

Table S1. Analysis of variance (mean square) of the effect of water and time on measured traits

Source of variation	df	Cell growth rate (Spectrophotometer)	Cell count (Neubauer chamber)	Beta-carotene	Chlorophyll a	Chlorophyll b
Water	1	0.008**	148544**	0.00425**	0.000276**	0.00429**
Time	4	0.011**	24013**	0.00025**	0.000081**	0.000246**
Water × Time	4	0.0002*	2636ns	0.00034**	0.000069**	0.000089*
Error	20	0.00005	1403	0.000016	0.000014	0.000029
C.V (%)	-	11.33	17.03	21.02	38.38	21.53

** . significant at the 1% level.

ns. not significant.

*. significant at the 5% level.

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The GLM Procedure

Class Level Information

Class	Levels	Values
r	3	1 2 3
t	2	1 2
d	5	1 2 3 4 5

Number of Observations Read	30
Number of Observations Used	30

The GLM Procedure

Dependent Variable: x1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.05452103	0.00605789	102.17	<.0001
Error	20	0.00118583	0.00005929		
Corrected Total	29	0.05570687			

R-Square	Coeff Var	Root MSE	x1 Mean
0.978713	11.33480	0.007700	0.067933

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	1	0.00816750	0.00816750	137.75	<.0001
d	4	0.04552720	0.01138180	191.96	<.0001
t*d	4	0.00082633	0.00020658	3.48	0.0258

The GLM Procedure

Dependent Variable: x2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	255142.3000	28349.1444	20.20	<.0001
Error	20	28068.6667	1403.4333		
Corrected Total	29	283210.9667			

R-Square	Coeff Var	Root MSE	x2 Mean
0.900891	17.03096	37.46243	219.9667

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	1	148544.0333	148544.0333	105.84	<.0001
d	4	96053.4667	24013.3667	17.11	<.0001
t*d	4	10544.8000	2636.2000	1.88	0.1537

The GLM Procedure

Dependent Variable: x3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.00661999	0.00073555	44.27	<.0001
Error	20	0.00033231	0.00001662		
Corrected Total	29	0.00695230			

R-Square	Coeff Var	Root MSE	x3 Mean
0.952201	21.02224	0.004076	0.019390

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	1	0.00425544	0.00425544	256.11	<.0001
d	4	0.00100531	0.00025133	15.13	<.0001
t*d	4	0.00135923	0.00033981	20.45	<.0001

The GLM Procedure

Dependent Variable: x4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.00088030	0.00009781	6.68	0.0002
Error	20	0.00029267	0.00001463		
Corrected Total	29	0.00117297			

R-Square	Coeff Var	Root MSE	x4 Mean
0.750490	38.38148	0.003825	0.009967

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	1	0.00027603	0.00027603	18.86	0.0003
d	4	0.00032580	0.00008145	5.57	0.0035
t*d	4	0.00027847	0.00006962	4.76	0.0073

The GLM Procedure

Dependent Variable: x5

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.00564070	0.00062674	21.22	<.0001
Error	20	0.00059067	0.00002953		
Corrected Total	29	0.00623137			

R-Square	Coeff Var	Root MSE	x5 Mean
0.905211	21.53682	0.005434	0.025233

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	1	0.00429603	0.00429603	145.46	<.0001
d	4	0.00098687	0.00024672	8.35	0.0004
t*d	4	0.00035780	0.00008945	3.03	0.0419

The GLM Procedure

Duncan's Multiple Range Test for x1

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000059

Number of Means 2
Critical Range .005865

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	t
A	0.084433	15	2
B	0.051433	15	1

The GLM Procedure

Duncan's Multiple Range Test for x2

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 1403.433

Number of Means 2
Critical Range 28.53

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	t
A	290.33	15	2
B	149.60	15	1

The GLM Procedure

Duncan's Multiple Range Test for x3

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000017

Number of Means 2
Critical Range .003105

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	t
A	0.031300	15	2
B	0.007480	15	1

