

## Supplementary Materials

**Table S1:** Association between O group and H type(s) among dairy cattle STEC isolates

| <b>O-Group</b> |          | <b>Associated H-type</b> |         |         |         |         |         |
|----------------|----------|--------------------------|---------|---------|---------|---------|---------|
| O2/O50         | H45 (20) |                          |         |         |         |         |         |
| O8             | H2 (1)   | H8 (3)                   | H14 (2) | H19 (3) | H21 (9) | H28 (1) | H38 (1) |
| O22            | H8 (5)   | H16 (8)                  |         |         |         |         |         |
| O24            | H38 (2)  |                          |         |         |         |         |         |
|                |          | H11                      |         |         |         |         |         |
| O26            | H2 (1)   | (11)                     |         |         |         |         |         |
| O27            | H21 (1)  |                          |         |         |         |         |         |
| O38            | H8 (1)   |                          |         |         |         |         |         |
| O43            | H8 (1)   |                          |         |         |         |         |         |
| O54            | H2 (1)   |                          |         |         |         |         |         |
| O61            | H16 (3)  |                          |         |         |         |         |         |
| O76            | H2 (2)   | H14 (2)                  |         |         |         |         |         |
| O82            | H8 (96)  |                          |         |         |         |         |         |
| O84            | H2 (1)   |                          |         |         |         |         |         |
| O92            | H28 (1)  |                          |         |         |         |         |         |
| O98            | H28 (3)  |                          |         |         |         |         |         |
| O103           | H8 (2)   |                          |         |         |         |         |         |
| O108           | H2 (1)   |                          |         |         |         |         |         |
|                |          | H28                      |         |         |         |         |         |
| O110           | H19 (2)  | (10)                     |         |         |         |         |         |
| O136           | H16 (1)  |                          |         |         |         |         |         |
| O139           | H8 (1)   | H15 (1)                  |         |         |         |         |         |
| O143           | H19 (1)  |                          |         |         |         |         |         |
|                |          | H19                      |         |         |         |         |         |
| O153/O178      | H7 (1)   | (19)                     | H21 (1) | H49 (1) |         |         |         |
| O154           | H4 (1)   |                          |         |         |         |         |         |
| O157           | H7 (20)  |                          |         |         |         |         |         |
| O163           | H21 (1)  |                          |         |         |         |         |         |
| O167           | H25 (1)  |                          |         |         |         |         |         |
| O171           | H2 (7)   |                          |         |         |         |         |         |
| O174           | H28 (1)  |                          |         |         |         |         |         |
| O177           | H19 (1)  |                          |         |         |         |         |         |
| O182           | H25 (5)  |                          |         |         |         |         |         |
| OgN3           | H2 (18)  | H19 (1)                  |         |         |         |         |         |
| OgN13          | H19 (8)  | H25(1)                   |         |         |         |         |         |
| OgN33          | H19 (1)  |                          |         |         |         |         |         |
| OgX18          | H2 (33)  | H8 (1)                   |         |         |         |         |         |
| OgX25          | H11 (5)  | H28 (1)                  |         |         |         |         |         |
| ONT            | H2 (1)   | H4 (2)                   | H7 (1)  | H8 (2)  | H19 (8) | H39 (1) |         |

Numbers in parentheses represent the number of dairy cattle STEC isolates

**Table S2:** Association between O group and H type(s) among dairy cattle EPEC isolates

| <b>O-Group</b> | <b>Associated H-type</b> |          |        |
|----------------|--------------------------|----------|--------|
| O2/O50         | H10 (1)                  |          |        |
| O10            | H2 (27)                  | H25 (13) | H- (1) |
| O15            | H2 (2)                   | H- (1)   |        |
| O26            | H2 (1)                   | H11 (24) |        |
| O49            | H10 (2)                  |          |        |
| O76            | H7 (3)                   |          |        |
| O84            | H14 (6)                  |          |        |
| O92            | H2 (1)                   |          |        |
| O103           | H8 (2)                   |          |        |
| O108           | H25 (5)                  |          |        |
| O115           | H25 (1)                  |          |        |
| O153/O178      | H-(1)                    |          |        |
| O177           | H2 (4)                   | H11(2)   |        |
| O182           | H25 (5)                  |          |        |
| OgN9           | H10 (1)                  | H28 (25) |        |
| OgX18          | H8 (1)                   |          |        |
| ONT            | H10 (3)                  | H25 (2)  | H-(2)  |

