**Title: Supplemental file including data raw from Figure 1-6, and table 2**

**Figure 1**

Marketable yield

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Crop system** | **Treatment** | **Yield (kg plant-1)** | **Fruit fresh weight (g)** | **Fruit number plant-1** |
| Hydroponic | Control | 4.0 | 210.77 | 19 |
| Hydroponic | Control | 6.1 | 254.59 | 24 |
| Hydroponic | Control | 5.5 | 170.32 | 32 |
| Hydroponic | Control | 5.5 | 241.24 | 23 |
| Hydroponic | Control | 4.4 | 218.67 | 20 |
| Hydroponic | S1 | 4.5 | 179.30 | 25 |
| Hydroponic | S1 | 2.8 | 158.95 | 18 |
| Hydroponic | S1 | 4.1 | 193.30 | 21 |
| Hydroponic | S1 | 3.6 | 164.00 | 22 |
| Hydroponic | S2 | 3.8 | 170.88 | 22 |
| Hydroponic | S2 | 2.3 | 150.52 | 15 |
| Hydroponic | S2 | 2.1 | 140.37 | 15 |
| Hydroponic | S2 | 2.3 | 143.45 | 16 |
| NFT | Control | 3.1 | 149.82 | 21 |
| NFT | Control | 3.9 | 156.55 | 24 |
| NFT | Control | 4.2 | 139.72 | 30 |
| NFT | Control | 4.5 | 199.99 | 22 |
| NFT | Control | 3.2 | 175.87 | 18 |
| NFT | Control | 3.5 | 171.35 | 20 |
| NFT | Control | 4.8 | 189.29 | 26 |
| NFT | S1 | 1.8 | 117.42 | 15 |
| NFT | S1 | 1.9 | 132.70 | 14 |
| NFT | S1 | 2.1 | 114.73 | 19 |
| NFT | S1 | 1.0 | 99.40 | 10 |
| NFT | S1 | 2.8 | 139.99 | 20 |
| NFT | S1 | 1.8 | 115.18 | 16 |
| NFT | S1 | 2.3 | 136.92 | 17 |
| NFT | S1 | 3.6 | 126.15 | 29 |
| NFT | S2 | 0.5 | 98.81 | 5 |
| NFT | S2 | 0.9 | 99.40 | 9 |
| NFT | S2 | 0.9 | 126.71 | 8 |
| NFT | S2 | 1.4 | 138.49 | 10 |
| NFT | S2 | 1.0 | 112.44 | 9 |
| NFT | S2 | 0.7 | 117.88 | 6 |
| NFT | S2 | 1.3 | 118.06 | 11 |
| NFT | S2 | 1.3 | 111.73 | 11 |
| NFT | S2 | 1.5 | 123.75 | 13 |
| Perlite | Control | 3.7 | 185.22 | 21 |
| Perlite | Control | 3.8 | 184.26 | 20 |
| Perlite | Control | 6.2 | 205.22 | 30 |
| Perlite | Control | 4.4 | 184.22 | 24 |
| Perlite | Control | 3.2 | 151.28 | 19 |
| Perlite | Control | 3.1 | 188.75 | 16 |
| Perlite | Control | 5.0 | 191.48 | 26 |
| Perlite | S1 | 2.5 | 138.02 | 18 |
| Perlite | S1 | 2.2 | 133.61 | 17 |
| Perlite | S1 | 3.3 | 149.13 | 22 |
| Perlite | S1 | 3.8 | 150.98 | 25 |
| Perlite | S1 | 3.4 | 154.77 | 22 |
| Perlite | S1 | 3.0 | 142.96 | 21 |
| Perlite | S1 | 3.9 | 147.64 | 27 |
| Perlite | S2 | 2.0 | 115.03 | 18 |
| Perlite | S2 | 2.6 | 126.92 | 21 |
| Perlite | S2 | 2.0 | 107.83 | 18 |
| Perlite | S2 | 1.3 | 107.22 | 12 |
| Perlite | S2 | 2.2 | 125.45 | 18 |
| Perlite | S2 | 2.1 | 126.69 | 17 |
| Perlite | S2 | 2.1 | 107.91 | 19 |

Vegetative development

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Crop system** | **Treatment** | **Leaf biomass (g DW plant-1)** | **Stem biomass (g DW plant-1)** | **Total leaf Area (m2)** |
| Hydroponic | Control | 224.83 | 63.97 | 0.55 |
| Hydroponic | Control | 232.83 | 62.37 | 0.57 |
| Hydroponic | Control | 230.21 | 32.51 | 0.56 |
| Hydroponic | S1 | 222.16 | 65.19 | 0.55 |
| Hydroponic | S1 | 257.20 | 73.52 | 0.62 |
| Hydroponic | S1 | 228.48 | 57.22 | 0.56 |
| Hydroponic | S2 | 207.31 | 58.88 | 0.52 |
| Hydroponic | S2 | 203.23 | 57.41 | 0.51 |
| Hydroponic | S2 | 225.25 | 60.85 | 0.55 |
| NFT | Control | 101.31 | 49.77 | 0.30 |
| NFT | Control | 116.80 | 54.03 | 0.33 |
| NFT | Control | 139.28 | 51.85 | 0.38 |
| NFT | Control | 101.31 | 49.77 | 0.30 |
| NFT | Control | 118.52 | 44.72 | 0.34 |
| NFT | Control | 100.97 | 48.98 | 0.30 |
| NFT | S1 | 86.75 | 44.08 | 0.27 |
| NFT | S1 | 95.76 | 47.53 | 0.29 |
| NFT | S1 | 87.38 | 50.11 | 0.27 |
| NFT | S1 | 95.76 | 47.53 | 0.29 |
| NFT | S1 | 93.05 | 46.53 | 0.28 |
| NFT | S1 | 107.66 | 44.65 | 0.31 |
| NFT | S2 | 52.36 | 30.99 | 0.20 |
| NFT | S2 | 47.70 | 31.15 | 0.19 |
| NFT | S2 | 46.86 | 31.63 | 0.19 |
| NFT | S2 | 50.20 | 31.41 | 0.20 |
| NFT | S2 | 66.14 | 33.96 | 0.23 |
| Perlite | Control | 100.41 | 51.44 | 0.30 |
| Perlite | Control | 126.37 | 56.16 | 0.35 |
| Perlite | Control | 111.75 | 40.85 | 0.32 |
| Perlite | Control | 125.93 | 47.84 | 0.35 |
| Perlite | Control | 120.83 | 45.79 | 0.34 |
| Perlite | Control | 111.46 | 40.89 | 0.32 |
| Perlite | S1 | 126.03 | 45.65 | 0.35 |
| Perlite | S1 | 117.46 | 42.91 | 0.33 |
| Perlite | S1 | 139.66 | 43.10 | 0.38 |
| Perlite | S1 | 111.41 | 38.52 | 0.32 |
| Perlite | S1 | 111.52 | 45.50 | 0.32 |
| Perlite | S1 | 91.71 | 43.28 | 0.28 |
| Perlite | S2 | 118.35 | 41.64 | 0.33 |
| Perlite | S2 | 120.62 | 39.41 | 0.34 |
| Perlite | S2 | 105.30 | 45.92 | 0.31 |
| Perlite | S2 | 113.62 | 46.21 | 0.33 |
| Perlite | S2 | 102.91 | 38.47 | 0.30 |
| Perlite | S2 | 96.49 | 43.26 | 0.29 |

