

Supplementary Materials: Early-Summer Deficit Irrigation Increases the Dry-Matter Content and Enhances the Quality of Ambrosia™ Apples At- and Post-Harvest

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Table S1. DMC¹ levels and storage period of some common apple cultivars of Canada in cold-air storage*.

Cultivars	Ambrosia™	Aurora Golden Gala™	Royal Gala	Fuji	Red Delicious	McIntosh	Honeycrisp
DMC (%)	13.9 ± 1.0	19.0 ± 1.0	14.9 ± 0.8	18.7 ± 1.1	13.5 ± 1.0	13.0 ± 0.8	15.1 ± 0.8
Storage period ²	Short	Very long	Middle	Long	Short	Very short	Middle

*All of the dates presented in the table were subject to limited investigation in the experimental plots in 2017 only. The date does not stand for standard criteria, and only stands for comparisons of relative differences amongst the samples in this investigation.

¹DMC: dry matter content.

²The storage period is determined by the flesh firmness having dropped to 12 lbs with an 11-mm punch probe (Hoehn et al. 2003) in the fruit stored in air at 0.5°C based on two different years of investigations with three replications of 20 to 30 fruit. All of the samples of the cultivars were collected from plots under conventional management. The term of the storage period were: very short = 2 months or less; short = 2–3.5 months; middle = 3.5–5 months; long = 6–7 months; very long = over 7 months. The storage periods also referred to the BC Tree Fruit Production Guide (<https://www.bctfpg.ca/horticulture/varieties-and-pollination/apple-varieties>). The DMC was predicted using a Felix F750 handheld spectrometer (Felix Instruments, Inc. Camas, WA, USA).

Table S2. Tree survives and fruit yields of Ambrosia™ apple followed by different irrigation in years 2018 and 2019*

		AI	ED	MD	LD	DD
Wilting tree (%) ¹	2018	0	0	0	5.6 ± 9.6	38.9 ± 9.6
	2019	0	0	0	0	0
Total weight of fruit per rep (Kg)	2018	57.2 ± 3.9	53.0 ± 4.1	50.6 ± 2.7	50.5 ± 2.9	33.2 ± 3.9
	2019	58.5 ± 2.4	57.6 ± 2.6	55.6 ± 2.3	54.7 ± 2.5	52.8 ± 3.0
Number of fruit per rep in 2nd yr ²	2018	237.7 ± 12.2	231.0 ± 13.5	243.0 ± 9.8	225.7 ± 26.1	105.0 ± 9.8
	2019	NA	NA	NA	NA	NA

*Data of Investigation were presented as the mean ± SD (standard deviation) of three replications (6-trees per rep) for each treatment.

Abbreviations in table: AI: adequate irrigation with CI for whole growth season; ED: early-summer DI; MD: middle-summer DI; LD: later summer DI; DD: double period DI, covers the periods MD and LD.

¹The trees presented wilting leaves and dead shoots were counted in three d prior to harvest in both years.

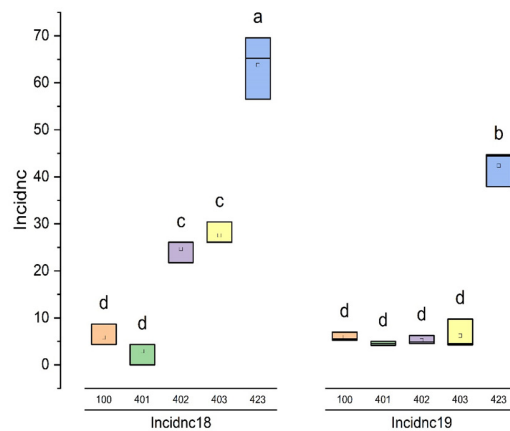
²The subsequent impact of fruit productivity was investigated by counting the numbers of fruit load in middle July of the second year. However, the field investigation on the impact from 2019 was cancelled due to Covid-19 pandemic.

