

**Table 2. Descriptive statistics of phenotypic traits across four different locations**

| <b>Traits</b>              | <b>Descriptive statistic</b> | <b>LEX</b> | <b>PRN</b> | <b>QKS</b> | <b>WDF</b> |
|----------------------------|------------------------------|------------|------------|------------|------------|
| <b>Diameter_cm_2023</b>    | N                            | 848        | -          | 211        | 212        |
|                            | Mean                         | 24.46      | -          | 26.47      | 28.11      |
|                            | SD                           | 5.18       | -          | 5.7        | 6.63       |
|                            | MIN.                         | 1.27       | -          | 7.62       | 7.62       |
|                            | MAX.                         | 40.64      | -          | 39.37      | 40.64      |
| <b>Diameter_cm_2024</b>    | N                            | 849        | 217        | 211        | 212        |
|                            | Mean                         | 31.04      | 39.73      | 26.10      | 41.43      |
|                            | SD                           | 11.29      | 10.55      | 10.00      | 16.23      |
|                            | MIN.                         | 0          | 10.16      | 0          | 0          |
|                            | MAX.                         | 68.58      | 68.58      | 48.26      | 101.60     |
| <b>Diameter_cm_2025</b>    | N                            | 849        | 217        | 211        | 210        |
|                            | Mean                         | 33.90      | 58.73      | 33.13      | 36.67      |
|                            | SD                           | 14.53      | 25.94      | 21.32      | 21.62      |
|                            | MIN.                         | 0          | 0          | 0          | 0          |
|                            | MAX.                         | 82.55      | 127        | 81.28      | 124.56     |
| <b>SpikeLength_cm_2024</b> | N                            | 843        | 217        | 211        | 212        |
|                            | Mean                         | 23.37      | 47.13      | 14.82      | 26.50      |
|                            | SD                           | 19.43      | 26.99      | 18.31      | 21.85      |
|                            | MIN.                         | 0          | 0          | 0          | 0          |
|                            | MAX.                         | 96.52      | 109.22     | 76.20      | 87.63      |
| <b>SpikeLength_cm_2025</b> | N                            | 789        | 209        | 179        | 180        |
|                            | Mean                         | 5.56       | 12.10      | 17.75      | 5.35       |
|                            | SD                           | 5.53       | 8.29       | 9.94       | 4.95       |
|                            | MIN.                         | 0          | 0          | 0          | 0          |
|                            | MAX.                         | 27         | 37.90      | 42.50      | 17.90      |
| <b>SpikeCount_2023</b>     | N                            | 849        | -          | -          | 212        |
|                            | Mean                         | 0.59       | -          | -          | 0.59       |
|                            | SD                           | 3.18       | -          | -          | 3.03       |
|                            | MIN.                         | 0          | -          | -          | 0          |
|                            | MAX.                         | 47         | -          | -          | 22         |
| <b>SpikeCount2024</b>      | N                            | 792        | 207        | 187        | 191        |
|                            | Mean                         | 59.23      | 67.14      | 30.68      | 85.05      |
|                            | SD                           | 48.17      | 56.62      | 27.13      | 76.42      |
|                            | MIN.                         | 0          | 0          | 0          | 0          |
|                            | MAX.                         | 252        | 350        | 148        | 500        |
| <b>Anthesis_2024</b>       | N                            | 838        | 217        | 204        | 208        |
|                            | Mean                         | 5.13       | 4.63       | 5.33       | 5.29       |
|                            | SD                           | 2.03       | 2.13       | 2.48       | 2.10       |
|                            | MIN.                         | 1          | 1          | 1          | 1          |

|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
|                      |      |      |      |      |      |
|                      | MAX. | 9    | 9    | 9    | 9    |
| <b>Anthesis_2025</b> | N    | 765  | 208  | 179  | 176  |
|                      | Mean | 6.28 | 3.94 | 7.50 | 5.49 |
|                      | SD   | 1.55 | 1.62 | 1.49 | 1.25 |
|                      | MIN. | 2    | 1    | 1    | 2    |
|                      | MAX. | 9    | 9    | 9    | 9    |