The GLM Procedure

Duncan's Multiple Range Test for x4

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000015

Number of Means 2
Critical Range .002914

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	t
A	0.013000	15	2
B	0.006933	15	1

The GLM Procedure

Duncan's Multiple Range Test for x5

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.00003

Number of Means 2
Critical Range .004139

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	t
A	0.037200	15	2
B	0.013267	15	1

The GLM Procedure

Duncan's Multiple Range Test for x1

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha	0.05
Error Degrees of Freedom	20
Error Mean Square	0.000059

Number of Means	2	3	4	5
Critical Range	.00927	.00973	.01003	.01023

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	d
A	0.131500	6	5
B	0.084500	6	4
C	0.067833	6	3
D	0.033833	6	2
E	0.022000	6	1

The GLM Procedure

Duncan's Multiple Range Test for x2

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha	0.05
Error Degrees of Freedom	20
Error Mean Square	1403.433

Number of Means	2	3	4	5
Critical Range	45.12	47.36	48.78	49.78

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	d
A	312.50	6	3
B	255.33	6	4
C	197.67	6	2
C	175.00	6	1
C	159.33	6	5

The GLM Procedure

Duncan's Multiple Range Test for x3

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000017

Number of Means	2	3	4	5
Critical Range	.004909	.005153	.005308	.005416

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	d
A	0.029167	6	1
B	0.020625	6	4
B			
B	0.019492	6	3
B			
C B	0.015917	6	5
C			
C	0.011750	6	2

The GLM Procedure

Duncan's Multiple Range Test for x4

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000015

Number of Means	2	3	4	5
Critical Range	.004607	.004836	.004981	.005083

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	d
A	0.015167	6	4
A			
B A	0.010833	6	5
B A			
B A	0.010667	6	2
B			
B C	0.007833	6	3
C			
C	0.005333	6	1

The GLM Procedure

Duncan's Multiple Range Test for x5

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.00003

Number of Means	2	3	4	5
Critical Range	.006545	.006870	.007077	.007221

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	d
A	0.034167	6	4
A			
B A	0.027833	6	3
B			
B C	0.026000	6	5
C			
D C	0.020000	6	2
D			
D	0.018167	6	1

The GLM Procedure

Class Level Information

Class	Levels	Values
r	3	1 2 3
td	10	11 12 13 14 15 21 22 23 24 25

Number of Observations Read	30
Number of Observations Used	30

The GLM Procedure

Dependent Variable: x1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.05452103	0.00605789	102.17	<.0001
Error	20	0.00118583	0.00005929		
Corrected Total	29	0.05570687			

R-Square	Coeff Var	Root MSE	x1 Mean
0.978713	11.33480	0.007700	0.067933

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	0	0.00000000	.	.	.
d	0	0.00000000	.	.	.
t*d	0	0.00000000	.	.	.
td	6	0.00211345	0.00035224	5.94	0.0011

The GLM Procedure

Dependent Variable: x2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	255142.3000	28349.1444	20.20	<.0001
Error	20	28068.6667	1403.4333		
Corrected Total	29	283210.9667			

R-Square	Coeff Var	Root MSE	x2 Mean
0.900891	17.03096	37.46243	219.9667

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	0	0.0000	.	.	.
d	0	0.0000	.	.	.
t*d	0	0.0000	.	.	.
td	6	105123.8000	17520.6333	12.48	<.0001

The GLM Procedure

Dependent Variable: x3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.00661999	0.00073555	44.27	<.0001
Error	20	0.00033231	0.00001662		
Corrected Total	29	0.00695230			

R-Square	Coeff Var	Root MSE	x3 Mean
0.952201	21.02224	0.004076	0.019390

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	0	0.00000000	.	.	.
d	0	0.00000000	.	.	.
t*d	0	0.00000000	.	.	.
td	6	0.00121616	0.00020269	12.20	<.0001

The GLM Procedure

Dependent Variable: x4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.00088030	0.00009781	6.68	0.0002
Error	20	0.00029267	0.00001463		
Corrected Total	29	0.00117297			

