Salmonella Species from Imported Peanuts: Results of an International Outbreak Investigation

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26th April 2004
SEQUENCE OF EVENTS (May / June 2001)

FARMER BRAND SHANDONG PEANUTS [FBSP]

AUSTRALIA  JULY - SEPTEMBER 2001

S. Stanley: > 60 infections - 50% FBSP
S. Newport: < 60 infections - FBSP-associated
S. Kottbus: FBSP isolations, no human cases

CANADA

S. Stanley: 35 cases / 31 outbreak strain
S. Newport: 14 cases / 9 outbreak strain
S. Lexington: FBSP isolations, no human cases
S. Kottbus: Human cases, ? FBSP-associated
SEQUENCE OF EVENTS (July / September 2001)

FARMER BRAND GARLIC FLAVOURED PEANUTS [FBGFP]

UKER 2001:

3 samples FBGFP positive for:
S. Stanley: [PHLS FWE, Preston PHL]
S. Newport: [PHLS FWE, Preston PHL]

2 samples FBSP positive for:
S. Stanley [Chester PHL]

10 October FSA
• Food hazard Warning
• Withdrawn from sale
# UNITED KINGDOM

**SALMONELLA STANLEY**

**HUMANS, ENGLAND AND WALES**

<table>
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<th>YEAR</th>
<th>Number</th>
<th>Foreign travel</th>
<th>%</th>
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<td>2000</td>
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[LEP DATA]
UNITED KINGDOM

SALMONELLA STANLEY

ENGLAND AND WALES (LEP)

PFGE: (XbaI)

32 ISOLATES (31 May - 15 October 2001)

[29 human, 3 FBGFP]

11 patterns (SstX2 - SSX12)

SstX2: PEANUTS (3) PATIENTS (8)

(31 May - 30 Sept 2001)

SCOTLAND (SSRL)

TIFF COMPARISON

SstX2: 2 PATIENTS, Chinese names
No history of consumption of FBGFP
S. Stanley, England & Wales 2001
PFGE profiles
ENGLAND AND WALES
Other serotypes

1. **SALMONELLA NEWPORT**
   
   PFGE: \((XbaI)\)
   
   FBGFP ISOLATE: UNIQUE PROFILE: (SNWPXB0020)
   
   NOT IN: RECENT ISOLATES FROM PATIENTS (32 strains tested)
   
   : STRAINS ASSOCIATED WITH SALAD PRODUCTS OUTBREAK (MAY - JUNE 2001)

2. **SALMONELLA LEXINGTON** (Jan - Oct 2001)
   
   NO ISOLATES (FBGFP / PATIENTS)

3. **SALMONELLA KOTTBUS** (Jan - Oct 2001)
   
   FBGFP - No isolates
   
   PATIENTS: 48 ISOLATES, NO CHINESE OR ASIAN NAMES
   
   No PFGE
INTERNATIONAL COMPARISONS

SALMONELLA STANLEY

TIFs: ENGLAND & WALES / SCOTLAND / CANADA:
SstX2 (= StanXA1.001)

SALMONELLA NEWPORT

TIFs: ENGLAND & WALES / SCOTLAND / CANADA
(o/b strain = NewpXA1.0036):

No NewpXA1.0036 outbreak profile in human isolates from England & Wales, and Scotland. However SNWPXB0020 from FBGFP identical to S. Newport o/b strain profile NewpXA1.0036 from Canada.
CONCLUSIONS

1.1. International outbreak - 4 continents

2. Vehicle: Peanuts

3. Country of origin: China

4. Outbreak identification (microbiological):
   - Serotyping
   - PFGE

5. Food laboratories, Reference Laboratories, Epidemiologists

6. Rapid international exchange of:
   - Epidemiological data
   - Strain information
   - TIFFs


7. International standardisation of PFGE very important
   (Pulse-Net, Salm-Gene)
THANKS TO

UK:

LEP: Linda Ward Mike Hampton Henry Smith
    Clare Maguire Tansy Peters
Enternet Hub Ian Fisher
CDSC: Bob Adak Christine Little Sarah O’ Brien

PHLS FWE, PHL Preston, PHL Chester

Scotland: SSRL: Derek Brown
          SCIEH John Cowden

Canada:

Marcus Lem Ana Paccagnella Clifford Clark
    BC Centre for Disease Control BC Centre for Disease Control National Microbiology Laboratory

Australia

Martyn Kirk Oz Food Net, Melbourne
An outbreak due to peanuts in their shell caused by *Salmonella* serotypes Stanley and Newport – sharing molecular information to solve international outbreaks

*Epidemiology and Infection, in press*