

## Supplementary Materials:

**Table S1.** Length of coriander vegetation period, average temperature, sum of precipitation and insolation at three locations where the experiments were performed.

|                                     | L1     |        |        | L2     |        |        | L3     |        |        |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                     | 2021   | 2022   | 2023   | 2021   | 2022   | 2023   | 2021   | 2022   | 2023   |
| Sowing date                         | 26.III | 01.IV  | 5.III  | 06.IV  | 14.IV  | 02.IV  | 01.IV  | 04.IV  | 01.IV  |
| Harvest date                        | 20.VII | 14.VII | 22.VII | 27.VII | 29.VII | 22.VII | 01.VII | 17.VII | 12.VII |
| Length of VP (days)                 | 115    | 103    | 108    | 111    | 106    | 108    | 121    | 103    | 114    |
| Average temperature during VP (°C)  | 17.8   | 18.8   | 18.2   | 18.6   | 20.6   | 19.3   | 18.2   | 19.0   | 18.5   |
| Sum of precipitation during VP (mm) | 151    | 172    | 163    | 158    | 146    | 149    | 240    | 177    | 205    |
| Sum of insolation during VP (h)     | 998    | 975    | 987    | 975    | 1046   | 998    | 987    | 909    | 950    |

\* VP – vegetation period, L1- location 1, L2- location 2, and L3- location 3

**Table S2.** Length of aniseed vegetation period, average temperature, sum of precipitation and insolation at three locations where the experiments were performed.

|                                     | L1      |        |         | L2      |         |        | L3      |        |         |
|-------------------------------------|---------|--------|---------|---------|---------|--------|---------|--------|---------|
|                                     | 2021    | 2022   | 2023    | 2021    | 2022    | 2023   | 2021    | 2022   | 2023    |
| Sowing date                         | 26.III  | 01.IV  | 22.III  | 06.IV   | 14.IV   | 02.IV  | 01.IV   | 04.IV  | 05.IV   |
| Harvest date                        | 06.VIII | 28.VII | 07.VIII | 29.VIII | 04.VIII | 27.VII | 16.VIII | 31.VII | 18.VIII |
| Length of VP (days)                 | 132     | 117    | 125     | 144     | 111     | 123    | 136     | 117    | 124     |
| Average temperature during VP (°C)  | 18.1    | 19.3   | 18.4    | 19.5    | 20.8    | 19.9   | 18.5    | 19.5   | 18.9    |
| Sum of precipitation during VP (mm) | 190     | 182    | 188     | 193     | 160     | 173    | 244     | 216    | 227     |
| Sum of insolation during VP (h)     | 1102    | 1109   | 1104    | 1326    | 1115    | 1225   | 1135    | 1048   | 1090    |

\* VP – vegetation period , L1- location 1, L2- location 2, and L3- location 3

**Table S3.** Length of caraway vegetation period, average temperature, sum of precipitation and insolation at three locations where the experiments were performed.

|                                     | L1     |         |        | L2    |         |       | L3    |         |       |
|-------------------------------------|--------|---------|--------|-------|---------|-------|-------|---------|-------|
|                                     | 2021   | 2022    | 2023   | 2021  | 2022    | 2023  | 2021  | 2022    | 2023  |
| Sowing date                         | 26.III | 01.IV   | 20.III | 06.IV | 14.IV   | 07.IV | 01.IV | 04.IV   | 03.IV |
| Harvest date                        | 05.IX  | 16.VIII | 07.IX  | 20.IX | 31.VIII | 17.IX | 25.IX | 18.VIII | 27.IX |
| Length of VP (days)                 | 162    | 136     | 149    | 166   | 138     | 148   | 176   | 136     | 159   |
| Average temperature during VP (°C)  | 19.1   | 20.0    | 19.4   | 19.8  | 21.3    | 20.5  | 19.4  | 20.1    | 19.7  |
| Sum of precipitation during VP (mm) | 193    | 210     | 199    | 211   | 166     | 196   | 263   | 216     | 243   |
| Sum of insolation during VP (h)     | 1452   | 1334    | 1387   | 1538  | 1427    | 1482  | 1544  | 1265    | 1422  |

\* VP – vegetation period, L1- location 1, L2- location 2, and L3- location 3

**Table S4** ANOVA analysis for weather conditions for coriander, aniseed and caraway

|           | dF | Temperature |         |      | Precipitation |       |      | Insolation |        |      |
|-----------|----|-------------|---------|------|---------------|-------|------|------------|--------|------|
|           |    | SS          | F       | p    | SS            | F     | p    | SS         | F      | p    |
| Intercept | 1  | 31226.39    | 3546.42 | 0.00 | 2897.94       | 71.19 | 0.00 | 4456.39    | 250.32 | 0.00 |
| Apiaceae  | 2  | 0.49        | 0.03    | 0.97 | 1.86          | 0.02  | 0.98 | 0.72       | 0.02   | 0.98 |

|          |     |         |        |      |          |      |      |          |       |      |
|----------|-----|---------|--------|------|----------|------|------|----------|-------|------|
| Location | 2   | 81.69   | 4.64   | 0.01 | 58.22    | 0.72 | 0.49 | 221.51   | 6.22  | 0.00 |
| Year     | 2   | 89.32   | 10.14  | 0.00 | 277.01   | 6.81 | 0.01 | 21.33    | 1.20  | 0.27 |
| Month    | 6   | 7277.68 | 137.76 | 0.00 | 1082.17  | 4.43 | 0.00 | 1107.18  | 10.37 | 0.00 |
| Error    | 996 | 5846.56 |        |      | 27028.69 |      |      | 11821.02 |       |      |

df – degrees of freedom; SS – sum of squares; F – F test; p – p value