R-Square	Coeff Var	Root MSE	x4 Mean
0.750490	38.38148	0.003825	0.009967

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	0	0.00000000	.	.	.
d	0	0.00000000	.	.	.
t*d	0	0.00000000	.	.	.
td	6	0.00044970	0.00007495	5.12	0.0025

The GLM Procedure

Dependent Variable: x5

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	0.00564070	0.00062674	21.22	<.0001
Error	20	0.00059067	0.00002953		
Corrected Total	29	0.00623137			

R-Square	Coeff Var	Root MSE	x5 Mean
0.905211	21.53682	0.005434	0.025233

Source	DF	Type III SS	Mean Square	F Value	Pr > F
t	0	0.00000000	.	.	.
d	0	0.00000000	.	.	.
t*d	0	0.00000000	.	.	.
td	6	0.00072183	0.00012031	4.07	0.0079

The GLM Procedure

Duncan's Multiple Range Test for x1

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000059

Number of Means	2	3	4	5	6	7	8	9	10
Critical Range	.01311	.01377	.01418	.01447	.01468	.01484	.01497	.01507	.01515

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	td
A	0.152333	3	25
B	0.110667	3	15
B	0.104167	3	24
C	0.089500	3	23
D	0.064833	3	14
E	0.046167	3	13
E	0.045000	3	22
F	0.031167	3	21
F			
G F	0.022667	3	12
G			
G	0.012833	3	11

The GLM Procedure

Duncan's Multiple Range Test for x2

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 1403.433

Number of Means	2	3	4	5	6	7	8	9	10
Critical Range	63.81	66.97	68.99	70.39	71.43	72.22	72.84	73.33	73.73

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	td
A	416.00	3	23
B	333.00	3	24
C	255.33	3	22
C			
D C	226.00	3	21
D C			
D C	221.33	3	25
D C			
D C	209.00	3	13
D			
D E	177.67	3	14
E			
F E	140.00	3	12
F E			
F E	124.00	3	11
F			
F	97.33	3	15

The GLM Procedure

Duncan's Multiple Range Test for x3

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000017

Number of Means	2	3	4	5	6	7	8	9	10
Critical Range	.006943	.007287	.007506	.007659	.007772	.007858	.007926	.007979	.008022

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	td
A	0.053667	3	21
B	0.031167	3	23
B	0.030167	3	24
C	0.021167	3	22
C	0.020333	3	25
D	0.011500	3	15
D	0.011083	3	14
D	0.007817	3	13
E D	0.004667	3	11
E	0.002333	3	12

The GLM Procedure

Duncan's Multiple Range Test for x4

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.000015

Number of Means	2	3	4	5	6	7	8	9	10
Critical Range	.006515	.006839	.007044	.007188	.007294	.007375	.007438	.007488	.007528

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	td
A	0.018667	3	22
A			
B A	0.017333	3	24
B A			
B A	0.013000	3	14
B A			
B A C	0.012667	3	23
B C			
B D C	0.011333	3	25
B D C			
B D C	0.010333	3	15
D C			
E D C	0.005667	3	11
E D			
E D	0.005000	3	21
E			
E	0.003000	3	13
E			
E	0.002667	3	12

The GLM Procedure

Duncan's Multiple Range Test for x5

NOTE: This test controls the Type I comparison-wise error rate, not the experiment-wise error rate.

Alpha 0.05
Error Degrees of Freedom 20
Error Mean Square 0.00003

Number of Means	2	3	4	5	6	7	8	9	10
Critical Range	.00926	.00972	.01001	.01021	.01036	.01048	.01057	.01064	.01069

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	td
A	0.048667	3	24
A			
A	0.043000	3	23
B	0.031667	3	25
B			
B	0.031667	3	21
B			
B	0.031000	3	22
C	0.020333	3	15
C			
C	0.019667	3	14
C			
D C	0.012667	3	13
D			
D	0.009000	3	12
D			
D	0.004667	3	11