
E. coli and *Salmonella* Monitoring Report

Sample Report
SHEEP

Reporting Period:
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Prepared by
SARDI Food Safety Research
33 Flemington Street
GLENSIDE, SA 5065, Australia
Ph: +61 8 8207 7945
Fax: +61 8 8207 7854



Government of South Australia
Primary Industries and Resources SA



1 Total Viable Count Summary

Table 1: Total Viable Count prevalence summary for this establishment and nationally.

	Plant	National
Tests	1221	16349
Positives	934	15258
Percent +ve	76.50	93.33
Lower Bound	74.01	92.93
Upper Bound	78.85	93.70

Table 2: Total Viable Count summary for this establishment and nationally.

	Plant	National
Positives	934	15258
Minimum	-0.097	-1.000
Q1	1.079	0.774
Median	1.477	1.230
Mean (+ve)	1.605	1.250
Q3	2.041	1.699
90th Percentile	2.672	2.217
95th Percentile	3.055	2.564
99th Percentile	3.693	3.322
Maximum	4.613	4.996
SD	0.767	0.762

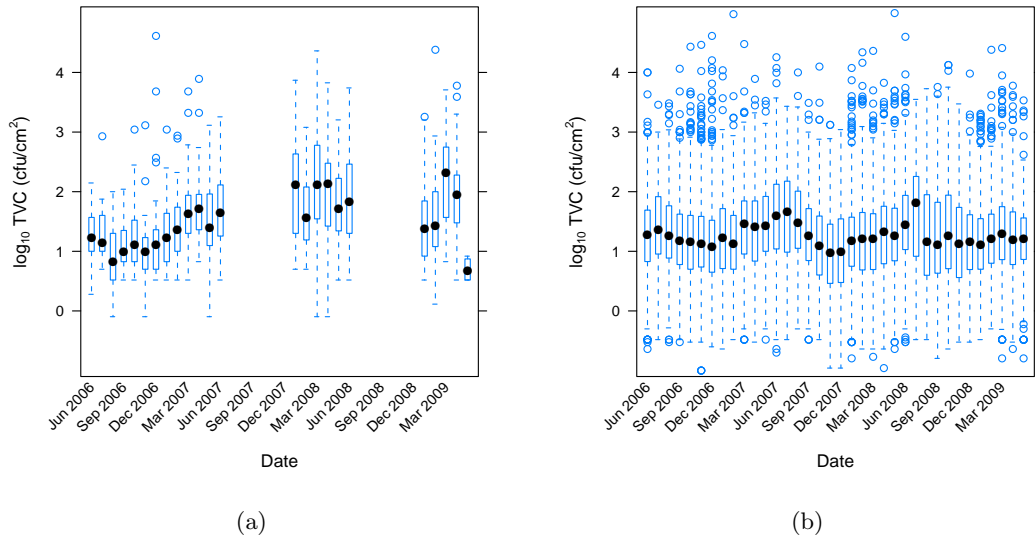


Figure 1: Box plot of monthly Total Viable Counts for (a) Establishment and (b) all establishments.

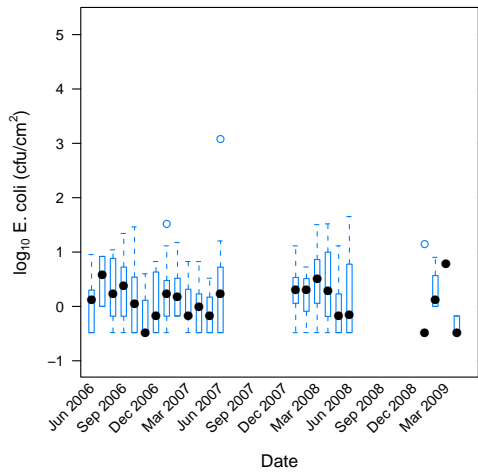
2 *E. coli* Summary

Table 3: *E. coli* prevalence summary for this establishment and nationally.

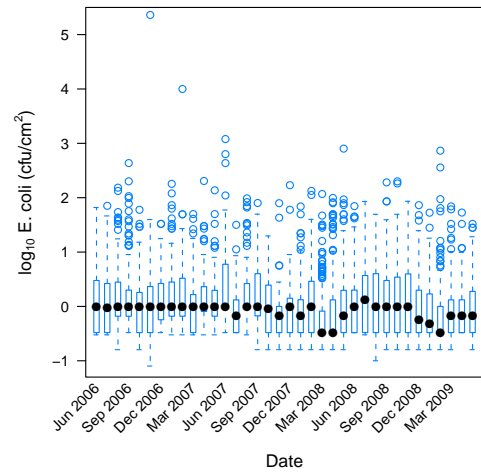
	Plant	National
Tests	1222	21067
Positives	193	4682
Percent +ve	15.79	22.22
Lower Bound	13.79	21.66
Upper Bound	17.96	22.79

Table 4: *E. coli* summary for this establishment and nationally.