**Figure 2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Crop system** | **Treatment** | **SST (ºBrix)** | **TA (g L-1)** | **Madurity index (-)** | **CE (dS m-1)** | **pH** |
| Hydroponic | Control | 4.77 | 2.41 | 19.77 | 3.57 | 4.61 |
| Hydroponic | Control | 4.30 | 2.59 | 16.59 | 3.51 | 4.46 |
| Hydroponic | Control | 4.83 | 2.06 | 23.38 | 3.53 | 4.53 |
| Hydroponic | Control | 4.52 | 3.20 | 14.13 | 4.09 | 4.62 |
| Hydroponic | S1 | 5.18 | 2.61 | 19.84 | 4.27 | 4.58 |
| Hydroponic | S1 | 5.28 | 2.69 | 19.62 | 4.18 | 4.49 |
| Hydroponic | S1 | 5.25 | 2.59 | 20.25 | 4.20 | 4.56 |
| Hydroponic | S1 | 5.33 | 3.17 | 16.84 | 4.23 | 4.47 |
| Hydroponic | S2 | 5.57 | 2.88 | 19.33 | 4.22 | 4.61 |
| Hydroponic | S2 | 5.13 | 2.75 | 18.65 | 3.87 | 4.51 |
| Hydroponic | S2 | 6.00 | 3.09 | 19.40 | 4.84 | 4.49 |
| Hydroponic | S2 | 5.50 | 2.87 | 19.18 | 4.61 | 4.47 |
| NFT | Control | 4.76 | 2.65 | 17.95 | 3.74 | 4.59 |
| NFT | Control | 4.73 | 2.18 | 21.75 | 3.78 | 4.42 |
| NFT | Control | 4.50 | 2.11 | 21.31 | 3.59 | 4.60 |
| NFT | Control | 5.03 | 2.75 | 18.26 | 4.10 | 4.62 |
| NFT | Control | 4.55 | 2.71 | 16.79 | 3.85 | 4.58 |
| NFT | Control | 4.63 | 2.45 | 18.91 | 3.68 | 4.65 |
| NFT | Control | 5.00 | 2.61 | 19.13 | 4.15 | 4.60 |
| NFT | S1 | 6.13 | 3.41 | 17.97 | 4.89 | 4.56 |
| NFT | S1 | 6.85 | 3.14 | 21.79 | 4.56 | 4.38 |
| NFT | S1 | 6.90 | 3.37 | 20.47 | 4.67 | 4.49 |
| NFT | S1 | 6.50 | 4.16 | 15.63 | 5.17 | 4.56 |
| NFT | S1 | 6.27 | 2.86 | 21.92 | 4.24 | 4.58 |
| NFT | S1 | 6.03 | 2.75 | 21.89 | 4.05 | 4.61 |
| NFT | S1 | 6.08 | 3.02 | 20.15 | 4.34 | 4.49 |
| NFT | S1 | 6.20 | 2.88 | 21.53 | 4.33 | 4.60 |
| NFT | S2 | 9.00 | 4.65 | 19.35 | 5.40 | 4.46 |
| NFT | S2 | 9.05 | 3.42 | 26.43 | 4.96 | 4.55 |
| NFT | S2 | 10.30 | 4.35 | 23.67 | 5.77 | 4.57 |
| NFT | S2 | 7.30 | 3.06 | 23.86 | 4.54 | 4.56 |
| NFT | S2 | 7.43 | 3.87 | 19.20 | 5.15 | 4.47 |
| NFT | S2 | 8.17 | 3.90 | 20.92 | 5.31 | 4.54 |
| NFT | S2 | 7.98 | 3.98 | 20.02 | 5.22 | 4.50 |
| NFT | S2 | 7.55 | 3.78 | 19.99 | 5.35 | 4.54 |
| NFT | S2 | 9.00 | 4.54 | 19.81 | 5.20 | 4.65 |
| Perlite | Control | 4.88 | 2.05 | 23.83 | 3.73 | 4.48 |
| Perlite | Control | 4.43 | 2.27 | 19.48 | 3.59 | 4.57 |
| Perlite | Control | 4.49 | 2.36 | 19.01 | 3.50 | 4.53 |
| Perlite | Control | 5.22 | 2.49 | 20.97 | 3.46 | 4.53 |
| Perlite | Control | 4.30 | 2.11 | 20.36 | 3.60 | 4.64 |
| Perlite | Control | 4.64 | 2.30 | 20.18 | 3.61 | 4.59 |
| Perlite | Control | 5.05 | 2.47 | 20.49 | 3.83 | 4.58 |
| Perlite | S1 | 5.41 | 3.01 | 17.94 | 4.10 | 4.46 |
| Perlite | S1 | 5.78 | 2.94 | 19.62 | 4.03 | 4.55 |
| Perlite | S1 | 5.24 | 2.65 | 19.83 | 4.13 | 4.52 |
| Perlite | S1 | 5.63 | 2.94 | 19.13 | 4.17 | 4.53 |
| Perlite | S1 | 5.75 | 2.64 | 21.78 | 4.37 | 4.60 |
| Perlite | S1 | 5.27 | 2.69 | 19.59 | 4.13 | 4.55 |
| Perlite | S1 | 5.90 | 2.69 | 21.95 | 3.94 | 4.52 |
| Perlite | S2 | 6.38 | 2.90 | 22.00 | 4.28 | 4.46 |
| Perlite | S2 | 6.07 | 2.93 | 20.72 | 4.16 | 4.46 |
| Perlite | S2 | 7.00 | 3.14 | 22.32 | 4.65 | 4.49 |
| Perlite | S2 | 6.44 | 2.93 | 22.02 | 4.16 | 4.54 |
| Perlite | S2 | 6.62 | 2.97 | 22.32 | 4.34 | 4.43 |
| Perlite | S2 | 6.13 | 3.08 | 19.92 | 4.45 | 4.49 |
| Perlite | S2 | 6.23 | 2.77 | 22.51 | 4.21 | 4.55 |

