**Table S12.** BIC table for the natural logarithm of cohort diameter of suppressed model.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | **df** | **BIC** | **ΔBIC** | **BIC weight** | **Evidence ratio** |
| ***Log(CDS)ij = β0 + bj + β1SDij + εij***  | 4 | -35.39 | 0 | 5.98E-03 | 1 |
| ***Log(CDS)ij = β0 + bj + β1PROD.Lij + β2PROD.Mij + εij***  | 5 | -35.19 | 0.20 | 5.40E-03 | 1.11 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + εi*** | 4 | -33.95 | 1.44 | 2.91E-03 | 2.06 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2PROD.Lij + β3PROD.Mij + εij***  | 6 | -32.13 | 3.26 | 1.17E-03 | 5.11 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2SDij + εij***  | 5 | -32.04 | 3.35 | 1.12E-03 | 5.34 |
| ***Log(CDS)ij = β0 + bj + β1MPBMORT.Lij + β2MPBMORT.Mij + εij***  | 5 | -31.86 | 3.54 | 1.02E-03 | 5.86 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2SDij + β3PROD.Lij + β4PROD.Mij + εij***  | 7 | -29.45 | 5.94 | 3.06E-04 | 19.52 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2SDij + β3DMR\*SDij + εij***  | 6 | -28.42 | 6.97 | 1.83E-04 | 32.69 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2MPBMORT.Lij + β3MPBMORT.Mij + εij***  | 6 | -28.40 | 7.00 | 1.81E-04 | 33.05 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2SDij + β3MPBMORT.Lij + β4MPBMORT.Mij + εij***  | 7 | -27.32 | 8.08 | 1.05E-04 | 56.74 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2MPBMORT.Lij + β3MPBMORT.Mij + β4PROD.Lij + β5PROD.Lij + εij***  | 8 | -25.60 | 9.80 | 4.46E-05 | 134.05 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2PROD.Lij + β3PROD.Mij + β4DMR\*PROD.Lij + β5DMR\*PROD.Mij + εij***  | 8 | -24.89 | 10.50 | 3.14E-05 | 190.62 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2MPBMORT.Lij + β3MPBMORT.Mij + β4PROD.Lij + β5PROD.Mij + β6SDij + εij***  | 9 | -23.41 | 11.98 | 1.50E-05 | 399.57 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2MPBMORT.Lij + β3MPBMORT.Mij + β4DMR\*MPBMORT.Lij + β5DMR\*MPBMORT.Mij + εij***  | 8 | -23.31 | 12.09 | 1.42E-05 | 420.98 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2SDij + β3MPBMORT.Lij + β4MPBMORT.Mij + β5SD\*DMRij + β6MPBMORT.L\*DMRij + β7MPBMORT.M\*DMRij + εij***  | 10 | -19.57 | 15.82 | 2.19E-06 | 2728.94 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2SDij + β3PROD.Lij + β4PROD.Mij + β5SD\*DMRij + β6PROD.L\*DMRij + β7PROD.M\*DMRij + εij***  | 10 | -18.60 | 16.80 | 1.35E-06 | 4440.24 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2MPBMORT.Lij + β3MPBMORT.Mij + β4PROD.Lij + β5PROD.Mij + β6PROD.L\*DMRij + β7PROD.M\*DMRij +β8MPBMORT.L\*DMRij + β9MPBMORT.M\*DMRij + εij***  | 12 | -12.05 | 23.34 | 5.10E-08 | 1.17E+05 |
| ***Log(CDS)ij = β0 + bj + β1DMRij + β2MPBMORT.Lij + β3MPBMORT.Mij + β4PROD.Lij + β5PROD.Mij + β6SDij + β7PROD.L\*DMRij + β8PROD.M\*DMRij + β9MPBMORT.L\*DMRij + β10MPBMORT.M\*DMRij + β11SD\*DMRij + εij***  | 14 | -8.20 | 27.19 | 7.45E-09 | 8.02E+05 |

Note: df= degrees of freedom; BIC = Bayesian Information Criterion; ΔBIC = difference in BIC value as compared with that of the preferred model; *Log(CDS)ij* = natural logarithm of cohort diameter of suppressed of the *ith* stand within the *jth* site;*β0* = mean of the natural logarithm of cohort diameter of suppressed when all additional *β’*s = 0; *SDij*= stand density of the *ith* stand within the *jth* site; *DMR*ij = dwarf mistletoe rating of the *ith* stand within the *jth* site; *PROD.Lij* = indicator which = 1 when the productivity of the *ith* stand within the *jth* site is low and 0 otherwise; *PROD.Mij* = indicator which = 1 when the productivity of the *ith* stand within the *jth* site is moderate and 0 otherwise; *MPBMORT.Lij* = indicator which = 1 when the mortality density of the previous mountain pine beetle epidemic of the *ith* stand within the *jth* site is low and 0 otherwise; *MPBMORT.Lij* = indicator which = 1 when the mortality density of the previous mountain pine beetle epidemic of the *ith* stand within the *jth* site is moderate and 0 otherwise; *bj* = random error for the *jth* site; *bj* ~ N(0, σb2) and *bj* and *bj’* are independent; ***εij*** = random error from the natural logarithm of cohort diameter of suppressed measurements *ith* stand replicate within the *jth* site, ***εij*** ~ N(0, σ2) and ***εij*** and ***εi’j’*** are independent.