

**Table S1.** Additional data relating to Table 3. Effect of thinning regime (artificial bud extinction (ABE) or hand thinned (HT)) and crop load (3, 6 or 12 fruit cm<sup>-2</sup> limb cross-sectional area (LCSA)) on fruit macronutrient and micronutrient concentrations in season 1 and 2.

| <b>a) Fruit macronutrients:</b> |               |          |                |          |                   |          |              |          |                |          |
|---------------------------------|---------------|----------|----------------|----------|-------------------|----------|--------------|----------|----------------|----------|
|                                 | Nitrogen (%)  |          | Phosphorus (%) |          | Potassium (%)     |          | Calcium (%)  |          | Magnesium (%)  |          |
|                                 | Season 1      | Season 2 | Season 1       | Season 2 | Season 1          | Season 2 | Season 1     | Season 2 | Season 1       | Season 2 |
| <b>(i) Thinning regime (TR)</b> |               |          |                |          |                   |          |              |          |                |          |
| Artificial bud extinction       | 0.18          | 0.22     | 0.05           | 0.06     | 0.78              | 0.82     | 0.03         | 0.03     | 0.04           | 0.04     |
| Hand-thin                       | 0.18          | 0.23     | 0.05           | 0.06     | 0.77              | 0.84     | 0.03         | 0.03     | 0.04           | 0.04     |
| <i>p-value</i>                  | 0.170         | 0.674    | 0.481          | 0.694    | 0.394             | 0.614    | 0.730        | 1.000    | 1.000          | 0.631    |
| <i>LSD</i>                      | 0.01          | 0.05     | 0.01           | 0.01     | 0.05              | 0.07     | 0.01         | 0.01     | 0.00           | 0.01     |
| <b>(ii) Crop load (CL)</b>      |               |          |                |          |                   |          |              |          |                |          |
| 3 fruit cm <sup>-2</sup> LCSA   | 0.17          | 0.23     | 0.06           | 0.06     | 0.85              | 0.81     | 0.03         | 0.03     | 0.04           | 0.04     |
| 6 fruit cm <sup>-2</sup> LCSA   | 0.18          | 0.23     | 0.05           | 0.06     | 0.74              | 0.85     | 0.03         | 0.03     | 0.04           | 0.04     |
| 12 fruit cm <sup>-2</sup> LCSA  | 0.19          | -        | 0.05           | -        | 0.74              | -        | 0.04         | -        | 0.04           | -        |
| <i>p-value</i>                  | 0.020         | 0.888    | 0.513          | 0.694    | 0.001             | 0.282    | 0.007        | 0.081    | 0.178          | 0.631    |
| <i>LSD</i>                      | 0.02          | 0.05     | 0.02           | 0.01     | 0.07              | 0.07     | 0.01         | 0.01     | 0.01           | 0.01     |
| <b>(iii) TR x CL</b>            |               |          |                |          |                   |          |              |          |                |          |
| ABE-3                           | 0.17          | 0.22     | 0.05           | 0.06     | 0.85              | 0.80     | 0.03         | 0.03     | 0.04           | 0.04     |
| HT-3                            | 0.17          | 0.24     | 0.06           | 0.06     | 0.84              | 0.82     | 0.02         | 0.03     | 0.04           | 0.04     |
| ABE-6                           | 0.19          | 0.23     | 0.05           | 0.06     | 0.77              | 0.84     | 0.03         | 0.03     | 0.04           | 0.04     |
| HT-6                            | 0.17          | 0.22     | 0.05           | 0.06     | 0.71              | 0.85     | 0.03         | 0.03     | 0.04           | 0.04     |
| ABE-12                          | 0.19          | -        | 0.05           | -        | 0.73              | -        | 0.04         | -        | 0.04           | -        |
| HT-12                           | 0.19          | -        | 0.04           | -        | 0.75              | -        | 0.04         | -        | 0.04           | -        |
| <i>p-value</i>                  | 0.743         | 0.577    | 0.513          | 0.256    | 0.237             | 0.839    | 0.884        | 1.000    | 1.000          | 0.631    |
| <b>b) Fruit micronutrients:</b> |               |          |                |          |                   |          |              |          |                |          |
|                                 | Boron (mg/kg) |          | Iron (mg/kg)   |          | Manganese (mg/kg) |          | Zinc (mg/kg) |          | Copper (mg/kg) |          |
|                                 | Season 1      | Season 2 | Season 1       | Season 2 | Season 1          | Season 2 | Season 1     | Season 2 | Season 1       | Season 2 |
| <b>(i) Thinning regime (TR)</b> |               |          |                |          |                   |          |              |          |                |          |
| Artificial bud extinction       | 24.3          | 34.5     | 8.5            | 9.3      | 2.03              | 1.84     | 2.33         | 1.76     | 2.11           | 3.24     |
| Hand-thin                       | 26.8          | 48.6     | 8.7            | 8.5      | 1.99              | 1.59     | 1.88         | 1.43     | 2.09           | 2.89     |
| <i>p-value</i>                  | 0.445         | 0.070    | 0.605          | 0.119    | 0.802             | 0.154    | 0.004        | 0.022    | 0.923          | 0.079    |