Figure 3

Cl- Leaf (%) DW

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Crop system** | **Treatment** | **Cl- Leaf (%) DW** | **Date** | **Crop system** | **Treatment** | **Cl- Leaf (%) DW** |
| 25 DDT | Hydroponic | Control | 0.48 | 50 DDT | Hydroponic | Control | 0.54 |
| 25 DDT | Hydroponic | Control | 0.52 | 50 DDT | Hydroponic | Control | 0.5 |
| 25 DDT | Hydroponic | Control | 0.54 | 50 DDT | Hydroponic | Control | 0.52 |
| 25 DDT | Hydroponic | Control | 0.5 | 50 DDT | Hydroponic | Control | 0.42 |
| 25 DDT | Hydroponic | Control | 0.48 | 50 DDT | Hydroponic | Control | 0.5 |
| 25 DDT | Hydroponic | Control | 0.48 | 50 DDT | Hydroponic | Control | 0.46 |
| 25 DDT | Hydroponic | S1 | 1.36 | 50 DDT | Hydroponic | S1 | 1.18 |
| 25 DDT | Hydroponic | S1 | 1.26 | 50 DDT | Hydroponic | S1 | 1.32 |
| 25 DDT | Hydroponic | S1 | 1.5 | 50 DDT | Hydroponic | S1 | 1.44 |
| 25 DDT | Hydroponic | S1 | 1.34 | 50 DDT | Hydroponic | S1 | 1.44 |
| 25 DDT | Hydroponic | S1 | 1.22 | 50 DDT | Hydroponic | S1 | 1.46 |
| 25 DDT | Hydroponic | S1 | 1.24 | 50 DDT | Hydroponic | S1 | 1.56 |
| 25 DDT | Hydroponic | S2 | 3.08 | 50 DDT | Hydroponic | S2 | 3 |
| 25 DDT | Hydroponic | S2 | 3.14 | 50 DDT | Hydroponic | S2 | 3.22 |
| 25 DDT | Hydroponic | S2 | 2.98 | 50 DDT | Hydroponic | S2 | 3.38 |
| 25 DDT | Hydroponic | S2 | 3.22 | 50 DDT | Hydroponic | S2 | 3.46 |
| 25 DDT | Hydroponic | S2 | 3.12 | 50 DDT | Hydroponic | S2 | 3.52 |
| 25 DDT | Hydroponic | S2 | 3.1 | 50 DDT | Hydroponic | S2 | 3.94 |
| 25 DDT | NFT | Control | 0.46 | 50 DDT | NFT | Control | 0.42 |
| 25 DDT | NFT | Control | 0.5 | 50 DDT | NFT | Control | 0.46 |
| 25 DDT | NFT | Control | 0.46 | 50 DDT | NFT | Control | 0.46 |
| 25 DDT | NFT | Control | 0.48 | 50 DDT | NFT | Control | 0.48 |
| 25 DDT | NFT | Control | 0.5 | 50 DDT | NFT | Control | 0.5 |
| 25 DDT | NFT | Control | 0.5 | 50 DDT | NFT | Control | 0.52 |
| 25 DDT | NFT | S1 | 0.74 | 50 DDT | NFT | S1 | 0.76 |
| 25 DDT | NFT | S1 | 0.74 | 50 DDT | NFT | S1 | 0.76 |
| 25 DDT | NFT | S1 | 0.86 | 50 DDT | NFT | S1 | 0.8 |
| 25 DDT | NFT | S1 | 0.82 | 50 DDT | NFT | S1 | 0.84 |
| 25 DDT | NFT | S1 | 0.9 | 50 DDT | NFT | S1 | 0.86 |
| 25 DDT | NFT | S1 | 0.82 | 50 DDT | NFT | S1 | 0.94 |
| 25 DDT | NFT | S2 | 2.54 | 50 DDT | NFT | S2 | 2.6 |
| 25 DDT | NFT | S2 | 2.5 | 50 DDT | NFT | S2 | 2.66 |
| 25 DDT | NFT | S2 | 2.5 | 50 DDT | NFT | S2 | 2.66 |
| 25 DDT | NFT | S2 | 2.62 | 50 DDT | NFT | S2 | 2.7 |
| 25 DDT | NFT | S2 | 2.44 | 50 DDT | NFT | S2 | 2.88 |
| 25 DDT | NFT | S2 | 2.4 | 50 DDT | NFT | S2 | 2.9 |
| 25 DDT | Perlite | Control | 0.26 | 50 DDT | Perlite | Control | 0.24 |
| 25 DDT | Perlite | Control | 0.28 | 50 DDT | Perlite | Control | 0.24 |
| 25 DDT | Perlite | Control | 0.26 | 50 DDT | Perlite | Control | 0.26 |
| 25 DDT | Perlite | Control | 0.2 | 50 DDT | Perlite | Control | 0.24 |
| 25 DDT | Perlite | Control | 0.26 | 50 DDT | Perlite | Control | 0.22 |
| 25 DDT | Perlite | Control | 0.28 | 50 DDT | Perlite | Control | 0.28 |
| 25 DDT | Perlite | S1 | 0.64 | 50 DDT | Perlite | S1 | 0.64 |
