

Supplementary material

Table S1. The definitions of the waveforms scored in the electropenetrography (EPG) analyses.

| Acronym | Variable type | Definition |
|---------------------------------|---------------|--|
| <i>General</i> | | |
| n_Pr | Frequency | Number of probes |
| s_Pr | Time | Total probing time |
| s_nE | Time | Total duration of the no phloematic phase |
| s_np | Time | Total time of the non-probing intervals |
| s_np.1E | Time | Duration of the nonprobe period before the 1 st E |
| t_1E2rec | Time | Time from the start of EPG to the 1 st E2 |
| t_1Erec | Time | Time from the start of EPG to the 1 st E |
| <i>Surface-mesophyll (Leaf)</i> | | |
| t_1Pr | Time | Time to the first probe from the start of EPG |
| n_bPr | Frequency | Number of short probes (C < 3 minutes) |
| n_Pr.1E1 | Frequency | Number of probes before the 1 st E1 |
| t_1C.1pd | Time | Time from the beginning of the 1 st probe to the first pd |
| n_pd | Frequency | Number of pd |
| s_pd | Time | Total duration of pd |
| t_1EinPr | Time | Time from the beginning of that probe to the 1 st E |
| s_C | Time | Total C duration with pd |
| %probtimeinC | Index | % of probing spent in C |
| <i>Phloem</i> | | |
| s_E | Time | Total duration of the E phases |
| n_E1 | Frequency | Number of E1 periods |
| s_E1 | Time | Total duration of E1 |

| | | |
|--------------------|-------|--|
| d_E1followedby1sE2 | Time | Duration of the E1 followed by the first sustained E2 (> 10 min) |
| s_E1followedbysE2 | Time | Total duration of E1 followed by sustained E2 (> 10 min) |
| %_E1/E12 | Index | Relative amount of E1 on E12 |
| s_E2 | Time | Total duration of E2 periods |
| s_longestE2 | Time | Duration of the longest E2 |
| E2index | Index | phloemian index: % of the time of the E2 after the start of the 1 st E2 |
| %sE2/E2 | Index | Relative amount of sE2 on E2 |
| %proptimeinE1 | Index | % of probing spent in E1 |
| %proptimeinE2 | Index | % of probing spent in E2 |

Table S2. The main variables of the *Brevicoryne brassicae* feeding behavior without significant difference between mock-inoculated and uninoculated plants on two oilseed rape cultivars.

| Variable ^a | Cultivar | | | |
|-----------------------|-----------------|---------------|-----------------|---------------|
| | Deleyou6 | | Zhongshuang11 | |
| | Mock-inoculated | uninoculated | Mock-inoculated | uninoculated |
| <i>Overview</i> | | | | |
| n_Pr | 9.35±1.39 | 9.40±1.30 | 14.70±1.82 | 16.05±1.68 |
| s_Pr(s) | 24651.52±868. | 25245.99±858. | 26706.21±300. | 26499.59±330. |
| | 06 | 69 | 27 | 30 |
| s_np(s) | 603.24±9.38 | 625.99±13.42 | 1820.34±264.7 | 2165.59±299.7 |
| | | | 7 | 2 |
| s_np.1E(s) | 565.83±17.46 | 572.71±17.20 | 1381.80±260.0 | 1348.07±225.3 |

| | | | | |
|------------------|---------------|---------------|---------------|---------------|
| | | | 6 | 6 |
| s_nE(s) | 11857.36±687. | 11971.27±744. | 18122.14±158 | 18216.98±138 |
| | 43 | 12 | 4.99 | 6.48 |
| t_1E2.rec(s) | 11060.70±1107 | 12258.04±116 | 16144.02±184 | 15401.84±183 |
| | .31 | 6.64 | 3.19 | 9.12 |
| t_1Erec(s) | 10969.90±109 | 11124.74±974. | 13198.30±154 | 13563.89±127 |
| | 1.69 | 30 | 2.12 | 4.34 |
| <i>Surface</i> | | | | |
| t_1Pr(s) | 142.12±12.01 | 166.14±15.74 | 402.78±53.98 | 400.73±46.50 |
| <i>Mesophyll</i> | | | | |
| t_1C.1pd(s) | 309.93±55.01 | 357.67±49.65 | 426.06±43.59 | 391.42±54.01 |
| n_bPr | 1.75±0.47 | 1.95±0.39 | 3.25±0.50 | 3.20±0.63 |
| n_pd | 83.65±7.48 | 91.25±7.11 | 96.00±9.32 | 101.40±10.60 |
| s_pd(s) | 453.27±43.70 | 466.21±47.70 | 841.95±85.15 | 880.26±106.77 |
| n_Pr_1E1 | 6.60±0.69 | 6.35±0.41 | 5.00±0.58 | 6.05±0.67 |
| t_1EinPr(s) | 3535.31±133.5 | 3621.19±156.0 | 3728.27±341.1 | 3561.33±404.8 |
| | 7 | 7 | 7 | 1 |
| s_C(s) | 12325.42±109 | 12589.79±951. | 17707.84±134 | 17262.92±119 |
| | 4.15 | 51 | 6.55 | 0.56 |
| %probtimeinC(%) | 52.61±3.76 | 52.76±3.22 | 76.27±5.14 | 72.50±5.65 |
| <i>Phloem</i> | | | | |
| s_E(s) | 13127.24±834. | 13304.47±773. | 6582.47±1447. | 6624.15±1248. |

