SAFETY

## USA

Centers for Disease Control and Prevention, Atlanta, Georgia, USA

- **“We estimate that foodborne diseases cause approximately 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths in the United States each year “**

## CANADA

Ottawa Citizen

- **“Up to 13 million Canadians, more than 40 per cent of the population, will suffer from food-borne illnesses this year, an epidemic that medical experts say costs up to \$1.3 billion annually in lost productivity and medical expenses. “**

# FOOD SAFETY

## AUSTRALIA

Australian Academy of Science – 2005

- “In 2003, the Food Safety Information Council estimated that there are approximately 5 million Australians affected by food-poisoning every year. “
- “A 2005 report found that approximately 120 people die from foodborne illnesses in Australia every year “



# FOOD SAFETY

- **GLOBAL CONCERN**
- **INCREASING CONCERN**
- **JOINT RESPONSIBILITY OF FOOD PRODUCERS, FOOD PROCESSORS, DISTRIBUTORS, GOVERNMENT & CONSUMERS**

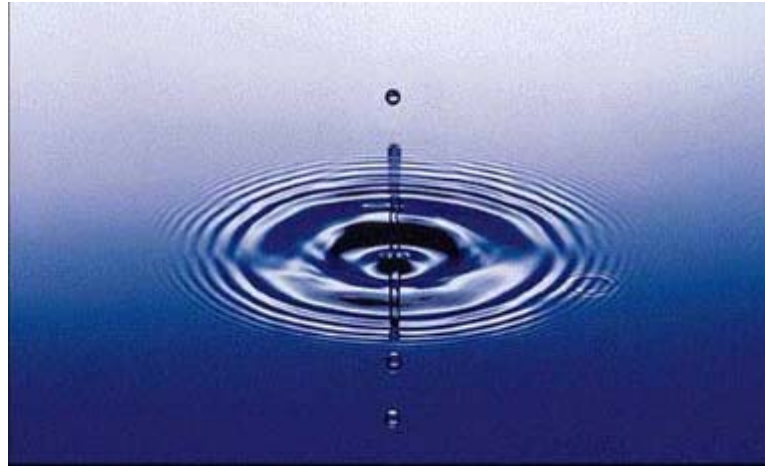




**We strive to ensure food safety and the protection of human health by implementing the farm to fork principle as our ultimate objective.**

**“Our aim is 100%  
Coverage”**

*The End*



*Thank You*