| 25 DDT | Perlite | S1 | 0.64 | 50 DDT | Perlite | S1 | 0.64 |
| 25 DDT | Perlite | S1 | 0.6 | 50 DDT | Perlite | S1 | 0.6 |
| 25 DDT | Perlite | S1 | 0.62 | 50 DDT | Perlite | S1 | 0.62 |
| 25 DDT | Perlite | S1 | 0.58 | 50 DDT | Perlite | S1 | 0.58 |
| 25 DDT | Perlite | S1 | 0.66 | 50 DDT | Perlite | S1 | 0.66 |
| 25 DDT | Perlite | S2 | 1.34 | 50 DDT | Perlite | S2 | 1.5 |
| 25 DDT | Perlite | S2 | 1.22 | 50 DDT | Perlite | S2 | 1.54 |
| 25 DDT | Perlite | S2 | 1.38 | 50 DDT | Perlite | S2 | 1.56 |
| 25 DDT | Perlite | S2 | 1.38 | 50 DDT | Perlite | S2 | 1.46 |
| 25 DDT | Perlite | S2 | 1.42 | 50 DDT | Perlite | S2 | 1.5 |
| 25 DDT | Perlite | S2 | 1.2 | 50 DDT | Perlite | S2 | 1.44 |
| 101 DDT | Hydroponic | Control | 0.25 | 101 DDT | NFT | S1 | 1.38 | |
| 101 DDT | Hydroponic | Control | 0.23 | 101 DDT | NFT | S2 | 4 | |
| 101 DDT | Hydroponic | Control | 0.24 | 101 DDT | NFT | S2 | 4.02 | |
| 101 DDT | Hydroponic | Control | 0.28 | 101 DDT | NFT | S2 | 5 | |
| 101 DDT | Hydroponic | Control | 0.22 | 101 DDT | NFT | S2 | 5.86 | |
| 101 DDT | Hydroponic | Control | 0.16 | 101 DDT | NFT | S2 | 5.08 | |
| 101 DDT | Hydroponic | S1 | 1.96 | 101 DDT | NFT | S2 | 4.04 | |
| 101 DDT | Hydroponic | S1 | 1.72 | 101 DDT | NFT | S2 | 4.5 | |
| 101 DDT | Hydroponic | S1 | 1.64 | 101 DDT | NFT | S2 | 5.2 | |
| 101 DDT | Hydroponic | S1 | 1.62 | 101 DDT | Perlite | Control | 0.32 | |
| 101 DDT | Hydroponic | S1 | 1.56 | 101 DDT | Perlite | Control | 0.25 | |
| 101 DDT | Hydroponic | S1 | 2 | 101 DDT | Perlite | Control | 0.3 | |
| 101 DDT | Hydroponic | S2 | 3.06 | 101 DDT | Perlite | Control | 0.38 | |
| 101 DDT | Hydroponic | S2 | 3.05 | 101 DDT | Perlite | Control | 0.24 | |
| 101 DDT | Hydroponic | S2 | 3.18 | 101 DDT | Perlite | Control | 0.3 | |
| 101 DDT | Hydroponic | S2 | 2.86 | 101 DDT | Perlite | Control | 0.26 | |
| 101 DDT | Hydroponic | S2 | 3.32 | 101 DDT | Perlite | Control | 0.24 | |
| 101 DDT | Hydroponic | S2 | 3.74 | 101 DDT | Perlite | Control | 0.28 | |
| 101 DDT | NFT | Control | 0.32 | 101 DDT | Perlite | S1 | 0.74 | |
| 101 DDT | NFT | Control | 0.36 | 101 DDT | Perlite | S1 | 0.5 | |
| 101 DDT | NFT | Control | 0.38 | 101 DDT | Perlite | S1 | 0.76 | |
| 101 DDT | NFT | Control | 0.26 | 101 DDT | Perlite | S1 | 0.78 | |
| 101 DDT | NFT | Control | 0.36 | 101 DDT | Perlite | S1 | 0.76 | |
| 101 DDT | NFT | Control | 0.36 | 101 DDT | Perlite | S1 | 0.86 | |
| 101 DDT | NFT | Control | 0.24 | 101 DDT | Perlite | S1 | 0.48 | |
| 101 DDT | NFT | Control | 0.18 | 101 DDT | Perlite | S1 | 0.5 | |
| 101 DDT | NFT | Control | 0.2 | 101 DDT | Perlite | S2 | 1.44 | |
| 101 DDT | NFT | S1 | 2.14 | 101 DDT | Perlite | S2 | 1.68 | |
| 101 DDT | NFT | S1 | 2.28 | 101 DDT | Perlite | S2 | 1.64 | |
| 101 DDT | NFT | S1 | 1.52 | 101 DDT | Perlite | S2 | 1.54 | |
| 101 DDT | NFT | S1 | 2 | 101 DDT | Perlite | S2 | 1.5 | |
| 101 DDT | NFT | S1 | 1.82 | 101 DDT | Perlite | S2 | 1.46 | |
| 101 DDT | NFT | S1 | 2.18 | 101 DDT | Perlite | S2 | 1.32 | |
| 101 DDT | NFT | S1 | 1.42 | 101 DDT | Perlite | S2 | 1.72 | |
| 101 DDT | NFT | S1 | 1.48 | 101 DDT | Perlite | S2 | 1.38 | |

