# Supplementary material 3: The effect of Mature Plant Resistance in Sugar Beet (*Beta vulgaris spp vulgaris*) on survival, fecundity and behaviour of green peach aphids (*Myzus persicae*)

The results of the four GLM analyses for measuring the effect of mature plant resistance in sugar beet on the formation of black stomach deposits.

Table S2: Generalized linear model with a logit link function of the abundance of aphids with black deposits in relation to the age of the leaf and number of days of confinement on the plant. Akaike Information Criterion is 216.36

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | se | z value | Pr(>|z|) |  |
| (Intercept)/young leaf/confined for 3 days | -6.1837 | 0.5439 | -11.370 | < 2e-16 | \*\*\* |
| Old leaf | 2.8347 | 0.3171 | 8.938 | < 2e-16 | \*\*\* |
| Confined for 7 days | 1.0580 | 0.5623 | 1.881 | 0.0599 | ns |
| Confined for 10 days | 3.4434 | 0.5072 | 6.789 | 1.13e-11 | \*\*\* |
| Confined for 14 days | 5.0151 | 0.5164 | 9.711 | < 2e-16 | \*\*\* |

(\*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001, and ns = not significant)

Table S3:Generalized linear mixed model with logit link function of the abundance of aphids with black deposits in relation to different sugar beet lines and number of days of confinement on the plant on data of the climate chamber experiment 1. The order is based on the lowest to highest probability to form black deposits. Akaike Information Criterion is 296.6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | se | z value | Pr(>|z|) |  |
| (Intercept)/Line 2/confined for 7 days | -6.7485 | 0.8715 | -7.743 | 9.70e-15 | \*\*\* |
| Line 5 | 0.5667 | 0.6184 | 0.916 | 0.35951 | ns |
| Line 1 | 0.8016 | 0.6308 | 1.271 | 0.20378 | ns |
| Line 6 | 0.9352 | 0.6208 | 1.506 | 0.13194 | ns |
| Line 3 | 1.1216 | 0.6180 | 1.815 | 0.06953 | ns |
| Line 4 | 2.0585 | 0.6269 | 3.284 | 0.00102 | \*\* |
| Confined for 10 days | 3.9184 | 0.7479 | 5.239 | 1.61e-07 | \*\*\* |
| Confined for 14 days | 7.2637 | 0.7738 | 9.387 | < 2e-16 | \*\*\* |

(\*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001, and ns = not significant)

Table S4: Generalized linear mixed model with logit link function of the abundance of aphids with black deposits in relation to different sugar beet lines and number of days of confinement on the plant on data of the climate chamber experiment 2. Akaike Information Criterion is 258.8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | se | z value | Pr(>|z|) |  |
| (Intercept)/ Line 2/confined for 7 days | -5.8248 | 0.7007 | -8. 313 | < 2e-16 | \*\*\* |
| Line 5 | 0.5714 | 0.5836 | 0.979 | 0.32750 | ns |
| Line 1 | 1.0050 | 0.5830 | 1.724 | 0.08471 | ns |
| Line 6 | 1.6259 | 0.6017 | 2.702 | 0.00689 | \*\* |
| Line 3 | 0.8305 | 0.5761 | 1.441 | 0.14946 | ns |
| Line 4 | 1.5567 | 0.5720 | 2.721 | 0.00650 | \*\* |
| Confined for 10 days | 2.1904 | 0.5429 | 4.034 | 5.48e-05 | \*\*\* |
| Confined for 14 days | 4.6710 | 0.5276 | 8.853 | < 2e-16 | \*\*\* |

(\*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001, and ns = not significant)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | se | z value | Pr(>|z|) |  |
| (Intercept)/Line 1/Infection /Confined for 4 days | -5.1791 | 0.4683 | -11.060 | < 2e-16 | \*\*\* |
| Line 2 | 2.1238 | 0.5618 | 3.780 | 0.000157 | \*\*\* |
| Line 3 | 1.9005 | 0.5592 | 3.399 | 0.000677 | \*\*\* |
| Line 4 | 1.9012 | 0.5613 | 3.387 | 0.000706 | \*\*\* |
| Line 5 | 2.5689 | 0.5582 | 4.602 | 4.19e-06 | \*\*\* |
| Line 6 | 1.5984 | 0.5653 | 2.828 | 0.004690 | \*\* |
| Infection 2 (May 25th) | 3.1478 | 0.4729 | 6.656 | 2.82e-11 | \*\*\* |
| Infection 3 (June 22nd) | 5.4251 | 0.4950 | 10.959 | < 2e-16 | \*\*\* |
| Infection 4 (July 13th) | 3.4962 | 0.4848 | 7.212 | 5.50e-13 | \*\*\* |
| Confined for 8 days | 2.0306 | 0.2599 | 7.812 | 5.64e-15 | \*\*\* |
| Line 2:Infection 2 | -2.4415 | 0.5959 | -4.097 | 4.18e-05 | \*\*\* |
| Line 3: Infection 2 | -2.0300 | 0.5923 | -3.427 | 0.000610 | \*\*\* |
| Line 4: Infection 2 | -2.1128 | 0.5955 | -3.548 | 0.000389 | \*\*\* |
| Line 5: Infection 2 | -3.3217 | 0.6039 | -5.500 | 3.79e-08 | \*\*\* |
| Line 6: Infection 2 | -1.6595 | 0.5997 | -2.767 | 0.005657 | \*\* |
| Line 2: Infection 3 | -2.1508 | 0.6126 | -3.511 | 0.000447 | \*\*\* |
| Line 3: Infection 3 | -2.1162 | 0.6053 | -3.496 | 0.000472 | \*\*\* |
| Line 4: Infection 3 | -2.2130 | 0.6110 | -3.622 | 0.000292 | \*\*\* |
| Line 5: Infection 3 | -2.6052 | 0.6023 | -4.326 | 1.52e-05 | \*\*\* |
| Line 6: Infection 3 | -1.9597 | 0.6116 | -4.204 | 0.001355 | \*\* |
| Line 2: Infection 4 | -2.1649 | 0.6147 | -3.522 | 0.000429 | \*\*\* |
| Line 3: Infection 4 | -1.7746 | 0.6021 | -2.948 | 0.003202 | \*\* |
| Line 4: Infection 4 | -2.0858 | 0.6103 | -3.418 | 0.000632 | \*\*\* |
| Line 5: Infection 4 | -2.7944 | 0.6225 | -4.489 | 7.16e-06 | \*\*\* |
| Line 6: Infection 4 | -1.6139 | 0.6105 | -2.643 | 0.008209 | \*\* |
| Line 2: Confined for 8 days | -0.6407 | 0.3594 | -1.783 | 0.074652 | ns |
| Line 3: Confined for 8 days | -0.3087 | 0.3520 | -0.877 | 0.380479 | ns |
| Line 4: Confined for 8 days | -0.7544 | 0.3572 | -2.112 | 0.034709 | \* |
| Line 5: Confined for 8 days | -1.1332 | 0.3661 | -3.095 | 0.001968 | \*\* |
| Line 6: Confined for 8 days | -0.7304 | 0.3521 | -2.074 | 0.038055 | \* |

Table S5: Results of a generalized linear model with logit link function of the abundance of aphids with black deposits in relation to different sugar beet lines, moment of infection, and number of days of confinement on the plant on data of the field trial. Akaike Information Criterion is 2989.8

(\*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001, and ns = not significant)