|                                |       |       |       |       |       |       |       |       |       |       |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <i>LSD</i>                     | 6.46  | 14.44 | 0.73  | 1.06  | 0.32  | 0.34  | 0.37  | 0.27  | 0.51  | 0.37  |
| <b>(ii) Crop load (CL)</b>     |       |       |       |       |       |       |       |       |       |       |
| 3 fruit cm <sup>-2</sup> LCSA  | 29.1  | 43.2  | 8.8   | 9.3   | 1.69  | 1.94  | 1.88  | 1.77  | 2.08  | 2.88  |
| 6 fruit cm <sup>-2</sup> LCSA  | 23.4  | 39.8  | 8.4   | 8.4   | 2.10  | 1.50  | 1.98  | 1.42  | 2.06  | 3.25  |
| 12 fruit cm <sup>-2</sup> LCSA | 24.2  | -     | 8.6   | -     | 2.24  | -     | 2.46  | -     | 2.17  | -     |
| <i>p-value</i>                 | 0.332 | 0.622 | 0.605 | 0.094 | 0.040 | 0.023 | 0.006 | 0.017 | 0.901 | 0.066 |
| <i>LSD</i>                     | 10.03 | 14.44 | 1.13  | 1.06  | 0.50  | 0.34  | 0.58  | 0.27  | 0.79  | 0.37  |
| <b>(iii) TR x CL</b>           |       |       |       |       |       |       |       |       |       |       |
| ABE-3                          | 27.0  | 36.6  | 8.5   | 9.9   | 1.75  | 2.06  | 1.79  | 2.01  | 1.75  | 3.02  |
| HT-3                           | 31.2  | 49.9  | 9.2   | 8.7   | 1.62  | 1.82  | 1.98  | 1.53  | 2.41  | 2.74  |
| ABE-6                          | 23.0  | 32.3  | 8.2   | 8.6   | 2.07  | 1.62  | 2.27  | 1.51  | 2.44  | 3.46  |
| HT-6                           | 23.9  | 47.2  | 8.6   | 8.2   | 2.13  | 1.37  | 1.68  | 1.34  | 1.68  | 3.04  |
| ABE-12                         | 22.9  | -     | 8.9   | -     | 2.27  | -     | 2.94  | -     | 2.14  | -     |
| HT-12                          | 25.4  | -     | 8.4   | -     | 2.21  | -     | 1.97  | -     | 2.19  | -     |
| <i>p-value</i>                 | 0.920 | 0.910 | 0.324 | 0.453 | 0.878 | 0.959 | 0.008 | 0.216 | 0.033 | 0.690 |

Note: (a) Means for all the nutrients with significant and no significant effect along with two-way ANOVA *p* values from corresponding models are presented in this table. Mean values for ABE-12 and HT-12 in season two are missing due to unavailability of fruit samples. (b) The 'LSD' values shown are equivalent to the minimal absolute difference between two categories that would be notionally "statistically significant" according to a Tukey multiple comparison contrast analysis within a two-way ANOVA model without interactions (assuming a Bonferroni adjustment for the number of contrasts within a particular covariate and a Type I error rate of 0.05). (c) If interactions are relevant, the LSD values for the fixed effects can be misleading *without* reference to the apparent differences in means found in panel [(a) iii & (b) iii].