Na+ Leaf (%) DW

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Crop system** | **Treatment** | **Na+ Leaf (%) DW** | **Date** | **Crop system** | **Treatment** | **Na+ Leaf (%) DW** |
| 25 DDT | Hydroponic | Control | 0.06 | 50 DDT | Hidroponía | S2 | 1.54 |
| 25 DDT | Hydroponic | Control | 0.06 | 50 DDT | NGS | Control | 0.02 |
| 25 DDT | Hydroponic | Control | 0.04 | 50 DDT | NGS | Control | 0.07 |
| 25 DDT | Hydroponic | Control | 0.03 | 50 DDT | NFT | Control | 0.08 |
| 25 DDT | Hydroponic | Control | 0.03 | 50 DDT | NFT | S1 | 0.73 |
| 25 DDT | Hydroponic | Control | 0.03 | 50 DDT | NFT | S1 | 0.54 |
| 25 DDT | Hydroponic | S1 | 0.48 | 50 DDT | NFT | S1 | 0.73 |
| 25 DDT | Hydroponic | S1 | 0.40 | 50 DDT | NFT | S2 | 2.52 |
| 25 DDT | Hydroponic | S1 | 0.40 | 50 DDT | NFT | S2 | 2.27 |
| 25 DDT | Hydroponic | S1 | 0.45 | 50 DDT | NFT | S2 | 1.64 |
| 25 DDT | Hydroponic | S1 | 0.61 | 50 DDT | Perlite | Control | 0.01 |
| 25 DDT | Hydroponic | S1 | 0.46 | 50 DDT | Perlite | Control | 0.05 |
| 25 DDT | Hydroponic | S2 | 0.99 | 50 DDT | Perlite | Control | 0.10 |
| 25 DDT | Hydroponic | S2 | 1.88 | 50 DDT | Perlite | S1 | 0.24 |
| 25 DDT | Hydroponic | S2 | 1.66 | 50 DDT | Perlite | S1 | 0.23 |
| 25 DDT | Hydroponic | S2 | 0.72 | 50 DDT | Perlite | S1 | 0.58 |
| 25 DDT | Hydroponic | S2 | 0.75 | 50 DDT | Perlite | S2 | 0.45 |
| 25 DDT | Hydroponic | S2 | 2.06 | 50 DDT | Perlite | S2 | 0.72 |
| 25 DDT | NFT | Control | 0.08 | 50 DDT | Perlite | S2 | 0.50 |
| 25 DDT | NFT | Control | 0.08 | 101 DDT | Hydroponic | Control | 0.05 |
| 25 DDT | NFT | Control | 0.08 | 101 DDT | Hydroponic | Control | 0.05 |
| 25 DDT | NFT | Control | 0.08 | 101 DDT | Hydroponic | Control | 0.03 |
| 25 DDT | NFT | Control | 0.05 | 101 DDT | Hydroponic | S1 | 0.49 |
| 25 DDT | NFT | Control | 0.05 | 101 DDT | Hydroponic | S1 | 0.41 |
| 25 DDT | NFT | S1 | 0.52 | 101 DDT | Hydroponic | S1 | 0.51 |
| 25 DDT | NFT | S1 | 0.86 | 101 DDT | Hydroponic | S2 | 1.02 |
| 25 DDT | NFT | S1 | 0.43 | 101 DDT | Hydroponic | S2 | 1.02 |
| 25 DDT | NFT | S1 | 0.52 | 101 DDT | Hydroponic | S2 | 1.17 |
| 25 DDT | NFT | S1 | 0.69 | 101 DDT | NFT | Control | 0.05 |
| 25 DDT | NFT | S1 | 0.49 | 101 DDT | NFT | Control | 0.05 |
| 25 DDT | NFT | S2 | 1.02 | 101 DDT | NFT | Control | 0.06 |
| 25 DDT | NFT | S2 | 1.78 | 101 DDT | NFT | Control | 0.05 |
| 25 DDT | NFT | S2 | 1.05 | 101 DDT | NFT | Control | 0.04 |
| 25 DDT | NFT | S2 | 1.55 | 101 DDT | NFT | Control | 0.04 |
| 25 DDT | NFT | S2 | 1.26 | 101 DDT | NFT | S1 | 0.81 |
| 25 DDT | NFT | S2 | 1.08 | 101 DDT | NFT | S1 | 0.70 |
| 25 DDT | Perlite | Control | 0.07 | 101 DDT | NFT | S1 | 0.72 |
| 25 DDT | Perlite | Control | 0.08 | 101 DDT | NFT | S1 | 0.41 |
| 25 DDT | Perlite | Control | 0.08 | 101 DDT | NFT | S1 | 0.47 |
| 25 DDT | Perlite | Control | 0.06 | 101 DDT | NFT | S1 | 0.52 |
| 25 DDT | Perlite | Control | 0.05 | 101 DDT | NFT | S2 | 1.93 |
| 25 DDT | Perlite | Control | 0.07 | 101 DDT | NFT | S2 | 1.60 |
| 25 DDT | Perlite | S1 | 0.25 | 101 DDT | NFT | S2 | 2.24 |
| 25 DDT | Perlite | S1 | 0.32 | 101 DDT | NFT | S2 | 1.85 |
| 25 DDT | Perlite | S1 | 0.31 | 101 DDT | NFT | S2 | 2.06 |
| 25 DDT | Perlite | S1 | 0.37 | 101 DDT | Perlite | Control | 0.06 |
| 25 DDT | Perlite | S1 | 0.32 | 101 DDT | Perlite | Control | 0.07 |
| 25 DDT | Perlite | S1 | 0.33 | 101 DDT | Perlite | Control | 0.04 |
| 25 DDT | Perlite | S2 | 0.51 | 101 DDT | Perlite | Control | 0.09 |
| 25 DDT | Perlite | S2 | 0.46 | 101 DDT | Perlite | Control | 0.05 |
| 25 DDT | Perlite | S2 | 0.54 | 101 DDT | Perlite | Control | 0.06 |
| 25 DDT | Perlite | S2 | 0.52 | 101 DDT | Perlite | S1 | 0.40 |
| 25 DDT | Perlite | S2 | 0.76 | 101 DDT | Perlite | S1 | 0.33 |
| 25 DDT | Perlite | S2 | 0.55 | 101 DDT | Perlite | S1 | 0.47 |
| 50 DDT | Hydroponic | Control | 0.03 | 101 DDT | Perlite | S1 | 0.29 |
| 50 DDT | Hydroponic | Control | 0.03 | 101 DDT | Perlite | S1 | 0.35 |
| 50 DDT | Hydroponic | Control | 0.03 | 101 DDT | Perlite | S2 | 0.70 |
| 50 DDT | Hydroponic | S1 | 0.29 | 101 DDT | Perlite | S2 | 0.66 |
| 50 DDT | Hydroponic | S1 | 0.51 | 101 DDT | Perlite | S2 | 0.59 |
| 50 DDT | Hydroponic | S1 | 0.77 | 101 DDT | Perlite | S2 | 0.64 |
| 50 DDT | Hydroponic | S2 | 1.51 | 101 DDT | Perlite | S2 | 0.56 |
| 50 DDT | Hydroponic | S2 | 1.61 | 101 DDT | Perlite | S2 | 0.50 |

