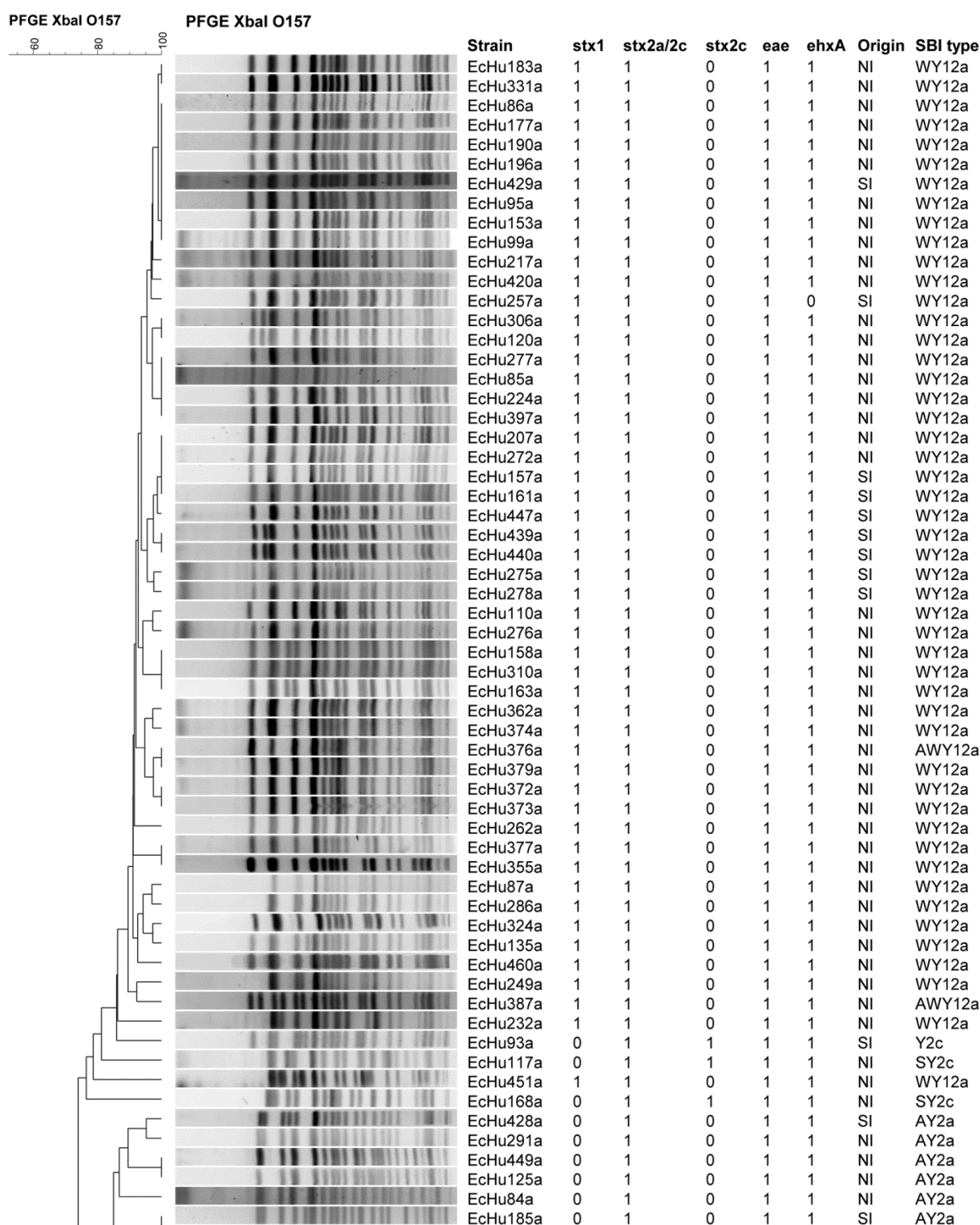



Geographic Divergence of Bovine and Human Shiga Toxin–Producing *Escherichia coli* O157:H7 Genotypes, New Zealand

