Appendix A. Weather characteristics, based on MeteoFrance data.



Black dots correspond to the studied year. Colored dots correspond to 19-years averaged data, with the full line indicating the mean, and the dotted lines indicating the mean - standard deviation (below line) and the mean + standard deviation (upper line).

Appendix B. Model comparison (Model of line n+1 is compared with model of line n)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Function | Model | Log-lik | Chi2 | Pr(>Chi) | AIC\* |
| Poisson models | NULL | -453.42 |  |  | 909 |
| Distance | -256.03 | 394.77 | < 0.001 | 516 |
| Crop code | -182.78 | 146.50 | < 0.001 | 376 |
| Distance +Crop code | -117.91 | 129.75 | < 0.001 | 248 |
| Negative binomial models | NULL | -103.44 | 28.94 | < 0.001 | 211 |
| Distance | -94.17 | 18.54 | < 0.001 | 194 |
| Cropcode | -93.89 | 0.56 | 0.905 | 200 |
| Distance +Crop code | -84.84 | 19.11 | < 0.001 | 184 |

\*AIC : Akaike. AIC values should not be compared between Poisson and negative binomial models, as their likelihood functions differ (i.e., Poisson function and Normal Density function, respectively).

Appendix C. Characteristics of the best model for the study site Brunet, i.e., negative binomial model including both the Minimum distance to the source and the Crop code, and associated tests.

Table C1. Model coefficients and confidence interval (CI) for Distance.

|  |  |  |
| --- | --- | --- |
| Variable | Coefficient | CI 95%  (lower; upper bound) |
| Distance | -2.675.10-3 | -3.727.10-3; -1.656.10-3 |

Table B2. Model coefficients (in bold) and associated Wald tests and 95% confidence intervals (in italics) between Crop codes (qualitative variable).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Crop code | L1-cvG | L3-cvG | L3-cvS | L4-cvG |
| L3-cvG | **-0.570** | / | / | / |
| -*1.205; 0.080* |
| L3-cvS | **-0.856**\*\*\* | **-1.409**\* | / | / |
| *-1.443; -0.274* | -*2.570; -0.235* |
| L4-cvG | **-1.979**\*\* | **-0.287** | **1.122**\* | / |
| *-2.939; -0.986* | *-1.094; 0.508* | *0.224; 1.995* |
| S2 | **0.146** | **0.716** | **2.125**\*\*\* | **1.003**\* |
| *-0.761; 1.094* | *-0.402; 1.852* | *1.192; 3.063* | *0.190; 1.951* |

L1-cvG : 1st year infertile lavender hybrid cultivar Grosso; L3-cvG: 3rd year infertile lavender hybrid cultivar Grosso; L3-cvS: 3rd year infertile lavender hybrid cultivar Sumian; L4-cvG: 4th year infertile lavender hybrid cultivar Grosso; S2:2nd year clary sage.\*: significant at P = 0.05; \*\*: significant at P = 0.01; \*\*\*: significant at P = 0.001. Model coefficients are indicated in bold 95% confidence intervals are indicated in italics.

The difference between two crop codes has to be read by line, e.g., the parameter of Crop code of L3-varG is equal to the corresponding parameter of L3-varG minus 0.570.

  
Figure C1. Observed vs. simulated number of *Hyalesthes obsoletus*.

The red line corresponds to the 1:1 line (perfect fit).