Figure 4

|  |  |  |  |
| --- | --- | --- | --- |
| **Crop system** | **Treatment** | **K+ (%)** | **Na+/K+ ratio** |
| Hydroponic | Control | 3.07 | 0.02 |
| Hydroponic | Control | 2.65 | 0.02 |
| Hydroponic | Control | 3.10 | 0.01 |
| Hydroponic | S1 | 2.53 | 0.19 |
| Hydroponic | S1 | 2.34 | 0.17 |
| Hydroponic | S1 | 2.52 | 0.20 |
| Hydroponic | S2 | 1.99 | 0.51 |
| Hydroponic | S2 | 1.75 | 0.58 |
| Hydroponic | S2 | 2.25 | 0.52 |
| NFT | Control | 3.89 | 0.01 |
| NFT | Control | 3.76 | 0.01 |
| NFT | Control | 3.82 | 0.02 |
| NFT | Control | 4.54 | 0.01 |
| NFT | Control | 4.32 | 0.01 |
| NFT | Control | 4.80 | 0.01 |
| NFT | S1 | 3.45 | 0.23 |
| NFT | S1 | 2.61 | 0.27 |
| NFT | S1 | 3.10 | 0.23 |
| NFT | S1 | 3.02 | 0.14 |
| NFT | S1 | 5.66 | 0.08 |
| NFT | S1 | 6.00 | 0.09 |
| NFT | S2 | 2.07 | 0.89 |
| NFT | S2 | 1.96 | 1.05 |
| NFT | S2 | 1.85 | 1.04 |
| NFT | S2 | 2.17 | 0.74 |
| NFT | S2 | 2.30 | 0.97 |
| Perlite | Control | 3.51 | 0.02 |
| Perlite | Control | 2.51 | 0.02 |
| Perlite | Control | 3.39 | 0.02 |
| Perlite | Control | 2.78 | 0.02 |
| Perlite | Control | 2.97 | 0.02 |
| Perlite | Control | 2.50 | 0.02 |
| Perlite | S1 | 2.30 | 0.20 |
| Perlite | S1 | 2.64 | 0.11 |
| Perlite | S1 | 2.56 | 0.13 |
| Perlite | S1 | 2.80 | 0.14 |
| Perlite | S1 | 2.66 | 0.12 |
| Perlite | S2 | 3.15 | 0.20 |
| Perlite | S2 | 2.35 | 0.24 |
| Perlite | S2 | 2.27 | 0.22 |
| Perlite | S2 | 3.71 | 0.19 |
| Perlite | S2 | 2.07 | 0.32 |
| Perlite | S2 | 2.50 | 0.23 |

