

**Table S1.** General management for all flocks

| Flock           | Style | Genetic Line | Colour | Brooder Compartments<br>Opened (days) | Aisle Width<br>(m) | Aisle<br>Length (m) | Total Chicks<br>Placed | Average<br>Group Size | Natural<br>Light | Migration<br>Fences | Visits When<br>Ramps Available |
|-----------------|-------|--------------|--------|---------------------------------------|--------------------|---------------------|------------------------|-----------------------|------------------|---------------------|--------------------------------|
| 1A              | 1     | Lohmann      | Brown  | 46                                    | 1.6                | 102.4               | 29 600                 | 14 800                | no               | yes                 | 2, 3                           |
| 1B              | 1     | Dekalb       | White  | 48                                    | 1.5                | 122.8               | 32 742                 | 10 914                | no               | yes                 | 2,3                            |
| 1C <sup>1</sup> | 1     | Lohmann      | Brown  | 33                                    | 1.9                | 104.0               | 47 000                 | 2 500                 | no               | yes                 | 2                              |
| 1D <sup>1</sup> | 1     | Lohmann      | White  | 33                                    | 1.9                | 104.0               | 47 000                 | 3 000                 | no               | yes                 | 2                              |
| 1E <sup>1</sup> | 1     | Dekalb       | White  | 28                                    | 2.3                | 104.0               | 47 000                 | 5 167                 | no               | yes                 | 2                              |
| 2A              | 2     | Lohmann      | White  | 28                                    | 1.4                | 50.1                | 43 000                 | 5 591                 | no               | no                  | 2, 3                           |
| 2B              | 2     | Bovan        | Brown  | 28                                    | 1.7                | 64.5                | 35 506                 | 6 642                 | no               | no                  | 2, 3                           |
| 2C <sup>2</sup> | 2     | Lohmann      | White  | 28                                    | 21.3               | 82.7                | 39 200                 | 7 350                 | yes              | no                  | 2, 3                           |
| 2D              | 2     | Shaver       | White  | 22                                    | 1.4                | 33.6                | 11 200                 | 4 200                 | no               | no                  | none                           |
| 2E <sup>3</sup> | 2     | Lohmann      | Brown  | 28                                    | 2.0                | 57.9                | 22 470                 | 4 214                 | yes              | no                  | 2,3                            |
| 3A              | 3     | Lohmann      | White  | 42                                    | 2.7                | 48.0                | 14 240                 | 14 240                | no               | no                  | 1,2                            |
| 3B <sup>3</sup> | 3     | Lohmann      | Brown  | 49                                    | 2.0                | 67.8                | 20 700                 | 20 700                | yes              | no                  | 2                              |
| 3C <sup>4</sup> | 3     | Lohmann      | Brown  | 91                                    | 2.7                | 42.7                | 9 200                  | 9 200                 | no               | no                  | 2                              |
| 3D              | 3     | ISA          | Brown  | 45                                    | 3.3                | 7.2                 | 700                    | 700                   | no               | no                  | 2,3                            |
| 3E              | 3     | Lohmann      | White  | 46                                    | 1.8                | 34.0                | 11 730                 | 11 730                | no               | no                  | 1,2,3                          |

<sup>1</sup>Flocks 1C, 1D, and 1E were simultaneously housed same building and separated by migration fences. There were 10 000 Lohmann Brown, 6 000 Lohmann White, and 31 000 Dekalb White chicks placed.

<sup>2</sup>Non-organic flock provided natural light

<sup>3</sup>Organic flocks provided natural light

<sup>4</sup>Organic flock not provided natural light