**Supplemental Information**

**Supplemental Table 1 |** Effect of buffer type, nBPW and BPW, of whole bird carcass rinses (WBCR) on the beta diversity metrics (Bray-Curtis, Jaccard Dissimilarity, Unweighted UniFrac, Weighted UniFrac) of the original samples (rinsate), non-selective and selective media (APC Petrifilm™ and CCPM agar plates), and enrichments (*Campylobacter* spp. and *Salmonella* spp. enrichments).

|  |  |  |  |
| --- | --- | --- | --- |
|   |   | PERMANOVA1 | PERMIDSP2 |
|   |   | pseudo-F | P-value | Q-value | N | F-value | P-value | Q-value | N |
| Rinsate |  |  |  |  |  |  |  |  |
|  | Bray-Curtis | 3.16 | < 0.01 | < 0.01 | 77 | 5.30 | 0.02 | 0.02 | 77 |
|  | Jaccard Dissimilarity | 2.6 | < 0.01 | < 0.01 | 77 | 6.42 | 0.01 | 0.01 | 77 |
|  | Unweighted UniFrac | 3.54 | < 0.01 | < 0.01 | 77 | 2.04 | 0.14 | 0.14 | 77 |
|  | Weighted UniFrac | 3.91 | < 0.05 | < 0.05 | 77 | 0.05 | 0.82 | 0.82 | 77 |
| APC Petrifilm™ |  |  |  |  |  |  |  |  |
|  | Bray-Curtis | 5.04 | < 0.01 | < 0.01 | 80 | 1.86 | 0.19 | 0.19 | 80 |
|  | Jaccard Dissimilarity | 5.91 | < 0.01 | < 0.01 | 80 | 11.84 | < 0.01 | <0.01 | 80 |
|  | Unweighted UniFrac | 7.08 | < 0.01 | < 0.01 | 80 | 0.10 | 0.42 | 0.42 | 80 |
|  | Weighted UniFrac | 7.87 | < 0.01 | < 0.01 | 80 | 0.43 | 0.52 | 0.52 | 80 |
| CCPM Extractions |  |  |  |  |  |  |  |  |
|  | Bray-Curtis | 0.84 | 1 | 1 | 70 | 0.84 | 0.62 | 0.62 | 70 |
|  | Jaccard Dissimilarity | 0.84 | 1 | 1 | 70 | 0.84 | 0.96 | 0.96 | 70 |
|  | Unweighted UniFrac | 0.84 | 1 | 1 | 70 | 0.84 | 0.73 | 0.73 | 70 |
|  | Weighted UniFrac | 0.84 | 1 | 1 | 70 | 0.84 | 0.80 | 0.80 | 70 |
| *Campylobacter* spp. Enrichment |  |  |  |  |  |  |  |  |
|  | Bray-Curtis | 4.28 | 0.01 | 0.01 | 43 | 4.19 | < 0.05 | < 0.05 | 43 |
|  | Jaccard Dissimilarity | 6.78 | < 0.01 | < 0.01 | 43 | 10.23 | < 0.01 | < 0.01 | 43 |
|  | Unweighted UniFrac | 2.63 | 0.03 | 0.03 | 43 | 3.42 | 0.07 | 0.07 | 43 |
|   | Weighted UniFrac | 6.78 | < 0.01 | < 0.01 | 43 | 7.98 | < 0.01 | < 0.01 | 43 |
| *Salmonella* spp. Enrichment |  |  |  |  |  |  |  |  |
|  | Bray-Curtis | 2.19 | < 0.01 | < 0.01 | 74 | 1.33 | 0.22 | 0.22 | 74 |
|  | Jaccard Dissimilarity | 11.55 | < 0.01 | < 0.01 | 74 | 11.84 | < 0.01 | <0.01 | 74 |
|  | Unweighted UniFrac | 10.57 | < 0.01 | < 0.01 | 74 | 7.79 | <0.01 | < 0.01 | 74 |
|  | Weighted UniFrac | 23.49 | < 0.01 | < 0.01 | 74 | 3.04 | 0.09 | 0.09 | 74 |

1PERMANOVA – a multivariate form of ANOVA with permutations for β diversity, this analysis is used to quantify pairwise comparisons of treatment groups through. The pseudo-F value compares the sum of squares of the between-clusters to that of the within-clusters, with a larger pseudo-F statistic indicating pronounced clustering.

2PERMDISP – testing to evaluate if dispersion in OTU reads accounts for the differences in distributions and abundances found in PERMANOVA. The F-value is the ratio of two variances.