Table S3. Tukey's test outputs

1way ANOVA - Compare all pair: SS-incidence				1way ANOVA of Data-Column: SS-incidence											
Parameter				2018AI	2018ED	2018MD	2018LD	2018DD	2019AI	2019ED	2019MD	2019LD	2019DD		
Table Ana Data 2 SS-incidn				Number o	3	3	3	3	3	3	3	3	3		
One-way analysis of variance				Minimum	4.35	0	21.74	26.09	56.52	5.263	4.167	4.545	4.255	37.93	
P value < 0.0001				25% Perce	4.35	0	21.74	26.09	56.52	5.263	4.167	4.545	4.255	37.93	
P value s ***				Median	4.35	4.35	26.09	26.09	65.22	5.556	4.545	4.878	4.545	44.44	
Are mean Yes				75% Perce	8.7	4.35	26.09	30.43	69.57	6.977	5	6.25	9.756	44.74	
Number 10				Maximum	8.7	4.35	26.09	30.43	69.57	6.977	5	6.25	9.756	44.74	
F 133.3				Mean	5.8	2.9	24.64	27.54	63.77	5.932	4.571	5.225	6.186	42.37	
R square 0.9836				Std. Devia	2.511	2.511	2.511	2.506	6.645	0.9167	0.4172	0.9035	3.096	3.848	
ANOVA T:SS df MS				Std. Error	1.45	1.45	1.45	1.447	3.836	0.5292	0.2409	0.5217	1.787	2.221	
Treatment 11460 9 1274				Lower 95%	-0.4388	-3.339	18.4	21.31	47.26	3.655	3.534	2.98	-1.504	32.81	
Residual 191.1 20 9.557				Upper 95%	12.04	9.139	30.88	33.76	80.28	8.209	5.607	7.469	13.88	51.93	
Total 11660 29															
Tukey's M Mean Diff q				Significan Summary 95% CI of diff											
2018AI vs				2.9	1.625	No	ns	-6.039 to 11.84							
2018AI vs				-18.84	10.56	Yes	***	-27.78 to -9.901							
2018AI vs				-21.74	12.18	Yes	***	-30.68 to -12.80							
2018AI vs				-57.97	32.48	Yes	***	-66.91 to -49.03							
2018AI vs				-0.1318	0.07385	No	ns	-9.070 to 8.807							
2018AI vs				1.229	0.6887	No	ns	-7.709 to 10.17							
2018AI vs				0.5755	0.3224	No	ns	-8.363 to 9.514							
2018AI vs				-0.3856	0.2161	No	ns	-9.324 to 8.553							
2018AI vs				-36.57	20.49	Yes	***	-45.51 to -27.63							
2018ED v				-21.74	12.18	Yes	***	-30.68 to -12.80							
2018ED v				-24.64	13.8	Yes	***	-33.58 to -15.70							
2018ED v				-60.87	34.1	Yes	***	-69.81 to -51.93							
2018ED v				-3.032	1.699	No	ns	-11.97 to 5.907							
2018ED v				-1.671	0.936	No	ns	-10.61 to 7.268							
2018ED v				-2.325	1.302	No	ns	-11.26 to 6.614							
2018ED v				-3.286	1.841	No	ns	-12.22 to 5.653							
2018ED v				-39.47	22.11	Yes	***	-48.41 to -30.53							
2018MD v				-2.897	1.623	No	ns	-11.84 to 6.042							
2018MD v				-39.13	21.92	Yes	***	-48.07 to -30.19							
2018MD v				18.71	10.48	Yes	***	9.770 to 27.65							
2018MD v				20.07	11.24	Yes	***	11.13 to 29.01							
2018MD v				19.42	10.88	Yes	***	10.48 to 28.35							
2018MD v				18.45	10.34	Yes	***	9.516 to 27.39							
2018MD v				-17.73	9.934	Yes	***	-26.67 to -8.792							
2018LD v				-36.23	20.3	Yes	***	-45.17 to -27.29							
2018LD v				21.6	12.1	Yes	***	12.67 to 30.54							
2018LD v				22.97	12.87	Yes	***	14.03 to 31.90							
2018LD v				22.31	12.5	Yes	***	13.37 to 31.25							
2018LD v				21.35	11.96	Yes	***	12.41 to 30.29							
2018LD v				-14.83	8.311	Yes	***	-23.77 to -5.896							
2018DD v				57.84	32.4	Yes	***	48.90 to 66.78							
2018DD v				59.2	33.17	Yes	***	50.26 to 68.14							
2018DD v				58.55	32.8	Yes	***	49.61 to 67.48							
2018DD v				57.58	32.26	Yes	***	48.65 to 66.52							
2018DD v				21.4	11.99	Yes	***	12.46 to 30.34							
2019AI vs				1.361	0.7626	No	ns	-7.577 to 10.30							
2019AI vs				0.7073	0.3963	No	ns	-8.231 to 9.646							
2019AI vs				-0.2538	0.1422	No	ns	-9.192 to 8.685							
2019AI vs				-36.44	20.42	Yes	***	-45.38 to -27.50							
2019ED v				-0.6538	0.3663	No	ns	-9.592 to 8.285							
2019ED v				-1.615	0.9048	No	ns	-10.55 to 7.324							
2019ED v				-37.8	21.18	Yes	***	-46.74 to -28.86							
2019MD v				-0.9611	0.5385	No	ns	-9.900 to 7.977							
2019MD v				-37.15	20.81	Yes	***	-46.08 to -28.21							
2019LD v				-36.19	20.27	Yes	***	-45.12 to -27.25							

