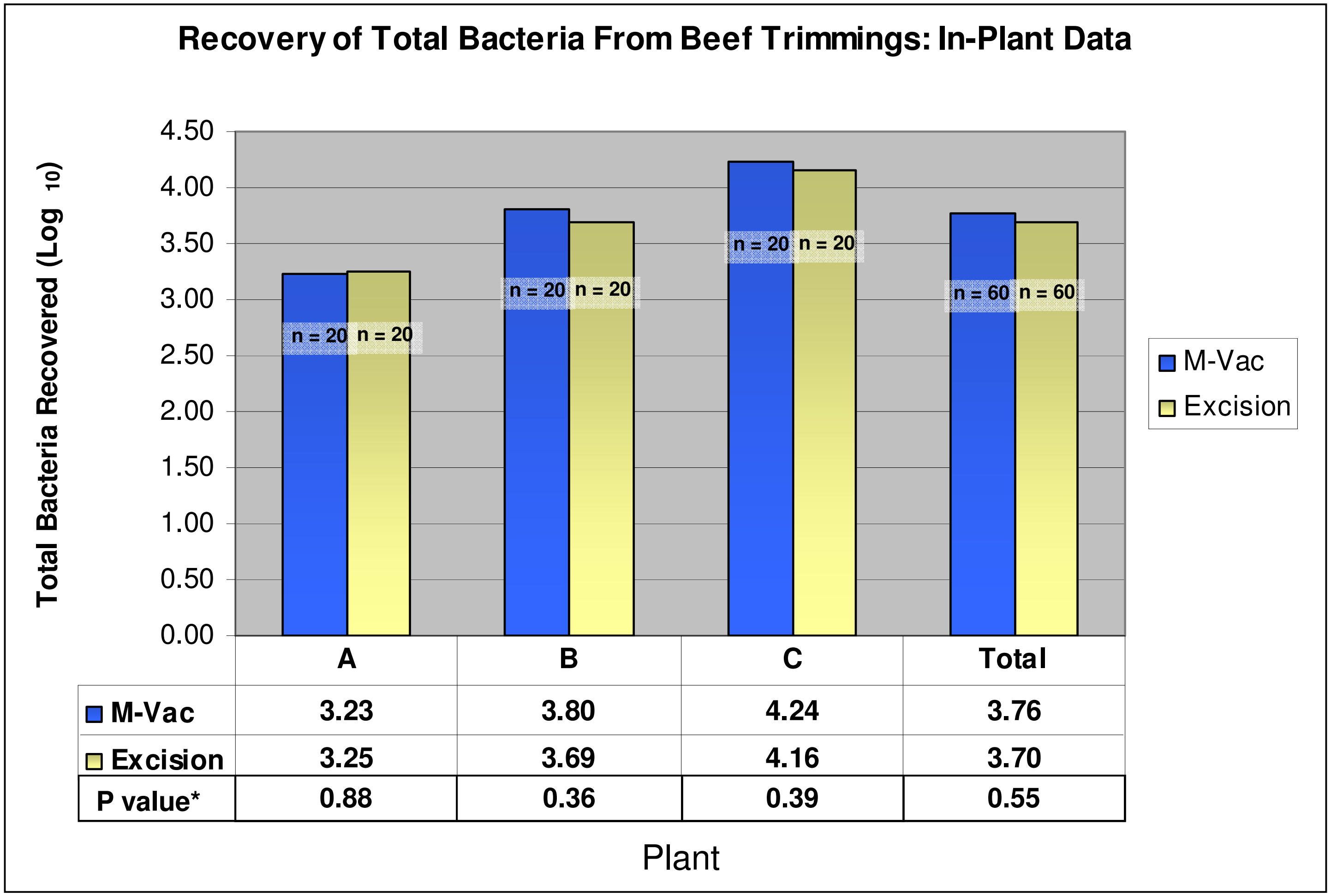
Combined In-Plant Validation
Total Bacteria Count

