|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Trait | Region | Model | Effect Tested | df | χ2 | p-value |
| Embryo Survival | Great Lakes | **t + pop + t:pop + family + dam** |  |  |  |  |
|  | pop + family + dam | t | 3 | 443.54 | < 0.001 |
|  | t + family + dam | pop | 1 | 600.61 | < 0.001 |
|  | t + pop + family + dam | t:pop | 3 | 198.56 | < 0.001 |
|  | t + pop + t:pop + dam | family | 1 | 181.47 | < 0.001 |
|  | t + pop + t:pop + family | dam | 1 | 23.36 | < 0.001 |
| Finland | **t + pop + t:pop + family + dam** |  |  |  |  |
|  | pop + family + dam | t | 3 | 223.54 | < 0.001 |
|  | t + family + dam | pop | 1 | 993.43 | < 0.001 |
|  | t + pop + family + dam | t:pop | 3 | 52.94 | < 0.001 |
|  | t + pop + t:pop + dam | family | 1 | 48.43 | < 0.001 |
|  | t + pop + t:pop + family | dam | 1 | 13.52 | < 0.001 |
| Incubation Period (DPF) | Great Lakes | **t + pop + t:pop + family + dam + sire** |  |  |  |  |
|  | pop + family + dam + sire | t | 3 | 27,176.01 | < 0.001 |
|  | t + family + dam + sire | pop | 1 | 3,173.76 | < 0.001 |
|  | t + pop + family + dam + sire | t:pop | 3 | 1,113.95 | < 0.001 |
|  | t + pop + t:pop + dam + sire | family | 1 | 64.82 | < 0.001 |
|  | t + pop + t:pop + family + sire | dam | 1 | 60.90 | < 0.001 |
|  | t + pop + t:pop + family + dam | sire | 1 | 8.59 | 0.003 |
| Finland | **t + pop + t:pop + family + dam + sire** |  |  |  |  |
|  | pop + family + dam + sire | t | 3 | 6,976.53 | < 0.001 |
|  | t + family + dam + sire | pop | 1 | 727.92 | < 0.001 |
|  | t + pop + family + dam + sire | t:pop | 3 | 157.91 | < 0.001 |
|  | t + pop + t:pop + dam + sire | family | 1 | 8.25 | 0.004 |
|  | t + pop + t:pop + family + sire | dam | 1 | 36.19 | < 0.001 |
|  | t + pop + t:pop + family + dam | sire | 1 | 6.03 | 0.014 |
| Incubation Period (ADD) | Great Lakes | **t + pop + t:pop + family + dam + sire** |  |  |  |  |
|  | pop + family + dam + sire | t | 3 | 14,370.19 | < 0.001 |
|  | t + family + dam + sire | pop | 1 | 3,495.26 | < 0.001 |
|  | t + pop + family + dam + sire | t:pop | 3 | 160.60 | < 0.001 |
|  | t + pop + t:pop + dam + sire | family | 1 | 61.35 | < 0.001 |
|  | t + pop + t:pop + family + sire | dam | 1 | 60.90 | < 0.001 |
|  | t + pop + t:pop + family + dam | sire | 1 | 14.08 | < 0.001 |
| Finland | **t + pop + t:pop + family + dam + sire** |  |  |  |  |
|  | pop + family + dam + sire | t | 3 | 2,811.03 | < 0.001 |
|  | t + family + dam + sire | pop | 1 | 706.17 | < 0.001 |
|  | t + pop + family + dam + sire | t:pop | 3 | 440.18 | < 0.001 |
|  | t + pop + t:pop + dam + sire | family | 1 | 10.58 | 0.001 |
|  | t + pop + t:pop + family + sire | dam | 1 | 36.87 | < 0.001 |
|  | t + pop + t:pop + family + dam | sire | 1 | 5.01 | 0.025 |