**Table S2.** Additional data relating to Table 4. Effect of thinning regime (artificial bud extinction (ABE) or hand thinned (HT)) and crop load (3, 6 or 12 fruit cm<sup>-2</sup> limb cross-sectional area (LCSA)) on leaf macronutrient and micronutrient concentrations in season 1 and 2.

| <b>a) Leaf macronutrients:</b>  |                      |                 |                       |                 |                          |                 |                     |                 |                       |                 |
|---------------------------------|----------------------|-----------------|-----------------------|-----------------|--------------------------|-----------------|---------------------|-----------------|-----------------------|-----------------|
|                                 | <b>Nitrogen (%)</b>  |                 | <b>Phosphorus (%)</b> |                 | <b>Potassium (%)</b>     |                 | <b>Calcium (%)</b>  |                 | <b>Magnesium (%)</b>  |                 |
|                                 | <b>Season 1</b>      | <b>Season 2</b> | <b>Season 1</b>       | <b>Season 2</b> | <b>Season 1</b>          | <b>Season 2</b> | <b>Season 1</b>     | <b>Season 2</b> | <b>Season 1</b>       | <b>Season 2</b> |
| <b>(i) Thinning regime (TR)</b> |                      |                 |                       |                 |                          |                 |                     |                 |                       |                 |
| Artificial bud extinction       | 1.63                 | 1.56            | 0.15                  | 0.17            | 1.28                     | 1.75            | 1.23                | 1.38            | 0.35                  | 0.36            |
| Hand-thin                       | 1.68                 | 1.53            | 0.14                  | 0.17            | 1.24                     | 1.71            | 1.19                | 1.32            | 0.33                  | 0.35            |
| <i>p-value</i>                  | 0.550                | 0.650           | 0.532                 | 0.970           | 0.444                    | 0.621           | 0.492               | 0.377           | 0.198                 | 0.501           |
| <i>LSD</i>                      | 0.19                 | 0.14            | 0.03                  | 0.06            | 0.12                     | 0.19            | 0.12                | 0.14            | 0.04                  | 0.04            |
| <b>(ii) Crop load (CL)</b>      |                      |                 |                       |                 |                          |                 |                     |                 |                       |                 |
| 3 fruit cm <sup>-2</sup> LCSA   | 1.41                 | 1.75            | 0.17                  | 0.16            | 1.47                     | 1.68            | 1.12                | 1.41            | 0.35                  | 0.34            |
| 6 fruit cm <sup>-2</sup> LCSA   | 1.78                 | 1.48            | 0.14                  | 0.18            | 1.19                     | 1.65            | 1.28                | 1.34            | 0.34                  | 0.37            |
| 12 fruit cm <sup>-2</sup> LCSA  | 1.78                 | 1.42            | 0.13                  | 0.17            | 1.14                     | 1.87            | 1.25                | 1.31            | 0.33                  | 0.36            |
| <i>p-value</i>                  | 0.011                | 0.001           | 0.181                 | 0.803           | 0.001                    | 0.122           | 0.072               | 0.430           | 0.658                 | 0.440           |
| <i>LSD</i>                      | 0.29                 | 0.21            | 0.05                  | 0.09            | 0.19                     | 0.29            | 0.19                | 0.21            | 0.06                  | 0.07            |
| <b>(iii) TR x CL</b>            |                      |                 |                       |                 |                          |                 |                     |                 |                       |                 |
| ABE-3                           | 1.41                 | 1.72            | 0.19                  | 0.15            | 1.53                     | 1.80            | 1.13                | 1.41            | 0.36                  | 0.34            |
| HT-3                            | 1.41                 | 1.78            | 0.15                  | 0.17            | 1.40                     | 1.56            | 1.10                | 1.41            | 0.35                  | 0.33            |
| ABE-6                           | 1.73                 | 1.58            | 0.13                  | 0.19            | 1.23                     | 1.61            | 1.35                | 1.41            | 0.36                  | 0.36            |
| HT-6                            | 1.82                 | 1.37            | 0.14                  | 0.18            | 1.14                     | 1.68            | 1.20                | 1.26            | 0.31                  | 0.38            |
| ABE-12                          | 1.74                 | 1.39            | 0.13                  | 0.18            | 1.10                     | 1.85            | 1.22                | 1.33            | 0.34                  | 0.38            |
| HT-12                           | 1.82                 | 1.45            | 0.13                  | 0.17            | 1.18                     | 1.89            | 1.28                | 1.28            | 0.33                  | 0.33            |
| <i>p-value</i>                  | 0.910                | 0.118           | 0.388                 | 0.937           | 0.284                    | 0.299           | 0.334               | 0.666           | 0.485                 | 0.417           |
| <b>b) Leaf micronutrients:</b>  |                      |                 |                       |                 |                          |                 |                     |                 |                       |                 |
|                                 | <b>Boron (mg/kg)</b> |                 | <b>Iron (mg/kg)</b>   |                 | <b>Manganese (mg/kg)</b> |                 | <b>Zinc (mg/kg)</b> |                 | <b>Copper (mg/kg)</b> |                 |
|                                 | <b>Season 1</b>      | <b>Season 2</b> | <b>Season 1</b>       | <b>Season 2</b> | <b>Season 1</b>          | <b>Season 2</b> | <b>Season 1</b>     | <b>Season 2</b> | <b>Season 1</b>       | <b>Season 2</b> |
| <b>(i) Thinning regime (TR)</b> |                      |                 |                       |                 |                          |                 |                     |                 |                       |                 |
| Artificial bud extinction       | 28.2                 | 31.7            | 89.4                  | 96.6            | 28.8                     | 32.4            | 9.3                 | 14.5            | 8.9                   | 43.1            |
| Hand-thin                       | 28.0                 | 32.2            | 82.2                  | 86.0            | 25.7                     | 31.3            | 9.0                 | 11.4            | 8.6                   | 42.6            |
| <i>p-value</i>                  | 0.817                | 0.678           | 0.105                 | 0.200           | 0.345                    | 0.645           | 0.540               | <0.001          | 0.744                 | 0.797           |
| <i>LSD</i>                      | 1.36                 | 2.44            | 9.14                  | 21.17           | 6.65                     | 5.51            | 1.30                | 1.24            | 1.60                  | 4.91            |

