Supplementary information

**Table S1** Numbers of leaf lesions caused by *Leptosphaeria maculans* on different oilseed rape cultivars assessed in autumns of the 2011/2012 and 2012/2013 growing seasons in oilseed rape field experiments at Rothamsted, Harpenden, UKa.

|  |  |  |  |
| --- | --- | --- | --- |
| Cultivar | 2011/2012 | 2012/2013 | **Cultivar mean** |
| Adriana | 1.53e | 7.47cd | **4.50b** |
| Bilbao | 2.75e | 6.07cd | **4.41b** |
| Capitol | 2.30e | 7.07cd | **4.69b** |
| DK Cabernet | 2.57e | 7.37cd | **4.97b** |
| Drakkar | 12.75a | 10.30ab | **11.53a** |
| Es-Astrid | 1.47e | 8.77bc | **5.12b** |
| Excel | 0.77e | 5.70d | **3.24b** |
| NK Grandia | 1.67e | 5.73d | **3.70b** |
| Roxet | 0.92e | 8.23bcd | **4.58b** |
| **Season mean** | **2.97b** | **7.41a** |  |

aAverage numbers of lesions sharing the same letter were not statistically different at *P* < 0.05 in a multiple comparison with Fisher’s least significant difference (LSD) test.

**Table S2** Numbers of leaf lesions caused by *Leptosphaeria biglobosa* on different oilseed rape cultivars assessed in autumns of the 2011/2012 and 2012/2013 growing seasons in oilseed rape field experiments at Rothamsted, Harpenden, UKa.

|  |  |  |  |
| --- | --- | --- | --- |
| Cultivar | 2011/2012 | 2012/2013 | Cultivar mean |
| Adriana | 1.02 | 14.23 | **7.62** |
| Bilbao | 1.80 | 13.70 | **7.75** |
| Capitol | 2.47 | 10.17 | **6.32** |
| DK Cabernet | 2.00 | 10.63 | **6.32** |
| Drakkar | 2.55 | 6.03 | **4.29** |
| Es-Astrid | 1.60 | 13.77 | **7.68** |
| Excel | 4.01 | 17.17 | **10.59** |
| NK Grandia | 2.06 | 17.83 | **9.95** |
| Roxet | 3.67 | 10.97 | **7.32** |
| **Season mean** | **2.35b** | **12.72a** |  |

aAverage numbers of lesions sharing the same letter were not statistically different at *P* < 0.05 in a multiple comparison with Fisher’s least significant difference (LSD) test. Significant difference between seasons (*P* <0.01) but no significant difference among cultivars (*P* >0.08) or in the interaction of season with variety (*P* >0.07).

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**Table S3** Amounts of *Leptosphaeria maculans* (Lm) and *L. biglobosa* (Lb) DNA (pg, log10-transformed) detected in upper stem lesions or stem base cankers of oilseed rape cultivars in field experiments at Rothamsted in the 2010/2011, 2011/2012 and 2012/2013 growing seasonsa.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2010/2011** | **2011/2012** | **2012/2013** |
| **Cultivar** | **Lm** | **Lb** | **Lm** | **Lb** | **Lm** | **Lb** |
|  | **Upper stem lesions** |
| Adriana | 0.17b | 2.03 | 0.55bc | 2.68 | 2.26 | 3.32ab |
| Bilbao | 0.69b | 1.82 | 2.11a | 2.75 | 3.42 | 2.51c |
| Capitol | 1.93a | 2.14 | 0.66bc | 3.13 | 3.47 | 3.25ab |
| DK Cabernet | 0.11b | 2.59 | 0.23bc | 3.02 | 2.09 | 3.44ab |
| Drakkar | 2.66a | 2.68 | 2.62a | 3.61 | 3.65 | 2.95bc |
| Es-Astrid |  |  | 0.40bc | 3.84 | 2.76 | 3.38ab |
| Excel |  |  | 0.18c | 4.01 | 3.30 | 2.98bc |
| NK Grandia |  |  | 1.03b | 3.61 | 2.51 | 3.15ab |
| Roxet | 0.12b | 1.88 | 0.30bc | 3.74 | 2.29 | 3.55a |
| mean | 0.95 | 2.19 | 0.90 | 3.38 | 2.86 | 3.17 |
| ***P* value SED (df)** | ***P*< 0.01, 0.42 (29)** | ***P* >0.42, 0.57 (29)**  | ***P*< 0.01, 0.41 (48)** | ***P* >0.08, 0.51 (48)** | ***P* >0.09, 0.57 (27)** | ***P*< 0.05, 0.27 (27)** |
|  |  |  |  |
|  | **Stem base cankers** |
| Adriana | 0.34d | 1.44bc | 0.30cd | 3.03cde | 2.39e | 2.32c |
| Bilbao | 2.07b | 2.33ab | 2.33ab | 2.53de | 3.48bc | 2.77bc |
| Capitol | 1.85bc | 1.21c | 2.78a | 4.17ab | 3.76ab | 2.34c |
| DK Cabernet | 1.46c | 2.95a | 1.06c | 4.48a | 3.51bc | 2.44c |
| Drakkar | 2.91a | 2.39a | 3.04a | 2.19e | 4.17a | 2.68c |
| Es-Astrid |  |  | 0.40cd | 4.12ab | 3.02cd | 2.73bc |
| Excel |  |  | 0.06d | 3.80abc | 2.65de | 3.38a |
| NK Grandia |  |  | 1.72bc | 3.33bcd | 3.12cd | 2.80abc |
| Roxet | 1.10c | 2.49a | 0.27cd | 4.15ab | 2.23e | 3.31ab |
| Mean | 1.62 | 2.14 | 1.33 | 3.53 | 3.15 | 2.75 |
| ***P* value SED (df)** | ***P*< 0.01, 0.29 (36)** | ***P*< 0.01, 0.44 (36)** | ***P*< 0.01, 0.49 (45)** | ***P*< 0.01, 0.53 (45)** | ***P*< 0.01, 0.29 (30)** | ***P*< 0.01, 0.30 (30)** |

aIn each season before harvest, stems of each cultivar with upper stem lesions or stem base cankers were collected for DNA extraction and quantitative PCR. For statistical analysis, the DNA (pg) data were log10-transformed. Values sharing the same letter were not statistically different at *P* < 0.05 in a multiple comparison with Fisher’s least significant difference (LSD) test.

**Table S4** Paired t-test for the difference between *Leptosphaeria maculans* (Lm) and *L. biglobosa* (Lb) in daily amounts of DNA (ng) detected on half of a Burkard spore sampler tape by qPCR in the autumn (Sept to Nov) or winter (Dec to Feb) of the 2010/2011, 2011/2012 and 2012/2013 growing seasons near oilseed rape field experiments at Rothamsted, Harpenden, UK.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Growingseason |  | Mean daily Lm DNA(ng) | Mean daily Lb DNA(ng) | Significanceof difference |
| 2010/2011 | Autumn | 1.627 | 0.664 | *P* <0.01 |
| Winter | 1.613 | 0.700 | *P* <0.05 |
| 2011/2012 | Autumn | 1.173 | 1.434 | *P* >0.64 |
| Winter | 6.119 | 2.751 | *P* <0.01 |
| 2012/2013 | Autumn | 1.862 | 1.756 | *P* >0.75 |
| Winter | 0.981 | 1.876 | *P* <0.01 |