Annexe

**TABLE 3.1: ANOVA results to support of figures**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **G and CO2** |
| F= | **592.9494** | **14.7099** | **3.0383** |
| Df= | **5,63** | **2,63** | **8,63** |
| p | **<0.001** | **<0.001** | **=0.00594** |

Support for figure 3.4 (Abaxial stomatal density)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | G and CO2 |
| F= | **72.5686** | **3.1680** | 0.9309 |
| Df= | **5,63** | **2,63** | 8,63 |
| p | **<0.001** | **=0.049** | =0.498 |

Support for figure 3.5 (Abaxial stomatal size)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | Water availability  (WA) | **G and CO2** | G and WA | **CO2 and WA** | **G, CO2 and WA** |
| F= | **1734.5081** | **12.4339** | 1.8757 | **13.7341** | 2.9798 | **8.7237** | **3.8057** |
| Df= | **2,51** | **2,51** | 1,51 | **4,51** | 2,51 | **2,51** | **4,51** |
| p | **<0.001** | **<0.001** | =0.177 | **<0.001** | =0.060 | **<0.001** | **=0.009** |

Support for figure 3.7 (Abaxial stomatal density)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | Water availability  (WA) | **G and CO2** | **G and WA** | CO2 and WA | G, CO2 and WA |
| F= | **1188.0103** | **3.6509** | 0.3414 | **4.4575** | **2.6335** | 4.0794 | 1.3036 |
| Df= | **2** | **2** | 1 | **4** | **2** | 2 | 4 |
| p | **<0.001** | **0.052833** | 0.561524 | **0.005973** | **0.016341** | 0.081387 | 0.280885 |

Support for fig 3.8 (adaxial index)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | G and CO2 | G and WA | **CO2 and WA** | G, CO2 and WA |
| F= | **154.6704** | **11.1397** | **80.4949** | 1.0075 | 0.1001 | **11.9581** | 0.5062 |
| Df= | **2,53** | **2,53** | **1,53** | 4,53 | 2,53 | **2,53** | 4,53 |
| p | **<0.001** | **<0.001** | **<0.001** | =0.412 | =0.905 | **<0.001** | =0.731 |

Support for figure 3.9 (Abaxial stomatal size)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | Water availability  (WA) | **G and CO2** | G and WA | CO2 and WA | G, CO2 and WA |
| F= | **710.1207** | **4.2851** | 4.0105 | **5.2506** | 1.2263 | 1.7293 | 0.9140 |
| Df= | **2,49** | **2, 49** | 1, 49 | **4, 49** | 2, 49 | 2, 49 | 4, 49 |
| p | **<0.001** | **0.019273** | 0.0507 | **0.001337** | 0.302226 | 0.188052 | 0.463315 |

Support for figure 3.10 (Adaxial stomatal per leaf)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | CO2 condition (CO2) | **Water availability**  **(WA)** | **G and CO2** | G and WA | CO2 and WA | G, CO2 and WA |
| F= | **161.8188** | 1.2523 | **18.1425** | **3.6262** | 1.7515 | 2.8492 | 1.1528 |
| Df= | **2** | 2 | **1** | **4** | 2 | 2 | 4 |
| p | **<0.001** | 0.29432 | **<0.001** | **0.01112** | 0.18359 | 0.06696 | 0.34236 |

Support for fig 3.11 (mean adaxial epidermal cell size)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | CO2 condition (CO2) | **Water availability**  **(WA)** | G and CO2 | G and WA | **CO2 and WA** | G, CO2 and WA |
| F= | **28.6603** | 1.3064 | **109.9290** | 2.0019 | 1.1168 | **4.5750** | 0.5281 |
| Df= | **2** | 1 | **1** | 2 | 2 | **1** | 2 |
| p | **<0.001** | 0.26591 | **<0.001** | 0.16004 | 0.34600 | **0.04435** | 0.59737 |

