Supplementary Table S1. Target incubation profiles for the first 18 days of incubation in each incubator.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Egg Shell Temperature (oC) target for each day of incubation** | | | |
| **Incubator number** | **1** | **2** | **3** | **4** |
| **Day of incubation** | **Slow incubation profiles** | | | **Standard profile** |
| 1 | 36.9 | 36.9 | 37.3 | 37.8 |
| 2 | 37.0 | 37.0 | 37.3 | 37.8 |
| 3 | 37.2 | 37.1 | 37.3 | 37.8 |
| 4 | 37.5 | 37.2 | 37.4 | 37.8 |
| 5 | 37.6 | 37.3 | 37.4 | 37.8 |
| 6 | 37.7 | 37.4 | 37.4 | 37.8 |
| 7 | 37.8 | 37.5 | 37.5 | 37.8 |
| 8 | 37.8 | 37.5 | 37.5 | 37.8 |
| 9 | 37.8 | 37.5 | 37.5 | 37.8 |
| 10 | 37.8 | 37.6 | 37.6 | 37.8 |
| 11 | 37.8 | 37.6 | 37.6 | 37.8 |
| 12 | 37.8 | 37.6 | 37.6 | 37.8 |
| 13 | 37.8 | 37.7 | 37.7 | 37.8 |
| 14 | 37.8 | 37.8 | 37.7 | 37.8 |
| 15 | 37.8 | 37.8 | 37.7 | 37.8 |
| 16 | 37.8 | 37.8 | 37.8 | 37.8 |
| 17 | 37.8 | 37.8 | 37.8 | 37.8 |
| 18 | 37.8 | 37.8 | 37.8 | 37.8 |

Supplementary Table S2. Measurements on a sample of chicks at time of take-off from the incubator by incubator and time of hatch.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Incubator – EST\1 profile | Hatching time\2 | N | Chick weight gm | Chick Length cm | Yolk weight gm | |
| 1 – slow\3 | Early | 10 | 39.8 | 18.8AB | 3.65 | |
| Late | 10 | 43.0 | 18.7AB | 4.98 | |
| 2 - slow | Early | 7 | 39.9 | 19.1A | 4.08 | |
| Late | 13 | 39.4 | 18.3B | 4.47 | |
| 3 - slow | Early | 10 | 38.3 | 18.6AB | 3.23 | |
| Late | 10 | 41.9 | 18.7AB | 4.73 | |
| 4 – standard\4 | Early | 17 | 38.7 | 18.9AB | 3.63 | |
| Late | 2 | 41.3 | 18.3AB | 4.65 | |
|  |  | *P=* | *0.15* | *0.03* | *0.36* | |
| 1 |  | 20 | 41.4 | 18.7 | 4.32 | |
| 2 |  | 20 | 39.6 | 18.7 | 4.28 | |
| 3 |  | 20 | 40.1 | 18.7 | 3.98 | |
| 4 |  | 19 | 40.0 | 18.6 | 4.14 | |
|  |  | *P=* | *0.27* | *0.89* | *0.73* | |
|  | Early | 44 | 39.2B | 18.8A | 3.65B | |
|  | Late | 35 | 41.4A | 18.5B | 4.71A | |
|  |  | *P=* | *0.007* | *0.03* | *0.0003* | |
| A,B – means with different superscripts within a section differ significantly (P<0.05)  \1 – Egg Shell Temperature target  \2 -Early <= 498 hours, Late >498 hrs of incubation time  \3 – EST profile designed to slow the incubation process  \4 – EST maintained at 37.8oC throughout first 18 days of incubation | | | | | |