	Plant	National
Positives	193	4682
Minimum	-0.482	-1.097
Q1	-0.482	-0.482
Median	0.000	-0.004
Mean (+ve)	0.167	0.040
Q3	0.568	0.301
90th Percentile	1.000	0.884
95th Percentile	1.158	1.204
99th Percentile	1.529	1.842
Maximum	3.079	5.362
SD	0.601	0.592



(a)



(b)

Figure 2: Box plot of monthly *E. coli* positive concentrations for (a) Establishment and (b) all establishments.

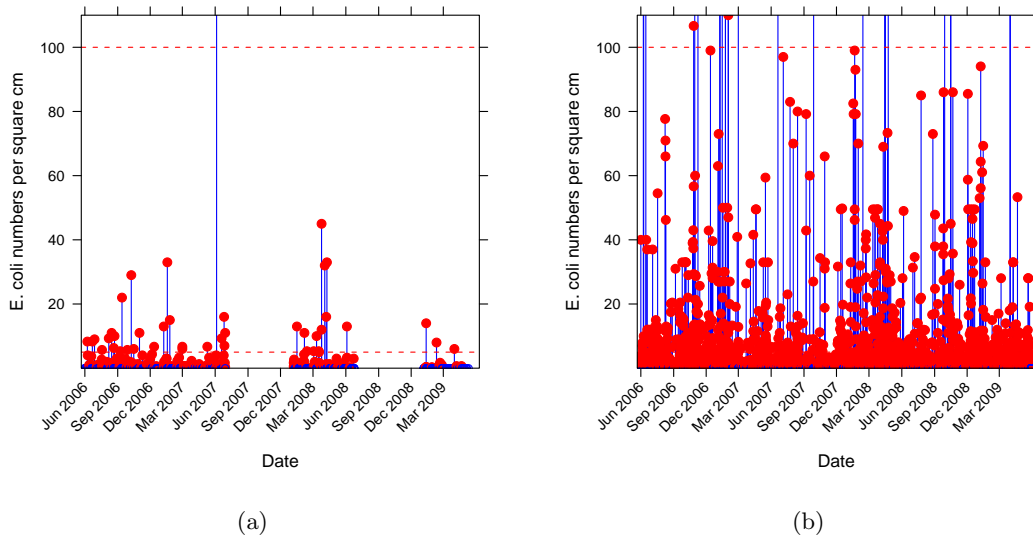


Figure 3: Time plot of *E. coli* tests for (a) Establishment and (b) all establishments — positive tests are presented as red points; negative tests are represented as circles.

3 *Salmonella* Summary

Table 5: *Salmonella* prevalence summary for this establishment and nationally.

	Plant	National
Tests	265	5370
Positives	2	39
Percent +ve	0.755	0.726
Lower Bound	0.092	0.517
Upper Bound	2.700	0.991

Table 6: *Salmonella* serovars for this establishment.

TestDate	Serotype
2006-10-03	S. muenchen
2006-10-09	S. muenchen

4 Glossary of Terms

4.1 Prevalence summary

Tests: The total number of samples (TVC, *E. coli* or *Salmonella*) in the ESAM database during the reporting period.

Positives: The number of samples with positive concentrations (ie. concentrations > 0).

Percent +ve: $100 \times \text{Positives}/\text{Tests}$.

Lower Bound & Upper Bound: Lower and Upper 95% Confidence Bounds. The “true” prevalence is expected to be in this range.

4.2 TVC and *E. coli* concentration summary

All concentration data are converted into logarithms with base 10, given by \log_{10} cfu/cm².

Minimum: Minimum concentration.

Q1 or 1st Quartile: 25% of the data are less than this value, 75% are more.

Q3 or 3rd Quartile: 75% of the data are less than this value, 25% are more.

Median: 50% of the data are less than this concentration, 50% are more,

90th Percentile: 90% of the data are less than this value, 10% are more.

95th Percentile: 95% of the data are less than this value, 5% are more.

99th Percentile: 99% of the data are less than this value, 1% are more.

Maximum: Maximum concentration.

Mean: The average.

Standard Deviation (SD): A measure of spread (or variability) about the mean.

4.3 Box plot

A graphical tool to assess the data.

- The solid dot is the median.
- The box contains half the data.
- The lower and upper bounds of the box are the 1st and 3rd quartile.
- The inter-quartile range (IQR) = $Q3 - Q1$
- The length of the whiskers is calculated by $\pm 1.5 \times \text{IQR}$. The end of the whiskers corresponds to the observation in the dataset that is closest to this defined value.
- Observations falling outside the extent of the whiskers are indicated separately. Values falling far outside the whiskers indicate unusual or extreme values.

4.4 Time plot of *E. coli* concentrations over time

This plot useful to compare the level of *E. coli* at individual plants over time compared to that found nationally over the same sampling period.

- Positive tests are represented as red dots; negative tests as blue open circles.
- Red (dashed) horizontal lines show the ‘m’ and ‘M’ values for that species.
 - The value of ‘m’ and ‘M’ for each species is defined in Appendix 1 of AQIS Meat Notice 2003/6.
 - Observations **below** the defined value ‘m’ are considered to have Acceptable levels of *E. coli*.
 - Observations **above** the defined balue ‘M’ are considered to have Unacceptable levels of *E. coli*.
 - The observations between ‘m’ and ‘M’ are considered to have Marginal levels of *E. coli*.