Technical Appendix

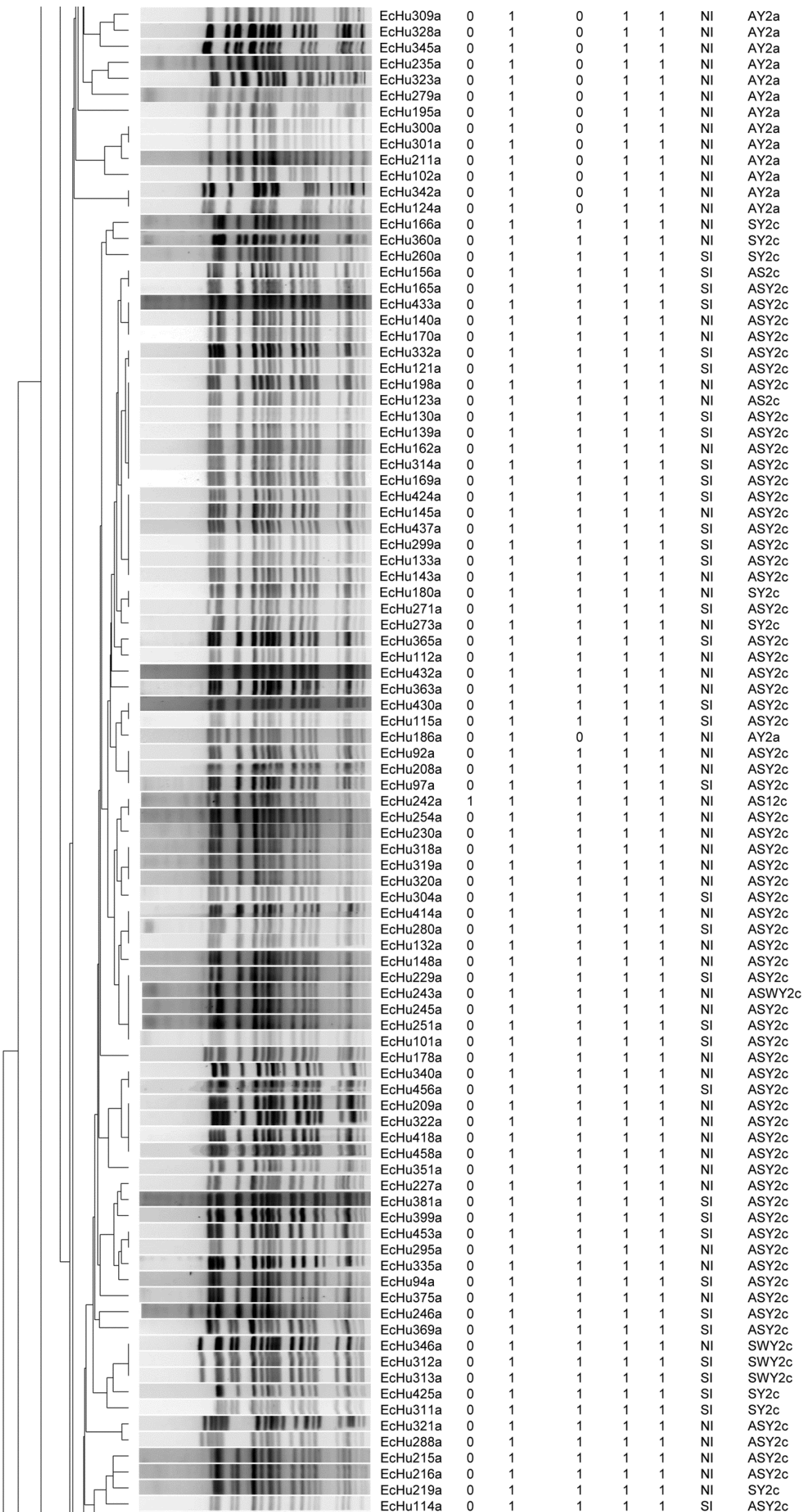
Technical Appendix Figure 1 (below and following pages). PFGE profile comparison of 363 human Shiga toxin–producing *Escherichia coli* O157:H7 isolates using UPGMA cluster analysis (Dice similarity coefficient, 1% band matching tolerance). Virulence genes (*stx1*, *stx2a/2c*, *stx2c*, *eae*, *ehxA*) present (1) or absent (0). Island of origin (Origin) presented as North Island (NI) or South Island (SI) of New Zealand, and genotypes of isolates as Shiga toxin (Stx)-encoding bacteriophage insertion (SBI) types.