Figure 5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Crop System** | **Treatment** | **Water potential (MPa)** | **Osmotic potencial (MPa)** | **Turgor potencial (MPa)** |
| Hydroponic | Control | -0.25 | -0.94 | 0.69 |
| Hydroponic | Control | -0.28 | -1.13 | 0.84 |
| Hydroponic | Control | -0.25 | -1.06 | 0.81 |
| Hydroponic | Control | -0.22 | -1.00 | 0.78 |
| Hydroponic | Control | -0.18 | -0.84 | 0.66 |
| Hydroponic | Control | -0.28 | -1.03 | 0.75 |
| Hydroponic | S1 | -0.39 | -1.18 | 0.79 |
| Hydroponic | S1 | -0.56 | -1.42 | 0.86 |
| Hydroponic | S1 | -0.52 | -1.06 | 0.53 |
| Hydroponic | S1 | -0.32 | -1.08 | 0.76 |
| Hydroponic | S1 | -0.22 | -1.37 | 1.15 |
| Hydroponic | S1 | -0.60 | -1.34 | 0.74 |
| Hydroponic | S2 | -0.22 | -1.58 | 1.37 |
| Hydroponic | S2 | -0.42 | -1.51 | 1.09 |
| Hydroponic | S2 | -0.39 | -1.39 | 1.01 |
| Hydroponic | S2 | -0.25 | -1.58 | 1.33 |
| Hydroponic | S2 | -0.35 | -1.51 | 1.16 |
| Hydroponic | S2 | -0.22 | -1.58 | 1.37 |
| NFT | Control | -0.35 | -1.13 | 0.78 |
| NFT | Control | -0.39 | -1.22 | 0.84 |
| NFT | Control | -0.32 | -0.84 | 0.52 |
| NFT | Control | -0.22 | -1.10 | 0.89 |
| NFT | Control | -0.26 | -1.20 | 0.94 |
| NFT | Control | -0.32 | -1.18 | 0.86 |
| NFT | S1 | -0.56 | -1.22 | 0.67 |
| NFT | S1 | -0.66 | -1.15 | 0.49 |
| NFT | S1 | -0.49 | -1.20 | 0.71 |
| NFT | S1 | -0.39 | -1.06 | 0.67 |
| NFT | S1 | -0.49 | -1.18 | 0.69 |
| NFT | S1 | -0.35 | -1.06 | 0.71 |
| NFT | S2 | -0.70 | -1.32 | 0.62 |
| NFT | S2 | -0.87 | -1.54 | 0.67 |
| NFT | S2 | -0.66 | -1.75 | 1.09 |
| NFT | S2 | -0.42 | -1.25 | 0.83 |
| NFT | S2 | -0.52 | -1.27 | 0.75 |
| NFT | S2 | -0.60 | -1.34 | 0.74 |
| Perlite | Control | -0.11 | -0.79 | 0.68 |
| Perlite | Control | -0.22 | -0.94 | 0.72 |
| Perlite | Control | -0.35 | -0.94 | 0.58 |
| Perlite | Control | -0.32 | -0.96 | 0.64 |
| Perlite | Control | -0.28 | -1.10 | 0.82 |
| Perlite | Control | -0.28 | -0.98 | 0.70 |
| Perlite | S1 | -0.46 | -1.20 | 0.74 |
| Perlite | S1 | -0.50 | -1.18 | 0.68 |
| Perlite | S1 | -0.35 | -1.30 | 0.94 |
| Perlite | S1 | -0.46 | -1.25 | 0.79 |
| Perlite | S1 | -0.46 | -1.39 | 0.94 |
| Perlite | S1 | -0.46 | -1.20 | 0.74 |
| Perlite | S2 | -0.32 | -1.37 | 1.05 |
| Perlite | S2 | -0.35 | -1.44 | 1.09 |
| Perlite | S2 | -0.32 | -1.39 | 1.07 |
| Perlite | S2 | -0.54 | -1.37 | 0.83 |
| Perlite | S2 | -0.39 | -1.42 | 1.03 |
| Perlite | S2 | -0.42 | -1.42 | 0.99 |

Figure 6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Crop System** | **Treatment** | **gs (mmol m-2 s-1)** | **ACO2 (µmol m-2 s-1)** | **ci (ppm)** | **UEA (µmol mol-1)** |
| Hydroponic | Control | 171 | 10.9 | 226 | 5.3 |
| Hydroponic | Control | 181 | 10.7 | 228 | 4.0 |
| Hydroponic | Control | 279 | 13.8 | 238 | 5.6 |
| Hydroponic | Control | 294 | 13.0 | 239 | 3.2 |
| Hydroponic | Control | 250 | 11.5 | 199 | 3.7 |
| Hydroponic | Control | 477 | 16.1 | 294 | 3.9 |
| Hydroponic | S1 | 287 | 7.7 | 252 | 2.7 |
| Hydroponic | S1 | 229 | 9.8 | 164 | 3.0 |
| Hydroponic | S1 | 104 | 7.6 | 212 | 4.7 |
| Hydroponic | S1 | 183 | 11.6 | 220 | 5.2 |
| Hydroponic | S1 | 265 | 9.9 | 271 | 5.3 |
| Hydroponic | S2 | 98 | 6.0 | 194 | 3.3 |
| Hydroponic | S2 | 77 | 6.1 | 206 | 4.6 |
| Hydroponic | S2 | 187 | 8.3 | 184 | 3.8 |
| Hydroponic | S2 | 44 | 0.7 | 320 | 1.1 |
| Hydroponic | S2 | 56 | 2.4 | 272 | 2.6 |
| NFT | Control | 305 | 12.4 | 259 | 4.6 |
| NFT | Control | 389 | 13.3 | 274 | 4.4 |
| NFT | Control | 509 | 14.7 | 273 | 5.1 |
| NFT | Control | 305 | 12.4 | 259 | 4.6 |
| NFT | Control | 320 | 14.5 | 233 | 4.7 |
| NFT | S1 | 266 | 12.5 | 240 | 3.7 |
| NFT | S1 | 150 | 8.6 | 232 | 3.8 |
| NFT | S1 | 281 | 9.7 | 268 | 3.9 |
| NFT | S1 | 109 | 10.1 | 189 | 6.6 |
| NFT | S1 | 262 | 10.2 | 274 | 4.2 |
| NFT | S1 | 198 | 9.0 | 263 | 4.1 |
| NFT | S2 | 134 | 8.2 | 227 | 3.8 |
| NFT | S2 | 408 | 11.5 | 276 | 4.2 |
| NFT | S2 | 254 | 12.2 | 252 | 4.5 |
| NFT | S2 | 105 | 8.0 | 216 | 4.8 |
| NFT | S2 | 177 | 9.5 | 252 | 6.9 |
| Perlite | Control | 398 | 14.7 | 292 | 3.7 |
| Perlite | Control | 380 | 12.8 | 302 | 3.9 |
| Perlite | Control | 348 | 15.2 | 278 | 3.4 |
| Perlite | Control | 469 | 15.5 | 294 | 3.3 |
| Perlite | S1 | 398 | 14.7 | 292 | 3.7 |
| Perlite | S1 | 431 | 14.4 | 299 | 4.4 |
| Perlite | S1 | 270 | 12.1 | 248 | 4.2 |
| Perlite | S1 | 370 | 13.4 | 258 | 4.2 |
| Perlite | S1 | 370 | 14.2 | 245 | 4.7 |
| Perlite | S2 | 366 | 15.1 | 283 | 3.6 |
| Perlite | S2 | 348 | 15.2 | 278 | 3.4 |
| Perlite | S2 | 334 | 14.1 | 239 | 4.8 |
| Perlite | S2 | 293 | 13.3 | 234 | 4.3 |
| Perlite | S2 | 191 | 13.9 | 188 | 5.0 |