Support for fig 3.13 (mean leaf size)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | **G and CO2** | G and WA | CO2 and WA | **G, CO2 and WA** |
| F= | **17.6623** | **4.3743** | **140.4645** | **5.7949** | 3.2548 | 2.5016 | **6.3423** |
| Df= | **2, 24** | **1, 24** | **1, 24** | **2, 24** | 2, 24 | 1, 24 | **2, 24** |
| p | **<0.001** | **0.047723** | **<0.001** | **0.009161** | 0.056925 | 0.127385 | **0.006402** |

Support for figure 3.14A (Leaf width)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | CO2 condition (CO2) | **Water availability**  **(WA)** | **G and CO2** | G and WA | CO2 and WA | G, CO2 and WA |
| F= | **21.2577** | 0.9242 | **177.5266** | **5.6845** | 1.0797 | 1.2405 | 2.1322 |
| Df= | **2, 24** | 1, 24 | **1, 24** | **2, 24** | 2, 24 | 1, 24 | 2, 24 |
| p | **<0.001** | 0.346374 | **<0.001** | **0.009862** | 0.356286 | 0.276880 | 0.141423 |

Support for figure 3.14B (Leaf length)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | **G and CO2** | G and WA | CO2 and WA | G, CO2 and WA |
| F= | **6.8097** | **19.0354** | **57.8134** | **8.0353** | 0.0972 | 0.0825 | 0.3517 |
| Df= | **2, 24** | **1, 24** | **1, 24** | **2, 24** | 2, 24 | 1, 24 | 2, 24 |
| p | **0.0047554** | **<0.001** | **<0.001** | **0.0022574** | 0.9077039 | 0.7764598 | 0.7072121 |

Support for figure 3.14C (ratio: Leaf length/Leaf width)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | **G and CO2** | **G and WA** | **CO2 and WA** | **G, CO2 and WA** |
| F= | **899.9440** | **4.0934** | **93.5937** | **6.0573** | **48.0634** | **34.3615** | **26.2757** |
| Df= | **2,51** | **2,51** | **1,51** | **4,51** | **2,51** | **2,51** | **4,51** |
| p | **<0.001** | **=0.0224553** | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |

Support for figure 3.17 (Abaxial stomata per leaf)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | CO2 condition (CO2) | **Water availability**  **(WA)** | **G and CO2** | **G and WA** | **CO2 and WA** | **G, CO2 and WA** |
| F= | **56.9469** | 2.6303 | **58.6472** | **3.6361** | **8.0973** | **12.3063** | **8.7330** |
| Df= | **2** | 2 | **1** | **4** | **2** | **2** | **4** |
| p | **<0.001** | 0.0818152 | **<0.001** | **0.0110856** | **<0.001** | **<0.001** | **<0.001** |

(adaxial epidermal cells per leaf)

**Table 4.1: ANOVA results to support of figures**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | G and CO2 |
| F= | **192.866** | **4.098** | 0.810 |
| Df= | **5** | **2** | 10 |
| p | **<0.001** | **0.02155** | 0.61996 |

Support for figure 4.5 (*g*wmax)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | G and CO2 | **G and WA** | **CO2 and WA** | **G, CO2 and WA** |
| F= | **938.3238** | **7.4613** | **14.4120** | 2.1704 | **18.3217** | **21.4866** | **6.7455** |
| Df= | **2** | **2** | **1** | 4 | **2** | **2** | **4** |
| p | **<0.001** | **0.0015904** | **<0.001** | 0.087622 | **<0.001** | **<0.001** | **<0.001** |

Support for figure 4.4 (*g*wmax)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | G and CO2 |
| F= | **18.2689** | **169.6666** | 0.4913 |
| Df= | **4,** **74** | **2,** **74** | 8, 74 |
| p | **<0.001** | **<0.001** | 0.859 |