Numbers in parentheses represent the number of dairy cattle EPEC isolates

**Table S3.** Distribution of major virulence genes among dairy cattle STEC serotypes

| Serotype        | <i>stx1</i> | <i>stx2</i> | <i>eaeA</i> | <i>hlyA</i> | No of Isolates |
|-----------------|-------------|-------------|-------------|-------------|----------------|
| O2/O50:H45      | +           | -           | -           | -           | 1              |
| O2/O50:H45      | +           | -           | -           | +           | 19             |
| <b>O8:H8</b>    | -           | +           | -           | +           | 2              |
| <b>O8:H14</b>   | +           | -           | -           | -           | 2              |
| <b>O8:H19</b>   | -           | +           | -           | +           | 1              |
| <b>O8:H19</b>   | +           | +           | -           | +           | 2              |
| <b>O8:H21</b>   | -           | +           | -           | -           | 9              |
| O8:H28          | -           | +           | -           | +           | 1              |
| O8:H38          | -           | +           | -           | +           | 1              |
| O22:H2          | +           | +           | -           | -           | 1              |
| <b>O22:H8</b>   | -           | +           | -           | -           | 5              |
| O22:H16         | -           | +           | -           | -           | 8              |
| O24:H38         | +           | +           | -           | -           | 1              |
| O24:H38         | +           | +           | -           | +           | 1              |
| <b>O26:H2</b>   | +           | +           | +           | +           | 1              |
| <b>O26:H11</b>  | +           | -           | +           | +           | 11             |
| O27:H21         | +           | -           | -           | -           | 1              |
| O38:H8          | -           | +           | -           | -           | 1              |
| O43:H8          | +           | -           | -           | -           | 1              |
| O54:H2          | +           | +           | -           | +           | 1              |
| O61:H16         | -           | +           | -           | +           | 3              |
| O76:H2          | +           | +           | -           | +           | 2              |
| O76:H14         | +           | -           | -           | -           | 2              |
| <b>O82:H8</b>   | +           | +           | -           | -           | 31             |
| <b>O82:H8</b>   | +           | +           | -           | +           | 65             |
| O84:H2          | +           | -           | +           | +           | 1              |
| O92:H28         | +           | +           | -           | -           | 1              |
| O98:H28         | +           | -           | +           | +           | 3              |
| O103:H8         | -           | +           | -           | -           | 2              |
| O108:H2         | +           | -           | +           | +           | 1              |
| <b>O110:H19</b> | -           | +           | -           | -           | 2              |
| O110:H28        | -           | +           | -           | -           | 10             |
| O136:H16        | +           | +           | +           | +           | 1              |
| O139:H8         | +           | +           | -           | +           | 1              |
| O139:H15        | +           | +           | -           | +           | 1              |

