



Supplementary Materials

Evaluation of cassava genotypes (*Manihot esculenta* Crantz) for drought tolerance and susceptibility under water deficit conditions

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Table S 1. ANOVA of traits under well-watered and water deficit treatments

Source of Variation	Type III SS	df	MS	F	P
Total leaves					
G	165.359	7	23.623	11.367	<0.001
T	236.391	1	236.391	113.752	<0.001
G * T	22.734	7	3.248	1.563	0.169
Residual / Error	99.75	48	2.078		
Total	524.234	63	8.321		
Leaf retention					
G	3522.972	7	503.282	6.744	<0.001
T	41417.495	1	41417.495	555.004	<0.001
G * T	1572.594	7	224.656	3.01	0.011
Residual / Error	3582.03	48	74.626		
Total	209165.74	64			
Plant height					
G	3005.332	7	429.333	41.435	<0.001
T	2098.785	1	2098.785	202.556	<0.001
G * T	102.944	7	14.706	1.419	0.22
Residual / Error	497.353	48	10.362		
Total	100222.23	64			
Shoot fresh weight					
G	593.247	7	84.75	7.168	<0.001
T	4924.18	1	4924.18	416.504	<0.001
G * T	118.038	7	16.863	1.426	0.217
Residual / Error	567.487	48	11.823		
Total	30429.874	64			
Shoot dry weight					
G	83.584	7	11.941	12.588	<0.001
T	145.263	1	145.263	153.141	<0.001
G * T	7.027	7	1.004	1.058	0.404
Residual / Error	45.531	48	0.949		
Total	2430.654	64			
Shoot water contents					
G	5.376	7	0.768	5.493	<0.001
T	32.4	1	32.4	231.757	<0.001
G * T	1.891	7	0.27	1.932	0.085
Residual / Error	6.711	48	0.14		
Total	363.932	64			

df = degree of freedom; G = Genotype; T = Treatment; G * T = Genotype * Treatment interaction

Table S 2. Mean squares (MS) from ANOVA of Gs in WW & WD treatment

Day (s) of treatment	G (df = 7)	T (df = 1)	G x T (df = 7)	Std. Error (T)
0	136628.7*	378.563 (ns)	5878.007 (ns)	7.411
1	56736.303*	19248.03**	159.354 (ns)	5.627
2	46854.223*	64999.84*	6644.954*	4.948
3	29619.465*	162867*	4289.147**	4.423
4	13812.189*	238205.541*	2648.035 (ns)	4.393
5	33772.578*	318388.052*	4602.269**	4.320
6	20610.482*	1265761.846*	13781.134*	4.544
7	20760.291*	1013191.439*	11515.949*	3.525
8	13150.579*	1612820.041*	15131.986*	3.551
9	11094.063*	2574743.521*	11343.7863*	3.038
10	14789.412*	2389088.66*	13082.779*	3.977

* = significant difference at $P \leq 0.001$; ** = significant difference at $P \leq 0.01$; ns = no significant differences ($P > 0.05$); Gs = stomatal conductance; G = Genotype; T = Treatment; G * T = Genotype * Treatment interaction.

Table S 2.1. Mean squares from ANOVA of Gs in WW and WDR treatment

Day (s) of treatment	G (df = 7)	T (df = 1)	G x T (df = 7)	Std. Error (T)
11	18021.43*	400423.6*	5094.511**	4.544
12	16721.55*	27876.47*	3095.633 (ns)	4.719
13	28850.085*	92.408 (ns)	4851.932 (ns)	5.345
14	28119.764*	3722.402 (ns)	1922.117 (ns)	4.197
15	20800.423*	3734.741 (ns)	303.595 (ns)	5.013

* = significant difference at $P \leq 0.001$; ** = significant difference at $P \leq 0.01$; ns = no significant differences ($P > 0.05$); Gs = stomatal conductance; G = Genotype; T = Treatment; G * T = Genotype * Treatment interaction

Table S 3. Comparisons of treatment means (WD vs. WW) of Gs from Day 0 to 10

Day (s) of treatment	WW	WD	Diff. of Means	LSD ($\alpha=0.05$)	Diff. (%)
0	368.109	370.918	2.808 (ns)	20.685	0.7
1	312.169	292.144	20.025**	15.706	6.14
2	284.700	247.900	36.799*	13.811	12.93
3	277.827	219.577	58.250*	12.345	20.97
4	267.170	196.724	70.446*	12.261	26.37
5	255.178	173.734	81.444*	12.056	31.92
6	274.362	111.974	162.389*	12.681	59.19
7	216.271	70.94	145.286*	9.839	67.18
8	230.226	46.922	183.304*	9.911	79.62
9	243	11.000	231.604*	8.480	95.31
10	225.966	2.868	223.098*	11.100	98.73

Table S 3.1. Comparisons of treatment means (WW vs. WDR) of Gs from Day 11 to 15

Day (s) of treatment	WW	WDR	Diff. of Means	LSD ($\alpha=0.05$)	Diff. (%)
11	277.76	186.425	91.335*	12.682	32.88
12	255.622	231.523	24.099*	13.169	9.43
13	261.052	259.665	1.387 (ns)	14.918	0.53
14	268.697	259.891	8.806 (ns)	11.715	3.28
15	280.731	271.91	8.821 (ns)	13.991	3.14