| | 05 | 09 | 55 | 00 |
|------------------|---------------|---------------|---------------|---------------|
| n_E1 | 1.20±0.16 | 1.40±0.17 | 2.40±0.43 | 1.85±0.29 |
| s_E1(s) | 88.98±5.85 | 91.43±3.97 | 314.60±32.10 | 344.36±38.55 |
| %_E1/E12(%) | 0.81±0.07 | 0.96±0.09 | 29.39±5.95 | 29.33±4.92 |
| d_E1followedby1s | 74.37±3.77 | 80.17±3.63 | 84.06±3.88 | 81.13±4.29 |
| E2(s) | | | | |
| s_E1followedbysE | 95.96±7.50 | 97.06±6.46 | 150.44±7.88 | 159.31±7.51 |
| 2(s) | | | | |
| %probtimeinE1(%) | 0.37±0.05 | 0.37±0.05 | 0.95±0.16 | 1.09±0.17 |
| s_E2(s) | 13141.15±952. | 13874.04±101 | 7411.50±1392. | 7756.34±1507. |
| | 43 | 0.31 | 52 | 32 |
| s_longestE2(s) | 11905.99±805. | 12113.24±926. | 6906.80±1400. | 6294.55±1355. |
| | 27 | 72 | 80 | 10 |
| E2index(%) | 85.85±2.58 | 86.92±2.27 | 57.57±7.29 | 58.33±5.71 |
| %sE2/E2(%) | 97.44±1.24 | 97.62±1.36 | 54.63±8.29 | 52.72±8.25 |
| %probtimeinE2(%) | 47.22±3.70 | 49.42±3.22 | 21.79±5.24 | 19.65±5.26 |

^a The values in the table show mean±standard error (SE). The data were compared using the student *t* test (for Gaussian variables) or the Mann–Whitney *U* test (for non-Gaussian variables) after the square-root transformation for frequency variables, natural log transformation for time variables, and square arcsine for percentage variables. The significance level was chosen at $P < 0.05$. The acronym of the variables was defined in Table S1.

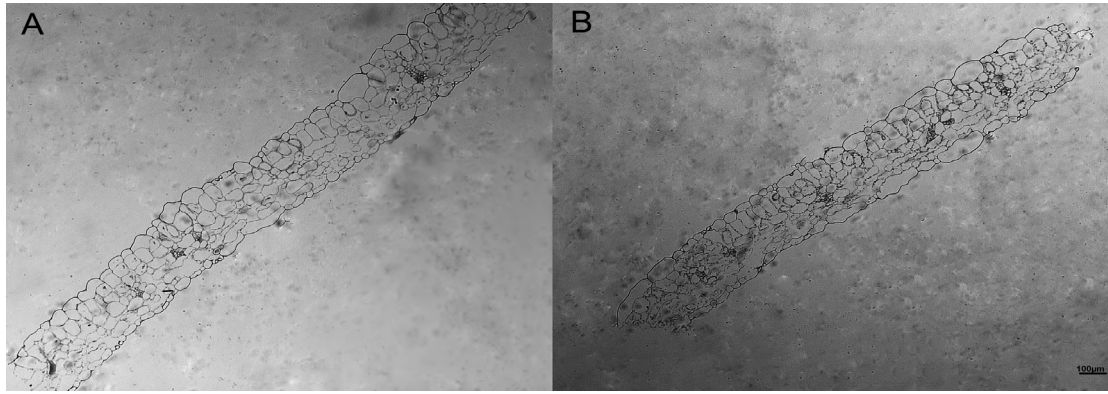


Figure S1. The anatomical structures of leaves of the two oilseed rape cultivars. The upper-most first leaf of each cultivar was fixed and photographed using semi-thin Sect. (3–4 μm) immediately after EPG recording ended. **(A)** Zhongshuang11; **(B)** Deleyou6. (Bar =100 μm).