**Table S2** Results of the PRF screening for Outcome 2\*

| **PRF** | **Value** | **Survey** |
| --- | --- | --- |
| **Scotland** | **England & Wales** | **England & Wales + Scotland\*\*** |
| **OR****[95% CI]** | **P-value** | **OR****[95% CI]** | **P-value** | **OR** **[95% CI]** | **P-value** |
| ***total cattle*** |  | **1.003**[1.001–1.01] | **0.11** | 1.000[0.998–1.002] | 0.90 | 1.0009[0.999–1.003] | 0.28 |
| ***cattle less than 1 year*** |  | **1.007**[1.00–1.02] | **0.20** | 1.00[0.99–1.01] | 0.79 | 1.004[1.00–1.01] | 0.24 |
| ***oldest in group*** |  | **1.09**[1.02–1.16] | **0.02** | 0.99[0.95–1.02] | 0.46 | 1.01[0.98–1.04] | 0.43 |
| ***management type*** | Dairy | 1.00 |  | 1.00 |  | 1.00 |  |
| Other | 0.11[0–313.84] | 0.60 | **0.20**[0.03–1.39] | **0.11** | **0.19**[0.03–1.38] | **0.11** |
| Suckler beef | 0.84[0.05–14.24] | 0.91 | 0.52[0.18–1.48] | 0.23 | 0.56[0.20–1.54] | 0.26 |
| Specialist finisher  | 3.04[0.13–73.32] | 0.50 | 1.03[0.10–10.33] | 0.98 | 1.71[0.37–7.87] | 0.49 |
| ***season*** | Autumn | 1.00 |  | 1.00 |  | 1.00 |  |
| Winter | **12.58**[2.74–57.73] | **0.004** | **4.48**[1.12–17.84] | **0.04** | **5.75**[2.28–14.51] | **0.0005** |
| Spring | 0.83[0.09–7.43] | 0.87 | **6.09**[1.31–28.34] | **0.03** | **3.37**[1.03–10.97] | **0.05** |
| Summer | 1.79[0.48–6.68] | 0.39 | **3.68**[0.80–16.92] | **0.10** | **2.46**[0.91–6.64] | **0.08** |
|  |  |  |  |  |  |  |
| ***housed*** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | **9.10**[2.65–31.25] | **0.002** | **5.81**[1.82–18.49] | **0.01** | 7.51[3.25–17.37] | **<0.0001** |
| ***feed changed*** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | **0.30**[0.06–1.47] | **0.15** | 0.72[0.25–2.07] | 0.54 | **0.50**[0.21–1.23] | **0.14** |
| ***location changed*** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | 0.61[0.13–2.84] | 0.54 | **0.50**[0.18–1.36] | **0.18** | **0.54**[0.23–1.28] | **0.17** |
| ***cattle brought on (CBO)*** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | **28.50**[0.26–3127.91] | **0.18** | 1.47[0.53–4.03] | 0.47 | **2.34**[0.88–6.24] | **0.09** |
| ***bought other livestock*** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | **2.78**[0.90–8.55] | **0.09** | 0.71[0.28–1.81] | 0.48 | 1.40[0.67–2.90] | 0.37 |
| ***non mains water*** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | **3.65**[0.70–18.91] | **0.14** | 1.43[0.28–7.29] | 0.67 | **2.56**[0.81–8.16] | **0.12** |
| **gulls** | No | 1.00 |  | 1.00 |  | 1.00 |  |
| Yes | **0.34**[0.10–1.15] | **0.09** | 1.00[0.36–2.81] | 0.99 | **0.58**[0.26–1.29] | **0.19** |

\* The proportion of pats on positive farms that tested individually positive for *E. coli* O157

\*\* OR estimates for PRFs using the combined data sets were calculated with the inclusion of the factor *survey* to account for differences at survey level

PRF, potential risk factor; OR, Odds Ratio; CI, Confidence Interval

OR and p-values are highlighted when p ≤ 0.20

PRFs are shown if they were statistically significant (p ≤ 0.20) in at least one data set, and were retained for multivariable analysis. All remaining PRFs as listed in Table S1 were screened for this outcome, but were not statistically significantly associated with the outcome in either data set or when the data sets were combined.