* = significant difference at $P \leq 0.001$; ** = significant difference at $P \leq 0.01$; ns = no significant differences ($P > 0.05$); Gs = stomatal conductance; G = Genotype; T = Treatment; G * T = Genotype * Treatment interaction

Table S 4. Comparisons of Gs means between genotypes under WD (day 0 to day 10)

Days Genotypes	0	1	2	3	4	5
DT_98/0002	254.842 ^c	226.283 ^b	193.017 ^b	180.442 ^b	155.567 ^b	109.192 ^b
DT_I92/0067	277.325 ^c	220.658 ^b	210.433 ^{bd}	179.217 ^b	166.158 ^{bd}	154.167 ^e
DT_M98/0068	389.65 ^{ae}	332.908 ^{ac}	295.983 ^a	257.083 ^{ac}	193.617 ^{ad}	130.95 ^{be}
DT_94/0039	428.667 ^{ab}	277.817 ^e	236.117 ^{cde}	232.8 ^{ae}	205.2 ^{ac}	204.108 ^{ad}
DT_95/0306	445.108 ^a	344.758 ^a	292.308 ^a	266.383 ^a	227.692 ^a	231.875 ^{ac}
DS_I96/1439	375.942 ^{bde}	289.542 ^{cde}	218.633 ^{be}	175.883 ^b	174.283 ^{bcd}	153.383 ^e
DS_92/0427	381.867 ^{bde}	318.408 ^{ae}	272.575 ^{ac}	238.658 ^{ad}	227.292 ^a	212.317 ^{ac}
DS_TME - 419	413.942 ^{ad}	326.775 ^{ad}	264.35 ^{ac}	226.15 ^{cde}	223.983 ^c	193.883 ^{cd}
LSD ($\alpha = 0.05$)	58.506	44.422	39.062	34.916	34.678	34.1

Means denoted by the same letter (s) within column are not significantly different ($P > 0.05$); Means denoted by different letter (s) within column are significantly different ($P \leq 0.05$); DT = drought tolerant genotype; DS = drought susceptible genotype

Table S 4 (Continued).

Days Genotypes	6	7	8	9	10
DT_98/0002	67.725 ^b	49.983 ^d	24.758 ^c	0.00 ^{bc}	0.00 ^a
DT_I92/0067	102.742 ^{bc}	52.583 ^d	35.575 ^c	10.975 ^{ac}	6.167 ^a
DT_M98/0068	76.258 ^b	39.575 ^d	29.425 ^c	19.858 ^{ac}	13.833 ^a
DT_94/0039	139.1 ^a	105.33 ^{ac}	73.408 ^b	28.00 ^a	0.00 ^a
DT_95/0306	153.542 ^a	84.542 ^{bc}	38.6 ^c	17.275 ^{ac}	1.908 ^a
DS_I96/1439	80.583 ^b	52.975 ^d	17.375 ^c	1.808 ^{bc}	0.00 ^a
DS_92/0427	142.467 ^a	64.05 ^{bd}	41.933 ^c	1.925 ^{bc}	0.00 ^a
DS_TME - 419	133.375 ^{ac}	118.833 ^a	114.3 ^a	7.90 ^{ac}	1.033 ^a
LSD ($\alpha = 0.05$)	35.868	27.828	28.033	23.986	31.395

Means denoted by the same letter (s) within column are not significantly different ($P > 0.05$); Means denoted by different letter (s) within column are significantly different ($P \leq 0.05$); DT = drought tolerant genotype; DS = drought susceptible genotype

Table S 4.1. Comparisons of Gs means between genotypes under WDR (day 11-15)

Days Genotypes	11	12	13	14	15
DT_98/0002	153.833 ^c	189.417 ^b	209.083 ^b	213.308 ^b	250.333 ^b
DT_I92/0067	152.967 ^c	209.408 ^{be}	247.733 ^{bc}	282.883 ^{ac}	256.942 ^{bc}
DT_M98/0068	242.925 ^a	254.842 ^{ac}	319.058 ^a	302.017 ^a	307.608 ^a
DT_94/0039	173.842 ^b	219.35 ^{bcde}	221.092 ^{bd}	219.092 ^b	254.992 ^{bc}
DT_95/0306	191.517 ^b	267.258 ^a	277.242 ^{ac}	302.883 ^a	317.142 ^a
DS_I96/1439	196.817 ^b	242.442 ^{ae}	304.633 ^a	278.258 ^{ac}	311.417 ^a
DS_92/0427	205.342 ^b	251.067 ^{ad}	259.45 ^{cd}	260.858 ^c	283.05 ^{ac}
DS_TME - 419	174.158 ^{bc}	218.4 ^{bcd}	239.025 ^{bc}	219.825 ^b	264.392 ^{bc}
LSD (0.05)	35.871	37.249	42.195	33.135	39.572

Means denoted by the same letter (s) within column are not significantly different ($P > 0.05$); Means denoted by different letter (s) within column are significantly different ($P \leq 0.05$); DT = drought tolerant genotype; DS = drought susceptible genotype.