

Table S2: Heat requirements (GDD) for the different phenological stages (S5: Stage 5; S6: Stage 6; S7: Stage 7; S8: Stage 8), considering different threshold temperatures (Th). Mean, standard deviation (S.D.) and coefficient of Standard deviation in percentage (C.S.%).

| Heat Requirements (GDD – Th°C) | | | | | | | | | | | | |
|--------------------------------|---------|--------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2016 | S5 | 271 | 243 | 215 | 187 | 159 | 132 | 107 | 85 | 66 | 47 | 32 |
| | S6 | 1192 | 1072 | 952 | 833 | 715 | 599 | 488 | 385 | 292 | 212 | 147 |
| | S7 | 1913 | 1752 | 1591 | 1431 | 1272 | 1115 | 963 | 819 | 685 | 564 | 458 |
| | S8 | 2696 | 2510 | 2324 | 2139 | 1955 | 1773 | 1595 | 1423 | 1260 | 1107 | 969 |
| | Harvest | 4821 | 4514 | 4207 | 3901 | 3596 | 3293 | 2995 | 2705 | 2425 | 2158 | 1906 |
| 2017 | S5 | 612 | 544 | 480 | 416 | 352 | 290 | 230 | 174 | 125 | 80 | 46 |
| | S6 | 1198 | 1091 | 986 | 882 | 778 | 676 | 576 | 480 | 391 | 307 | 236 |
| | S7 | 1859 | 1716 | 1577 | 1438 | 1299 | 1162 | 1027 | 896 | 772 | 653 | 546 |
| | S8 | 3283 | 3077 | 2873 | 2670 | 2467 | 2266 | 2067 | 1872 | 1684 | 1501 | 1331 |
| | Harvest | 4868 | 4553 | 4242 | 3933 | 3626 | 3323 | 3025 | 2734 | 2454 | 2184 | 1928 |
| 2018 | S5 | 480 | 410 | 341 | 272.7 | 207 | 150 | 103 | 68 | 43 | 26 | 14 |
| | S6 | 1390 | 1253 | 1116 | 981 | 849 | 725 | 611 | 510 | 421 | 343 | 275 |
| | S7 | 1962 | 1795 | 1628 | 1463 | 1301 | 1147 | 1003 | 872 | 753 | 645 | 547 |
| | S8 | 2927 | 2716 | 2505 | 2296 | 2090 | 1892 | 1704 | 1529 | 1366 | 1214 | 1072 |
| | Harvest | 4643 | 4323 | 4003 | 3685 | 3370 | 3062 | 2766 | 2484 | 2216 | 1970 | 1738 |
| Mean | S5 | 455 | 399 | 345 | 292 | 240 | 190 | 147 | 109 | 78 | 51 | 31 |
| | S6 | 1260 | 1139 | 1018 | 899 | 781 | 667 | 558 | 458 | 368 | 287 | 219 |
| | S7 | 1911 | 1755 | 1599 | 1444 | 1291 | 1141 | 998 | 862 | 736 | 621 | 517 |
| | S8 | 2969 | 2768 | 2568 | 2368 | 2171 | 1977 | 1789 | 1608 | 1436 | 1274 | 1124 |
| | Harvest | 4777 | 4463 | 4151 | 3840 | 3531 | 3226 | 2929 | 2641 | 2365 | 2104 | 1857 |
| SD | S5 | 171.75 | 150.75 | 132.37 | 115.52 | 100.27 | 86.69 | 72.20 | 57.02 | 42.32 | 27.49 | 16.11 |
| | S6 | 112.42 | 99.43 | 86.46 | 75.67 | 66.89 | 63.36 | 63.65 | 65.65 | 67.22 | 68.09 | 65.60 |
| | S7 | 51.53 | 39.39 | 26.39 | 17.09 | 15.97 | 23.91 | 32.41 | 39.60 | 45.35 | 49.48 | 51.15 |
| | S8 | 295.64 | 286.57 | 279.68 | 272.94 | 265.37 | 257.45 | 247.21 | 234.77 | 220.78 | 203.59 | 186.41 |
| | Harvest | 119.03 | 123.55 | 129.32 | 134.86 | 140.26 | 142.72 | 141.43 | 136.85 | 130.26 | 116.75 | 103.74 |
| CS % | S5 | 37.78 | 37.75 | 38.33 | 39.56 | 41.86 | 45.51 | 49.26 | 52.36 | 54.54 | 53.87 | 52.49 |
| | S6 | 8.92 | 8.73 | 8.49 | 8.42 | 8.57 | 9.50 | 11.40 | 14.32 | 18.27 | 23.69 | 29.92 |
| | S7 | 2.70 | 2.25 | 1.65 | 1.18 | 1.24 | 2.09 | 3.25 | 4.59 | 6.16 | 7.97 | 9.89 |
| | S8 | 9.96 | 10.35 | 10.89 | 11.52 | 12.22 | 13.02 | 13.82 | 14.60 | 15.37 | 15.98 | 16.59 |
| | Harvest | 2.49 | 2.77 | 3.12 | 3.51 | 3.97 | 4.42 | 4.83 | 5.18 | 5.51 | 5.55 | 5.58 |
| Average | 12.37 | 12.37 | 12.50 | 12.84 | 13.57 | 14.91 | 16.51 | 18.21 | 19.97 | 21.41 | 22.90 | |