**Table S3. Cont.**

| <b>Serotype</b>   | <i>stx1</i> | <i>stx2</i> | <i>eaeA</i> | <i>hlyA</i> | <b>No of Isolates</b> |
|-------------------|-------------|-------------|-------------|-------------|-----------------------|
| O143:H19          | +           | +           | -           | +           | 1                     |
| O153/O178:H7      | -           | +           | -           | -           | 1                     |
| O153/O178:H19     | -           | +           | -           | -           | 4                     |
| O153/O178:H19     | +           | +           | -           | -           | 15                    |
| O153/O178:H21     | -           | +           | -           | -           | 1                     |
| O153/O178:H49     | +           | +           | -           | -           | 1                     |
| <b>O154:H4</b>    | +           | -           | -           | -           | 1                     |
| <b>O157:H7</b>    | -           | +           | +           | +           | 20                    |
| O163:H21          | +           | -           | -           | -           | 1                     |
| O167:H25          | +           | +           | -           | +           | 1                     |
| <b>O171:H2</b>    | +           | +           | -           | +           | 7                     |
| <b>O174:H28</b>   | +           | +           | -           | +           | 1                     |
| O177:H19          | -           | +           | +           | +           | 1                     |
| O182:H25          | +           | -           | +           | +           | 5                     |
| OgN13:H19         | -           | +           | -           | +           | 8                     |
| OgN13:H25         | -           | +           | -           | +           | 1                     |
| OgN3:H2           | +           | +           | -           | +           | 18                    |
| OgN3:H19          | +           | -           | +           | +           | 1                     |
| OgN33:H19         | -           | +           | -           | -           | 1                     |
| OgX18:H8          | +           | +           | +           | +           | 1                     |
| OgX18:H2          | +           | +           | -           | +           | 33                    |
| OgX25:H28         | -           | +           | -           | +           | 1                     |
| OgX25:H11         | -           | +           | -           | +           | 5                     |
| ONT:H2            | +           | -           | -           | -           | 1                     |
| ONT:H4            | +           | +           | -           | +           | 2                     |
| ONT:H7            | -           | +           | -           | -           | 1                     |
| ONT:H8            | -           | +           | -           | -           | 1                     |
| ONT:H8            | +           | +           | -           | -           | 1                     |
| ONT:H19           | +           | +           | +           | -           | 1                     |
| ONT:H19           | +           | +           | -           | +           | 5                     |
| ONT:H19           | -           | +           | -           | -           | 2                     |
| ONT:H39           | +           | +           | -           | +           | 1                     |
| <b>Total</b>      | 247         | 288         | 46          | 237         | 339                   |
| <b>% Positive</b> | 72.9        | 85.7        | 13.6        | 69.9        |                       |

Serotypes in **bold** have been previously associated with human disease (Diarrhea, Bloody diarrhea, Hemorrhagic colitis and Hemolytic uremic syndrome) (WHO, 1998; Bettelheim and Goldwater, 2019)

**Table S4.** Distribution of virulence genes among dairy cattle EPEC serotypes

| Serotype          | <i>eaeA</i> | <i>hlyA</i> | <i>bfp</i> | No of Isolates |
|-------------------|-------------|-------------|------------|----------------|
| O2/O50:H10        | +           | -           | -          | 1              |
| O10:H2            | +           | -           | -          | 27             |
| O10:H2            | +           | +           | -          | 1              |
| O10:H25           | +           | -           | -          | 3              |
| O10:H25           | +           | +           | -          | 10             |
| O10:HNT           | +           | -           | -          | 1              |
| <b>O15:H2</b>     | +           | -           | -          | 2              |
| O15:HNT           | +           | +           | -          | 1              |
| O26:H2            | +           | -           | -          | 1              |
| <b>O26:H11</b>    | +           | -           | -          | 24             |
| O49:H10           | +           | +           | -          | 2              |
| <b>O76:H7</b>     | +           | +           | -          | 3              |
| O84:H14           | +           | -           | -          | 6              |
| O92:H2            | +           | -           | -          | 1              |
| O103:H8           | +           | -           | -          | 2              |
| O108:H25          | +           | +           | -          | 5              |
| O115:H25          | +           | +           | -          | 1              |
| O153/O178:HNT     | +           | -           | -          | 1              |
| O177:H2           | +           | +           | -          | 4              |
| <b>O177:H11</b>   | +           | +           | -          | 2              |
| O182:H25          | +           | +           | -          | 5              |
| OgN9:H10          | +           | +           | -          | 1              |
| OgN9:H28          | +           | -           | -          | 2              |
| OgN9:H28          | +           | +           | -          | 23             |
| OgX18:H8          | +           | +           | -          | 1              |
| ONT:H10           | +           | -           | -          | 3              |
| ONT:H25           | +           | +           | -          | 2              |
| ONT:HNT           | +           | +           | -          | 2              |
| <b>Total</b>      | 136         | 62          | 0          | 136            |
| <b>% Positive</b> | 100         | 45.6        | 0          |                |

Serotypes in **bold** have been previously associated with diarrhea in humans (Blanco *et al.*, 2006)