Support for figure 4.6 (relative leaf temperature)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | G and CO2 | **G and WA** | CO2 and WA | G, CO2 and WA |
| F= | **45.3937** | **66.9094** | **128.8623** | 1.9125 | **3.6729** | 0.0306 | 1.7764 |
| Df= | **2,54** | **2,54** | **1,54** | 4,54 | **2,54** | 2,54 | 4,54 |
| p | **<0.001** | **<0.001** | **<0.001** | 0.122 | **0.032** | 0.970 | 0.147 |

Support for figure 4.8 (relative leaf temperature)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **G and CO2** |
| F= | **104.1266** | **53.6010** | **9.2045** |
| Df= | **2** | **2** | **4** |
| p | **<0.001** | **<0.001** | **<0.001** |

Support for figure 4.9 (conductance rates)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | G and CO2 |
| F= | **34.5793** | **71.3288** | 1.2901 |
| Df= | **2** | **2** | 4 |
| p | **<0.001** | **<0.001** | 0.2986 |

Support for figure 4.11 (photosynthetic rates)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | G and CO2 |
| F= | **6.9231** | **88.4925** | 0.4910 |
| Df= | **2** | **2** | 4 |
| p | **0.00374** | **<0.001** | 0.74230 |

Support for figures 4.14 and 4.15 (WUE)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | G and CO2 | G and WA | CO2 and WA | G, CO2 and WA |
| F= | **59.1662** | **3254.5772** | **13.5736** | 1.0872 | 0.6925 | 2.0499 | 1.9307 |
| Df= | **2** | **2** | **1** | 4 | 2 | 2 | 4 |
| p | **<0.001** | **<0.001** | **<0.001** | 0.3725162 | 0.5048833 | 0.1390211 | 0.1191645 |

Support for fig 4.17 (δCa)

**Table 5.1: ANOVA results to support of figures**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | **G and CO2** | G and WA | **CO2 and WA** | G, CO2 and WA |
| F= | **18.8035** | **4.7255** | **126.1730** | **3.4573** | 1.3507 | **6.8669** | 0.4930 |
| Df= | **2,52** | **2,52** | **1,52** | **4,52** | 2,52 | **2,52** | 4,52 |
| p | **<0.001** | **0.013** | **<0.001** | **0.014** | 0.268 | **0.002** | 0.740 |

Support for figure 5.1 g (Rosette area)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | G and CO2 | **G and WA** | **CO2 and WA** | G, CO2 and WA |
| F= | **25.4870** | **44.4815** | **85.2696** | 3.2689 | **0.5946** | **15.8360** | 0.2301 |
| Df= | **2,52** | **2,52** | **1,52** | 4,52 | **2,52** | **2,52** | 4,52 |
| p | **<0.001** | **<0.001** | **<0.001** | =0.556 | **=0.018** | **<0.001** | =0.920 |

Support for figure 5.1 h (Plant dry weight)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Genotype (G) | **CO2 condition (CO2)** | **Water availability**  **(WA)** | G and CO2 | G and WA | CO2 and WA | G, CO2 and WA |
| F= | 0.0349 | **24.8923** | **4.04323** | 1.1166 | 0.4075 | 2.9544 | 0.1344 |
| Df= | 2 | **1** | **1** | 2 | 2 | 1 | 2 |
| p | 0.9658 | **<0.001** | **0.04323** | 0.67043 | 0.34608 | 0.10035 | 0.87502 |

Support for fig 5.2 (Leaf number)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Genotype (G)** | **CO2 condition (CO2)** | **Water availability**  **(WA)** | **G and CO2** | G and WA | CO2 and WA | G, CO2 and WA |
| F= | **23.3355** | **17.6223** | **77.0712** | **5.0050** | 1.3014 | 0.6495 | 2.8657 |
| Df= | **2** | **1** | **1** | **2** | 2 | 1 | 2 |
| p | **<0.001** | **<0.001** | **<0.001** | **0.0166930** | 0.2932175 | 0.4293400 | 0.0793525 |

Support for figure 5.3 (Sum of leaf area)