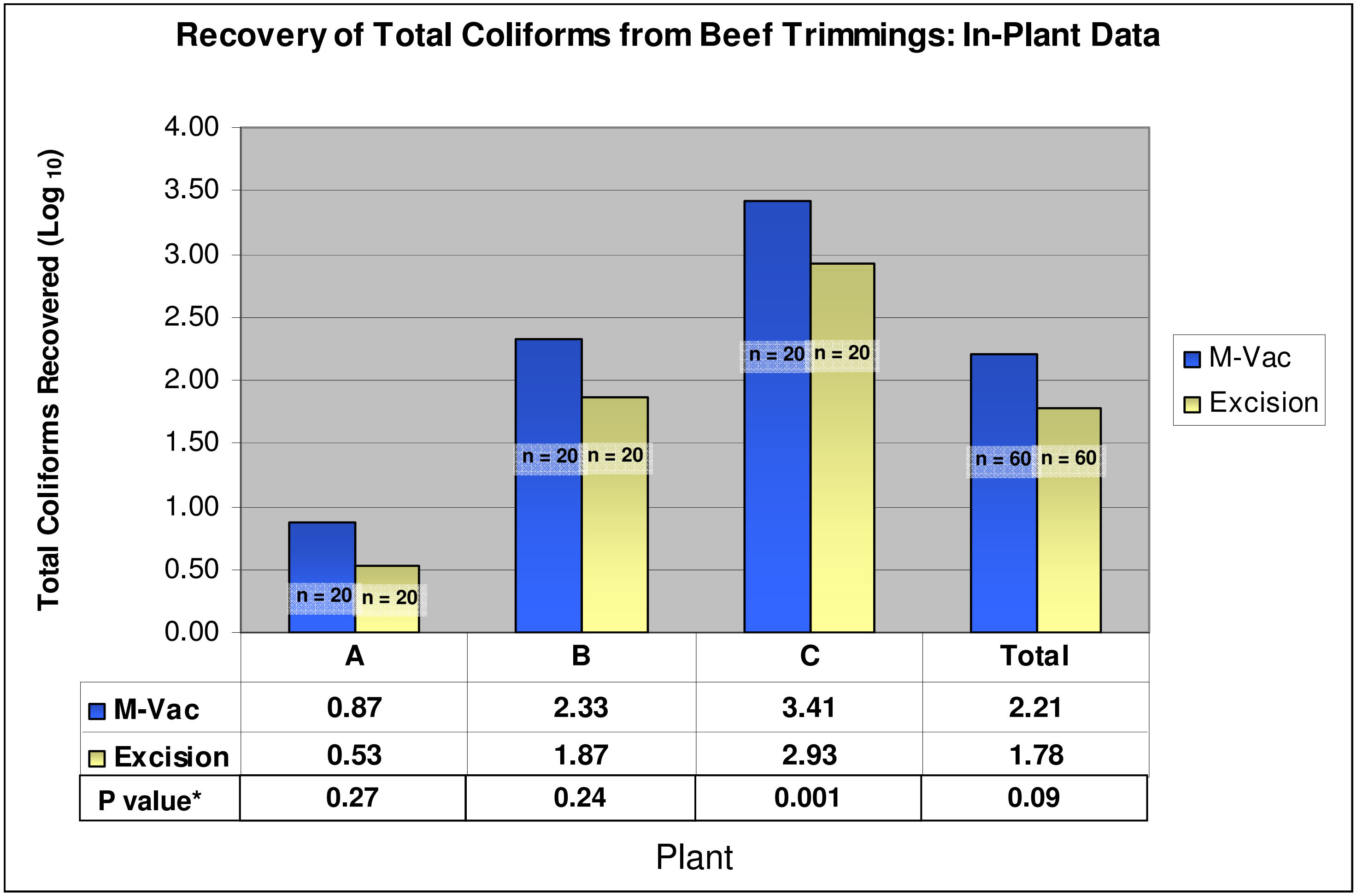


	A	B	C	Total
M-Vac	**3.23**	**3.80**	**4.24**	**3.76**
Excision	**3.25**	**3.69**	**4.16**	**3.70**
P value*	**0.88**	**0.36**	**0.39**	**0.55**

***P values were calculated using an un-paired t-test. No significant differences were observed between the two sampling techniques in any plant or in the combined data (P<0.05).**

*Each individual sample consisted of 12 sites (i.e. n=20*12)

Combined In-Plant Validation
Total Coliforms



Recovery of Total Coliforms from Beef Trimmings: In-Plant Data

	A	B	C	Total
🟦 M-Vac	0.87	2.33	3.41	2.21
🟨 Excision	0.53	1.87	2.93	1.78
P value*	0.27	0.24	0.001	0.09

***P values were calculated using an un-paired t-test. Significant differences were observed between the two sampling techniques in plant C ($P<0.05$).**

*Each individual sample consisted of 12 sites (i.e. n=20*12)

