We performed multiple comparisons among genotypes for the maximum height and manually measured maximum height (ANOVA statistical test). The test was performed for each dataset. Because of small data sample (8 samples per genotype for dataset 09/30 and 10/07 and 4 samples per genotype for dataset 10/16, 10/19, 10/23 and 10/30), the calculated maximum height and manually measured maximum height did not consistently have the same mean separation for all the datasets. However, it is clear that manual measurement consistently showed statistical difference between genotype 2 and 5 in all data sets except one (09/30). Our UAV based system also consistently showed the difference between the two genotypes.

**S1 Table. Multiple comparison tests among genotypes for each dataset’s calculated maximum height and manually measured maximum height.** Green color indicates no significant statistic different between the two genotypes and red color indicates significant statistic different (p<0.05).

|  |  |  |
| --- | --- | --- |
| 09/30Calculated maximum height |   | 09/30Manually measured maximum height |
| Genotype | 1 | 2 | 3 | 4 | 5 | 6 |   | Genotype | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |
| 2 |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |
| 5 |   |   |   |   |   |   |   | 5 |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   | 6 |   |   |   |   |   |   |
| 10/07Calculated maximum height |   | 10/07Manually measured maximum height |
| Genotype | 1 | 2 | 3 | 4 | 5 | 6 |   | Genotype | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |
| 2 |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |
| 5 |   |   |   |   |   |   |   | 5 |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   | 6 |   |   |   |   |   |   |
| 10/16Calculated maximum height |   | 10/16Manually measured maximum height |
| Genotype | 1 | 2 | 3 | 4 | 5 | 6 |   | Genotype | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |
| 2 |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |
| 5 |   |   |   |   |   |   |   | 5 |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   | 6 |   |   |   |   |   |   |
| 10/19Calculated maximum height |   | 10/19Manually measured maximum height |
| Genotype | 1 | 2 | 3 | 4 | 5 | 6 |   | Genotype | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |
| 2 |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |
| 5 |   |   |   |   |   |   |   | 5 |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   | 6 |   |   |   |   |   |   |
| 10/23Calculated maximum height |   | 10/23Manually measured maximum height |
| Genotype | 1 | 2 | 3 | 4 | 5 | 6 |   | Genotype | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |
| 2 |   |   |  |   |  |   |   | 2 |   |   |   |   |   |   |
| 3 |   |  |   |   |   |   |   | 3 |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |
| 5 |   |  |   |   |   |   |   | 5 |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   | 6 |   |   |   |   |   |   |
| 10/30Calculated maximum height |   | 10/30Manually measured maximum height |
| Genotype | 1 | 2 | 3 | 4 | 5 | 6 |   | Genotype | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |
| 2 |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |
| 5 |   |   |   |   |   |   |   | 5 |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   | 6 |   |   |   |   |   |   |