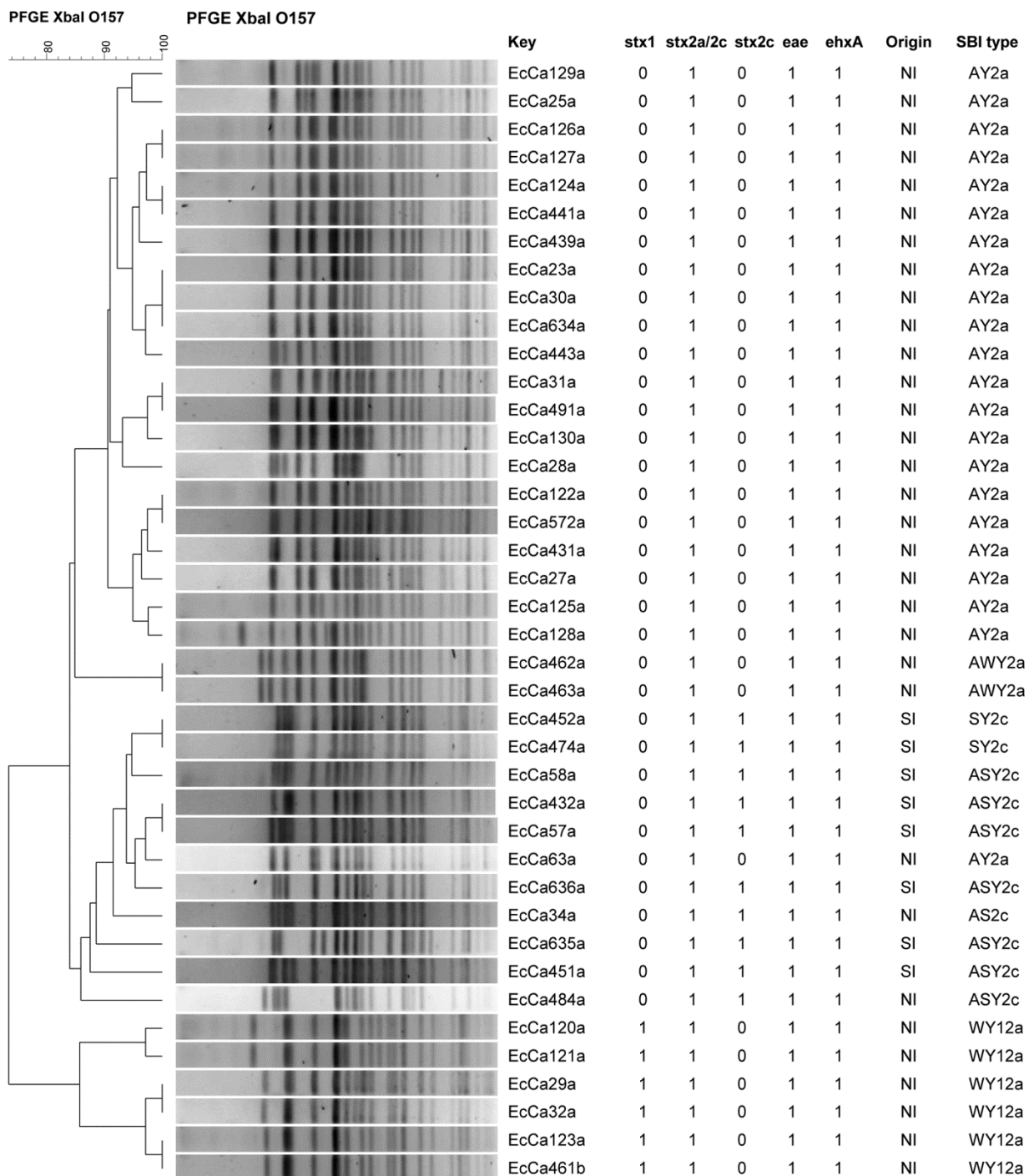
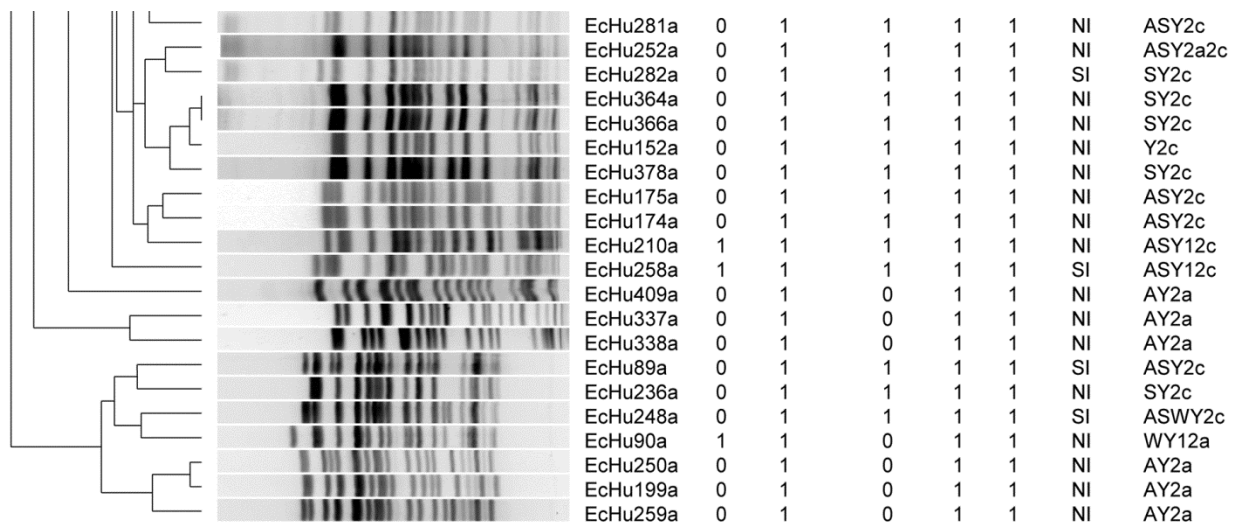