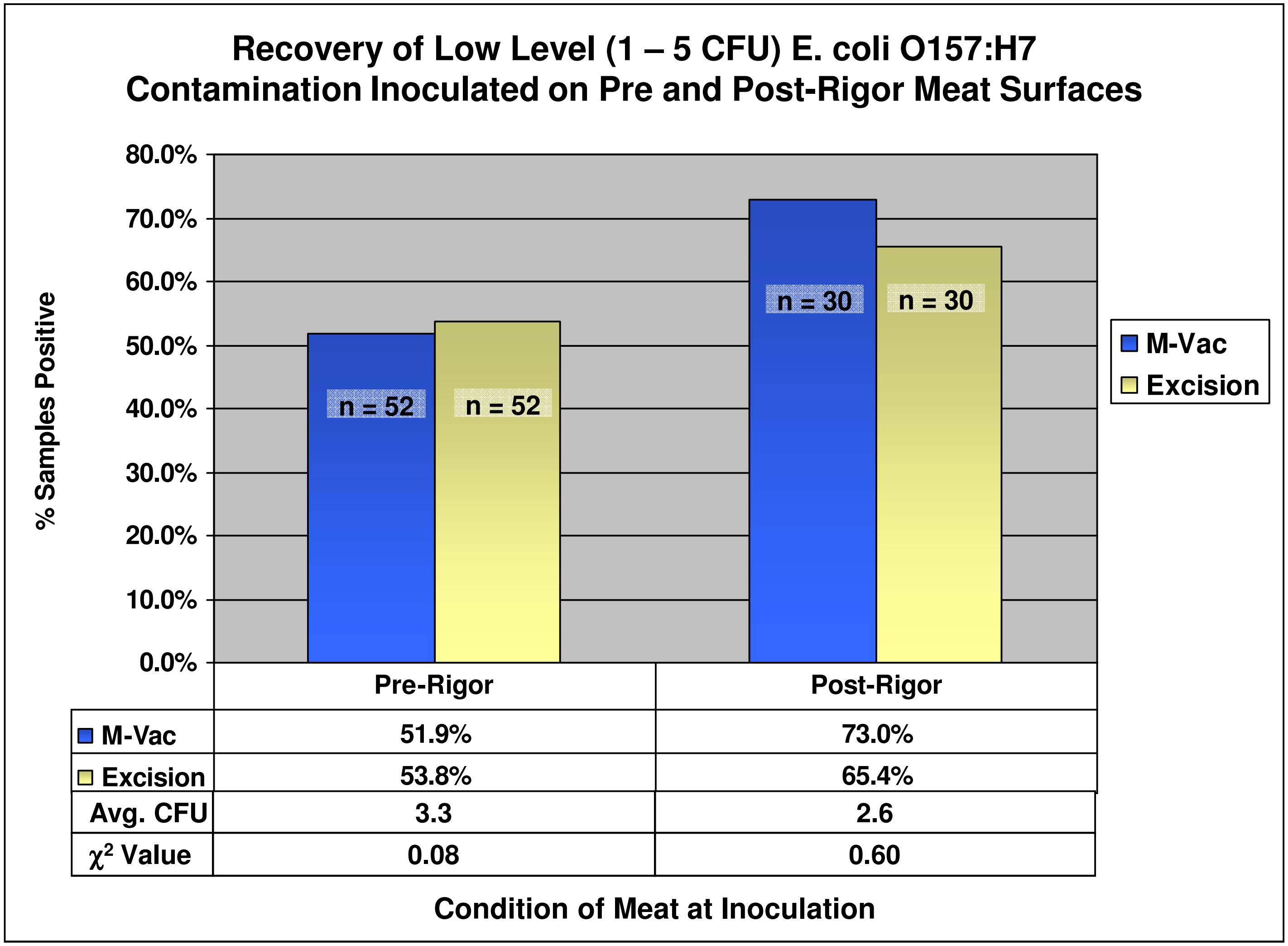
Combined In-Plant Validation Generic E. coli

Plant	Method	% of Samples *E. coli* +
Plant A **n=20**	**M-Vac**	**0.0%** (0/20)
	Excision	**0.0%** (0/20)
Plant B **n=20**	**M-Vac**	**35.0%** (7/20)
	Excision	**35.0%** (7/20)
Plant C **n=20**	**M-Vac**	**25.0%** 5/20
	Excision	**0.0%** (0/20)
Total **n=60**	**M-Vac**	**20.0%** (12/60)
	Excision	**11.7%** (7/60)

No significant differences were observed within each plant at the 5% probability level. Given the variability between plants, doing statistics on the pooled data, which would suggest a significant difference exists, would be an unfair test.

*Each individual sample consisted of 12 sites (i.e. n=20*12)

Low Level Contamination Data



Recovery of Low Level (1 – 5 CFU) E. coli O157:H7 Contamination Inoculated on Pre and Post-Rigor Meat Surfaces

	Pre-Rigor	Post-Rigor
🟦 M-Vac	51.9%	73.0%
🟨 Excision	53.8%	65.4%
Avg. CFU	3.3	2.6
χ^2 Value	0.08	0.60

No significant differences were observed in either treatment at the 5% probability level. A χ^2 value > 3.84 would have suggested a significant difference at the 5% probability level.

*Each individual sample consisted of 12 sites (i.e. n=52*12)