**Supporting Information File S1**

**Livestock-associatedmethicillin and multidrug resistant *Staphylococcus aureus* is present among industrial, not antibiotic-free livestock operation workers in North Carolina**

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**Table S1.** List of antibiotics by antibiotic class used in antibiotic-susceptibility testing.

|  |  |  |
| --- | --- | --- |
| **Antibiotic class** | **Antibiotic tested** | **Concentration**  |
| aminoglycosides | gentamicin | 10 µg |
| β-lactams | ampicillin | 10 µg |
|  | oxacillin | 1 µg |
|  | penicillin | 10 units |
| cephalosporins | ceftriaxone | 30 µg |
| floroquinolones | ciprofloxacin | 5 µg |
|  | gatifloxacin | 5 µg |
|  | levofloxacin | 5 µg |
| glycopeptides | vancomycin | 5 µg/mL |
| lincosamides | clindamycin | 2 µg |
| macrolides | erythromycin | 15 µg |
| oxazolidones | linezolid | 30 µg |
| rifamycin | rifampin | 5 µg |
| streptogramins | quinupristin/dalfopristin | 15 µg |
| sulfonamide/methoprim  | sulfamethoxazole/trimethoprim | 23.75/1.25 µg |
| tetracycline | tetracycline | 30 µg |

**Table S2a-b.** Phenotypic and molecular characteristics of *S. aureus* detected among households by exposure groups. Individuals in households shaded in gray displayed some level of strain concordance between worker and household member carriage status.

1. ILO participants by household

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Household** | **Participant Type** | ***S. aureus*** | **MRSA** | **MDRSA** | **Tetracycline- resistance** | ***scn*** | **CC**b |
| 1 | Worker | Yes | No | Yes | Resistant | - | 398 |
|  | Worker | No |  |  |  |  |  |
| 4 | Worker | No |  |  |  |  |  |
|  | Household Member | Yes | No | No | Susceptible | + | 188 |
| 6 | Worker | No |  |  |  |  |  |
|  | Household Member | Yes | No | No | Susceptible | + | 182\*  |
|  | Household Member | Yes | No | No | Intermediate | + | 45\* |
| 8 | Worker | Yes | No | Yes | Resistant | + | 398 |
|   | Worker | Yes | No | Yes | Resistant | - | 398 |
|   | Household Member | Yes | No | Yes | Susceptible | - | 30 |
| 9 | Worker | Yes | No | Yes | Susceptible | + | 30 |
|  | Household Member | No |  |  |  |  |  |
| 10 | Worker | Yes | No | Yes | Resistant | - | 398 |
|  | Household Member | Yes | No | No | Susceptible | + | 45\* |
|  | Household Member | No |  |  |  |  |  |
| 11 | Worker | No |  |  |  |  |  |
|  | Worker | No |  |  |  |  |  |
|  | Household Member | Yes | No | Yes | Susceptible | - | 30 |
| 12 | Worker | Yes | No | No | Resistant | + | 1776 |
|  | Worker | No |  |  |  |  |  |
| 13 | Worker | Yes | No | No | Resistant | + | 20 |
|  | Worker | Yes | No | No | Resistant | + | 15 |
|  | Household Member | Yes | No | No | Susceptible | + | 45 |
| 16 | Worker | Yes | No | Yes | Resistant | - | 398 |
|  | Worker | Yes | No | No | Susceptible | + | 182\* |
| 18 | Worker | Yes | No | No | Susceptible | + | 97 |
|  | Household Member | No |  |  |  |  |  |
|   | Household Member | No |   |   |   |   |   |

|  |
| --- |
| b) AFLO participants by household. |
| **Household** | **Participant Type** | ***S. aureus*** | **MRSA** | **MDRSA** | **Tetracycline-resistance** | ***scn*** | **CC**b |
| 4 | Worker | Yes | No | No | Susceptible | + | 87 |
|  | Worker | Yes | No | No | Susceptible | + | 59 |
| 5 | Worker | Yes | Yes | No | Susceptible | + | 840 |
|  | Worker | Yes | No | No | Susceptible | + | 5 |
| 6 | Worker | Yes | No | No | Susceptible | + | 8 |
|  | Household Member | Yes | No | No | Susceptible | + | 45 |
|  | Household Member | No |  |  |  |  |  |
| 11 | Worker | Yes | No | No | Susceptible | + | 182\* |
|  | Worker | No |  |  |  |  |  |
|  | Household Member | Yes | No | No | Susceptible | + | 5 |
| 12 | Worker | Yes | No | No | Susceptible | + | 30 |
|  | Household Member | No |  |  |  |  |  |
|  | Household Member | No |  |  |  |  |  |
| 13 | Worker | Yes | No | Yes | Susceptible | + | 30 |
|  | Worker | No |  |  |  |  |  |
| 15 | Worker | Yes | No | Yes | Susceptible | + | 72 |
|  | Worker | No |  |  |  |  |  |
| 17 | Worker | Yes | No | Yes | Intermediate | + | 5 |
|  | Worker | Yes | No | No | Susceptible | + | 5 |
|  | Worker | Yes | No | No | Susceptible | - | 30 |
| 18 | Worker | Yes | No | Yes | Susceptible | + | 30 |
|  | Household Member | Yes | No | No | Susceptible | + | 182 |
|  | Household Member | No |  |  |  |  |  |
| 19 | Worker | Yes | No | No | Susceptible | + | 8 |
|  | Worker | No |  |  |  |  |  |
| 20 | Worker | Yes | Yes | No | Susceptible | + | 5 |
|  | Worker | Yes | Yes | No | Susceptible | + | 5 |
| 21 | Worker | Yes | No | Yes | Susceptible | - | 30 |
|   | Household Member | Yes | No | No | Susceptible | + | 30 |
|   | Household Member | Yes | No | No | Susceptible | + | 30 |
| 22 | Worker | Yes | No | No | Susceptible | + | 45 |
|   | Household Member | Yes | No | No | Susceptible | + | 45 |
|   | Household Member | Yes | No | No | Susceptible | + | 1 |

ILO = industrial livestock operation

AFLO = antibiotic-free livestock operation

CC = clonal complex

\*Novel sequence type