

New results, new services and  
new products from MLA

Ian Jenson

## New results: *E. coli*

- How much *E. coli* O157 is there in Australian product?
- Might there be O157 in lots but it's not detected?
- When O157 is detected, how much is there?
- What about other types of pathogenic *E. coli*?

How much *E. coli* O157 is there in Australian product?

- 0.1% lots of manufacturing beef have O157 detection confirmed

Might there be O157 in lots but it's not detected?

- Yes
- Sampling is a very poor (inefficient) way of detecting contamination that is only found in small parts of the lot
- When O157 is detected in a lot 12 carton are tested. When we retest, if we find any samples positive, usually they are from just one or two pieces of meat in a single carton.

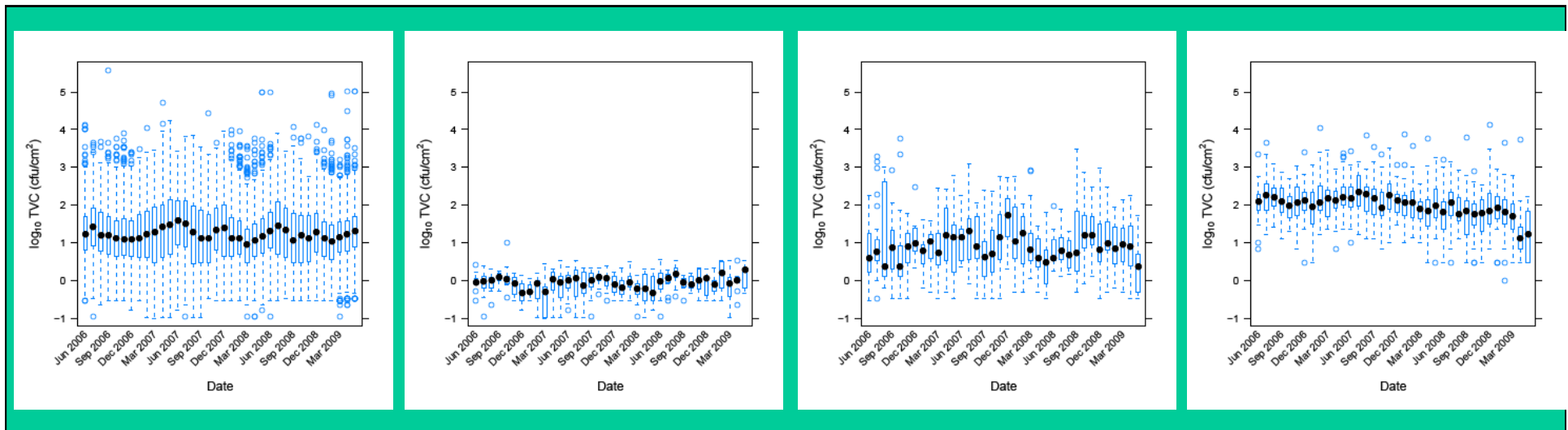
When O157 is detected, how much is there?

- We have tried to work out how many O157 cells there are in cartons where it is detected.
- On the few occasions where we've found O157 in a carton, the highest number of cells we would estimate to be about 600 cfu per 27.2kg carton ~ 1 cfu in 50g

What about other pathogenic types of *E. coli*?

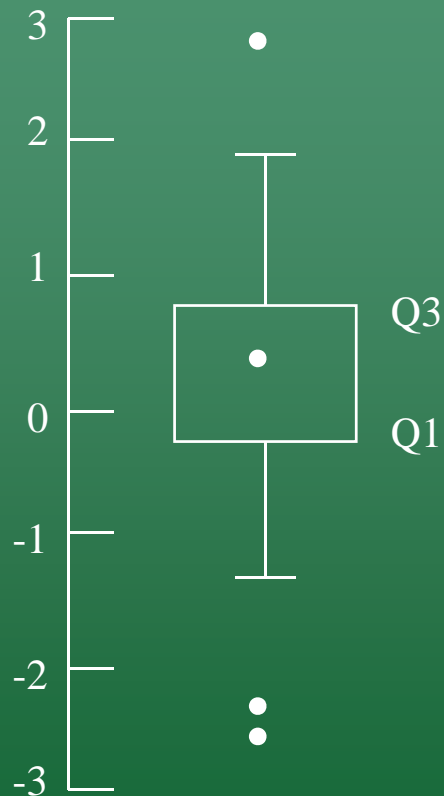
- USA “Big 6” strains in addition to O157
- EU a few other strains
- Are they present in the faeces of Australian cattle?
- The presence of some strains in enrichment broths was more frequent than O157
- Strains were difficult to isolate (they don’t have distinctive colonies on CTSMAC agar)
- When strains were isolates, they usually did not possess a gene for Shiga toxin

# New service: hygiene benchmarking



- An opportunity for establishments performing ESAM testing to benchmark their results against national norms

# Box plot Construction



- Draw a box from Q1 to Q3
  - Half (50%) of the data fall within the box
  - Inter-quartile Range (IQR) =  $Q3 - Q1$
- Draw the median
- Draw the whiskers
  - The length is determined by  $1.5 \times \text{IQR}$ , ending on an observation
- Other observations are indicated separately – indicate extreme observations or unexpected concentrations.

## New tools: process assessment tool

- Beef tool, sheep tool
- Based on previous MLA publications
- Will be out in the coming months