|                                |       |       |       |       |       |       |       |        |       |       |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| <b>(ii) Crop load (CL)</b>     |       |       |       |       |       |       |       |        |       |       |
| 3 fruit cm <sup>-2</sup> LCSA  | 28.6  | 33.7  | 72.4  | 114.6 | 25.9  | 34.5  | 8.5   | 14.8   | 7.4   | 38.0  |
| 6 fruit cm <sup>-2</sup> LCSA  | 27.2  | 30.5  | 86.4  | 76.3  | 28.7  | 29.8  | 8.8   | 12.7   | 8.9   | 46.2  |
| 12 fruit cm <sup>-2</sup> LCSA | 28.6  | 31.8  | 98.5  | 83.0  | 27.3  | 31.2  | 10.2  | 11.2   | 10.0  | 44.4  |
| <i>p-value</i>                 | 0.130 | 0.141 | 0.001 | 0.004 | 0.777 | 0.327 | 0.028 | <0.001 | 0.038 | 0.011 |
| <i>LSD</i>                     | 2.11  | 3.79  | 14.18 | 32.86 | 10.32 | 8.55  | 2.02  | 1.92   | 2.49  | 7.62  |
| <b>(iii) TR x CL</b>           |       |       |       |       |       |       |       |        |       |       |
| ABE-3                          | 27.9  | 33.4  | 73.2  | 137.0 | 29.9  | 36.0  | 9.2   | 16.7   | 6.78  | 38.0  |
| HT-3                           | 29.2  | 34.0  | 71.7  | 92.2  | 21.9  | 33.0  | 7.7   | 12.9   | 7.94  | 38.0  |
| ABE-6                          | 28.0  | 30.0  | 95.0  | 77.0  | 30.0  | 32.4  | 9.4   | 14.9   | 9.86  | 43.3  |
| HT-6                           | 26.4  | 31.1  | 77.8  | 75.6  | 27.3  | 27.3  | 8.1   | 10.6   | 7.97  | 49.1  |
| ABE-12                         | 28.7  | 31.9  | 100.0 | 75.9  | 26.5  | 29.0  | 9.2   | 11.7   | 9.95  | 48.1  |
| HT-12                          | 28.5  | 31.7  | 97.0  | 90.2  | 28.0  | 33.5  | 11.1  | 10.7   | 9.95  | 40.8  |
| <i>p-value</i>                 | 0.186 | 0.907 | 0.264 | 0.026 | 0.485 | 0.289 | 0.023 | 0.028  | 0.256 | 0.050 |

Note: (a) Means for all the nutrients with significant and no significant effect along with two-way ANOVA *p* values from corresponding models are presented in this table. (b) The 'LSD' values shown are equivalent to the minimal absolute difference between two categories that would be notionally "statistically significant" according to a Tukey multiple comparison contrast analysis within a two-way ANOVA model without interactions (assuming a Bonferroni adjustment for the number of contrasts within a particular covariate and a Type I error rate of 0.05). (c) If interactions are relevant, the LSD values for the fixed effects can be misleading *without* reference to the apparent differences in means found in panel [(a) iii & (b) iii].