Table S3: Results of the Kruskal-Wallis test that show the existence of significant differences only with the variable pollen production.

| | Kruskal-Wallis | |
|-------------------|----------------|-------|
| | H | p |
| Pollen production | 13.559 | 0.001 |
| Germination | 0.286 | 0.867 |
| Viability CA | 1.912 | 0.385 |
| Viability TTC | 1.553 | 0.460 |

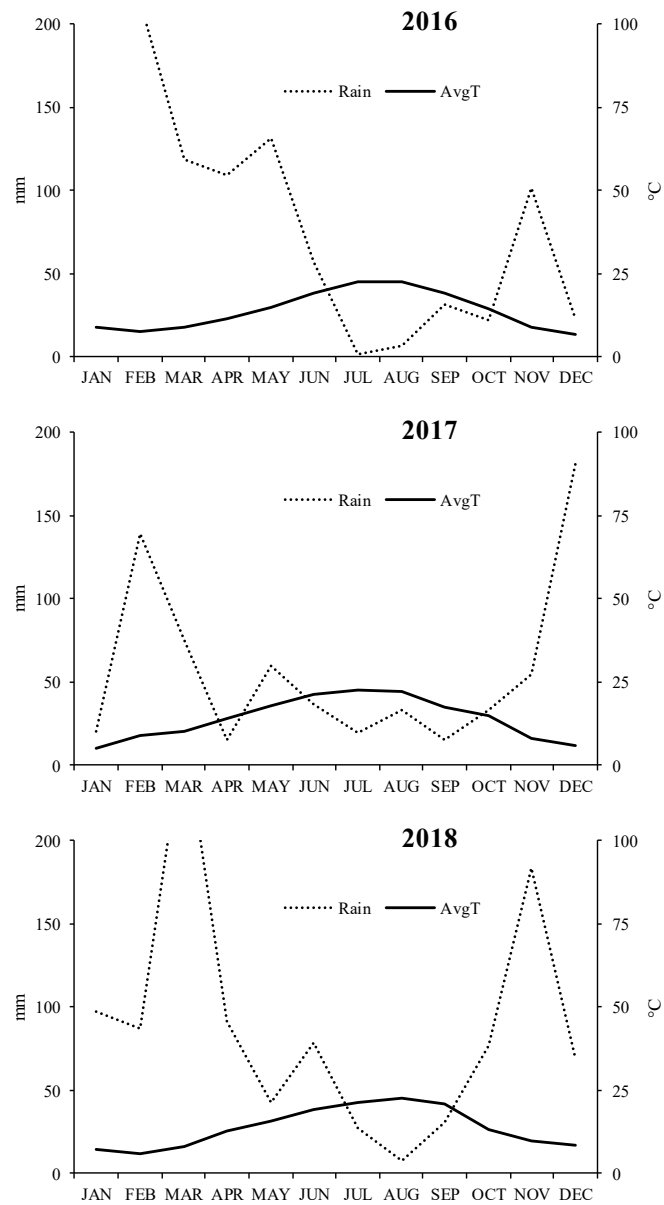


Figure S1: Ombrothermic Gaussen diagrams showing mean monthly average temperatures and monthly rainfall in the study area.

| Pollen production | | | | | % Germination | | | | |
|-------------------|---------------|---------------|---------------|---------------|-----------------|-----------|-----------|-----------|-----------|
| | 2016 | 2017 | 2018 | Average | | 2016 | 2017 | 2018 | Average |
| Mean | 49.939 | 95.189 | 99.089 | 82.589 | Mean | 13 | 10 | 13 | 12 |
| <i>Min</i> | 29.050 | 66.300 | 58.000 | 62.400 | <i>Min</i> | 4 | 3 | 2 | 3 |
| <i>Max</i> | 73.565 | 127.400 | 123.200 | 104.788 | <i>Max</i> | 21 | 25 | 27 | 22 |
| <i>S.D.</i> | 17.475 | 21.037 | 20.304 | 14.084 | <i>S.D.</i> | 6 | 8 | 9 | 7 |
| <i>C.S.%</i> | 35 | 22 | 20 | 17 | <i>C.S.%</i> | 50 | 75 | 73 | 57 |
| % Viability CA | | | | | % Viability TTC | | | | |
| | 2016 | 2017 | 2018 | Average | | 2016 | 2017 | 2018 | Average |
| Mean | 80 | 81 | 84 | 81 | Med | 28 | 32 | 38 | 30 |
| <i>Min</i> | 46 | 60 | 57 | 62 | <i>Min</i> | 9 | 10 | 1 | 1 |
| <i>Max</i> | 90 | 94 | 94 | 90 | <i>Max</i> | 76 | 53 | 68 | 57 |
| <i>S.D.</i> | 14 | 11 | 13 | 10 | <i>S.D.</i> | 25 | 17 | 19 | 16 |
| <i>C.S.%</i> | 17 | 14 | 16 | 12 | <i>C.S.%</i> | 89 | 53 | 51 | 53 |

Figure S2: Pollen by anther, % of Germination and % of Viability with CA and TTC methods during the studied period with the mean, maximum, minimum, standard deviation (S.D.) and coefficient of standard variation in percentage (C.S.%).