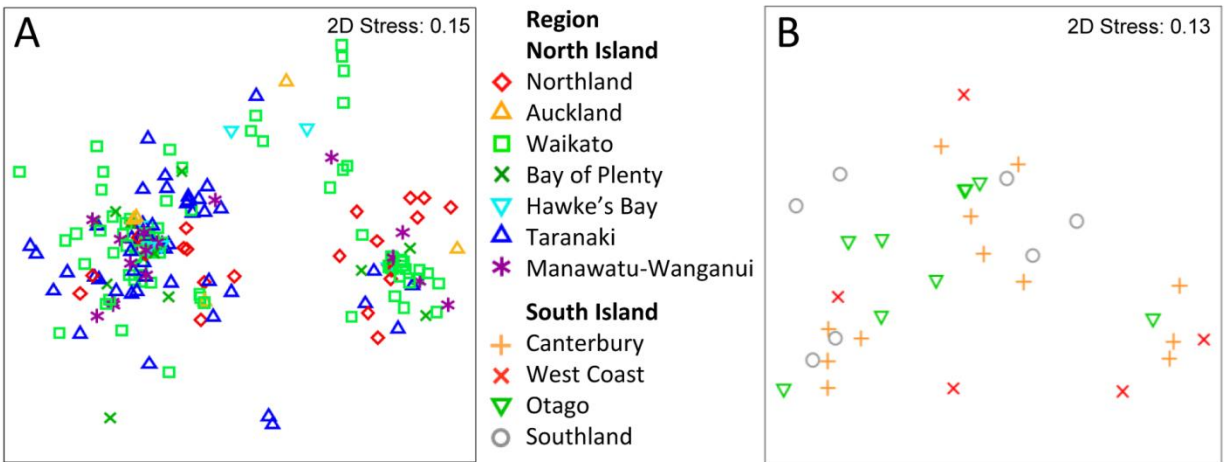
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EcHu442a	0	1	0	1	1	NI	AY2a
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EcHu270a	0	1	0	1	1	NI	AY2a
EcHu261a	0	1	0	1	1	NI	AY2a
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Technical Appendix Figure 2. PFGE profile comparison of 40 bovine Shiga toxin-producing *Escherichia coli* O157:H7 isolates using UPGMA cluster analysis (Dice similarity coefficient, 1% band matching tolerance). Virulence genes (*stx1*, *stx2a/2c*, *stx2c*, *eae*, *ehxA*) present (1) or absent (0). Island of origin (Origin) presented as North Island (NI) or South Island (SI) of New Zealand, and genotypes of isolates as Shiga toxin-encoding bacteriophage insertion (SBI) types.



Technical Appendix Figure 3. Multidimensional scaling plots showing the genotypic clustering of bovine meat Shiga toxin-producing *Escherichia coli* O157:H7 isolates originating from the North Island (n = 200, 1 isolate excluded) and South Island (n = 33, 1 isolate excluded) of New Zealand. The plots were determined on the basis of the isolates' pulsed-field gel electrophoresis profiles. Clusters associated with regions are presented for isolates from the North Island (A) and the South Island (B).

	NZ Cattle	NZ Human	AU Cattle	AU Human	US Cattle	US Human
NZ Cattle (n = 40)		0.74 – 0.93	0.00 – 0.13	0.04 – 0.20	0.16 – 0.41	0.18 – 0.41
NZ Human (n = 363)	0.92		0.04 – 0.09	0.06 – 0.18	0.21 – 0.33	0.23 – 0.34
AU Cattle (n = 205)	0.06	0.06		0.57 – 0.79	0.27 – 0.43	0.05 – 0.13
AU Human (n = 79)	0.11	0.12	0.69		0.24 – 0.44	0.08 – 0.21
US Cattle (n = 143)	0.28	0.27	0.35	0.35		0.51 – 0.69
US Human (n = 179)	0.30	0.29	0.09	0.15	0.61	

Technical Appendix Figure 4. Proportional similarity index (PSI) values assessing the similarity of frequency distributions of Shiga toxin-encoding bacteriophage insertion (SBI) types among human and bovine Shiga toxin-producing *Escherichia coli* O157:H7 isolates originating from New Zealand (NZ), Australia (AU), and the United States (US). PSI values are presented in the lower half of the matrix with corresponding bootstrapped 95% confidence intervals in the upper half. Increased font size of PSI value shows higher degree of similarity.