Table 2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Crop system** | **Treatment** | **Equatorial D. (mm)** | **Longitudinal D. (mm)** | **Sharp Index** | **Hardness (N m-2)** | **Firmness (N)** |
| Hydroponic | Control | 94.33 | 64.08 | 0.68 | 5.27 | 19.00 |
| Hydroponic | Control | 90.20 | 69.13 | 0.77 | 4.45 | 17.01 |
| Hydroponic | Control | 78.42 | 62.22 | 0.79 | 3.85 | 16.74 |
| Hydroponic | Control | 88.31 | 72.58 | 0.82 | 6.80 | 18.52 |
| Hydroponic | S1 | 81.23 | 62.12 | 0.76 | 5.22 | 18.50 |
| Hydroponic | S1 | 75.73 | 57.18 | 0.76 | 4.96 | 15.02 |
| Hydroponic | S1 | 67.08 | 59.61 | 0.89 | 7.80 | 13.79 |
| Hydroponic | S1 | 78.18 | 62.94 | 0.80 | 5.90 | 15.34 |
| Hydroponic | S2 | 65.28 | 52.09 | 0.80 | 5.00 | 12.90 |
| Hydroponic | S2 | 82.07 | 58.68 | 0.72 | 4.27 | 15.49 |
| Hydroponic | S2 | 70.38 | 53.68 | 0.76 | 5.40 | 15.48 |
| Hydroponic | S2 | 71.89 | 55.77 | 0.78 | 4.46 | 14.62 |
| NFT | Control | 67.42 | 59.28 | 0.88 | 3.88 | 13.37 |
| NFT | Control | 72.30 | 63.56 | 0.88 | 5.54 | 13.85 |
| NFT | Control | 71.63 | 63.65 | 0.89 | 3.60 | 16.96 |
| NFT | Control | 84.96 | 63.76 | 0.75 | 6.29 | 17.80 |
| NFT | Control | 77.36 | 61.57 | 0.80 | 4.62 | 14.14 |
| NFT | Control | 85.70 | 64.88 | 0.76 | 5.81 | 19.34 |
| NFT | Control | 76.30 | 61.03 | 0.80 | 4.43 | 15.38 |
| NFT | S1 | 64.72 | 53.10 | 0.82 | 5.00 | 12.94 |
| NFT | S1 | 59.46 | 50.44 | 0.85 | 3.93 | 10.16 |
| NFT | S1 | 65.34 | 58.91 | 0.90 | 4.40 | 12.19 |
| NFT | S1 | 52.04 | 47.23 | 0.91 | 5.00 | 8.26 |
| NFT | S1 | 68.35 | 61.57 | 0.90 | 5.13 | 12.05 |
| NFT | S1 | 65.06 | 54.52 | 0.84 | 5.70 | 9.82 |
| NFT | S1 | 71.92 | 62.64 | 0.87 | 5.25 | 12.12 |
| NFT | S1 | 70.50 | 59.72 | 0.85 | 5.20 | 12.70 |
| NFT | S2 | 57.90 | 47.80 | 0.83 | 4.50 | 9.20 |
| NFT | S2 | 52.12 | 46.40 | 0.89 | 7.40 | 7.85 |
| NFT | S2 | 48.26 | 41.38 | 0.86 | 5.50 | 9.30 |
| NFT | S2 | 72.65 | 60.84 | 0.84 | 5.04 | 9.85 |
| NFT | S2 | 56.78 | 47.35 | 0.83 | 6.85 | 10.88 |
| NFT | S2 | 59.82 | 47.17 | 0.79 | 5.62 | 11.57 |
| NFT | S2 | 60.74 | 49.59 | 0.82 | 7.38 | 11.22 |
| NFT | S2 | 55.37 | 50.94 | 0.92 | 5.65 | 11.36 |
| NFT | S2 | 56.24 | 54.21 | 0.96 | 5.80 | 9.52 |
| Perlite | Control | 81.32 | 61.91 | 0.76 | 4.61 | 15.07 |
| Perlite | Control | 90.35 | 68.33 | 0.76 | 4.80 | 17.28 |
| Perlite | Control | 78.02 | 63.22 | 0.81 | 5.49 | 14.99 |
| Perlite | Control | 86.36 | 65.08 | 0.75 | 5.21 | 17.13 |
| Perlite | Control | 90.80 | 74.59 | 0.82 | 6.50 | 20.13 |
| Perlite | Control | 88.48 | 66.65 | 0.75 | 5.66 | 19.12 |
| Perlite | Control | 84.19 | 68.31 | 0.81 | 5.18 | 17.07 |
| Perlite | S1 | 70.35 | 58.74 | 0.84 | 5.22 | 13.34 |
| Perlite | S1 | 68.82 | 58.70 | 0.85 | 5.05 | 11.84 |
| Perlite | S1 | 81.92 | 62.77 | 0.77 | 5.02 | 15.18 |
| Perlite | S1 | 75.73 | 62.34 | 0.82 | 5.57 | 14.33 |
| Perlite | S1 | 80.59 | 62.91 | 0.78 | 6.09 | 15.30 |
| Perlite | S1 | 77.27 | 65.30 | 0.85 | 4.33 | 13.63 |
| Perlite | S1 | 73.46 | 60.93 | 0.83 | 3.70 | 12.57 |
| Perlite | S2 | 68.61 | 54.49 | 0.79 | 3.75 | 10.36 |
| Perlite | S2 | 64.99 | 53.45 | 0.82 | 3.83 | 10.73 |
| Perlite | S2 | 64.23 | 52.27 | 0.81 | 5.50 | 11.48 |
| Perlite | S2 | 61.50 | 48.43 | 0.79 | 5.18 | 11.21 |
| Perlite | S2 | 70.62 | 53.18 | 0.75 | 5.19 | 12.76 |
| Perlite | S2 | 69.56 | 53.80 | 0.77 | 5.46 | 13.55 |
| Perlite | S2 | 73.13 | 56.74 | 0.78 | 5.42 | 11.38 |