Tukey

Significance Level: 0.05

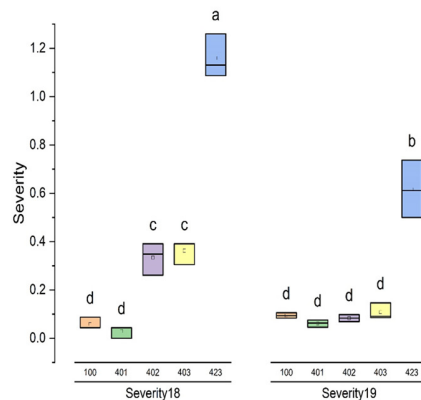


Tukey
Significance Level: 0.05

Table S3. Tukey's test outputs

1way ANOVA - Compare all pair: SS-severity					1way ANOVA of Data-Column: SS-severity												
Parameter					2018AI	2018ED	2018MD	2018LD	2018DD	2019AI	2019ED	2019MD	2019LD	2019DD			
Table Analyzed	Data 2 SS-severity				Number o	3	3	3	3	3	3	3	3	3			
One-way analysis of variance					Minimum	0.04348	0	0.2609	0.3043	1.087	0.08333	0.04545	0.06818	0.08511	0.5		
P value	< 0.0001				25% Perce	0.04348	0	0.2609	0.3043	1.087	0.08333	0.04545	0.06818	0.08511	0.5		
P value summary	***				Median	0.04348	0.04348	0.3478	0.3913	1.13	0.09302	0.0625	0.08333	0.09091	0.6111		
Are means signif. different? (P < 0.05)					75% Perce	0.08696	0.04348	0.3913	0.3913	1.26	0.1053	0.075	0.09756	0.1463	0.7368		
Number of groups	10				Maximum	0.08696	0.04348	0.3913	0.3913	1.26	0.1053	0.075	0.09756	0.1463	0.7368		
F	120.5																
R squared	0.9819				Mean	0.05797	0.02899	0.3333	0.3623	1.159	0.09387	0.06098	0.08303	0.1075	0.616		
					Std. Devia	0.0251	0.0251	0.06641	0.0502	0.09002	0.01099	0.01483	0.01469	0.0338	0.1185		
ANOVA Table	SS	df	MS		Std. Error	0.01449	0.01449	0.03834	0.02899	0.05197	0.006345	0.008563	0.008482	0.01952	0.06841		
Treatment (between columns)	3.473	9	0.3859														
Residual (within columns)	0.06407	20	0.003204		Lower 95%	-0.00439	-0.03337	0.1684	0.2376	0.9355	0.06657	0.02414	0.04653	0.02348	0.3216		
Total	3.537	29			Upper 95%	0.1203	0.09134	0.4983	0.487	1.383	0.1212	0.09783	0.1195	0.1914	0.9103		
Tukey's Multiple Comparison Test					Mean Diff q	Significant		Summary		95% CI of diff							
2018AI vs 2018ED	0.02899	0.887	No	ns	-0.1347 to 0.1926												
2018AI vs 2018MD	-0.2754	8.427	Yes	***	-0.4390 to -0.1117												
2018AI vs 2018LD	-0.3043	9.314	Yes	***	-0.4680 to -0.1407												
2018AI vs 2018DD	-1.101	33.7	Yes	***	-1.265 to -0.9375												
2018AI vs 2019AI	-0.0359	1.099	No	ns	-0.1996 to 0.1277												
2018AI vs 2019ED	-0.00301	0.09223	No	ns	-0.1667 to 0.1606												
2018AI vs 2019MD	-0.02505	0.7667	No	ns	-0.1887 to 0.1386												
2018AI vs 2019LD	-0.04948	1.514	No	ns	-0.2131 to 0.1142												
2018AI vs 2019DD	-0.558	17.08	Yes	***	-0.7217 to -0.3944												
2018ED vs 2018MD	-0.3043	9.314	Yes	***	-0.4680 to -0.1407												
2018ED vs 2018LD	-0.3333	10.2	Yes	***	-0.4970 to -0.1697												
2018ED vs 2018DD	-1.13	34.58	Yes	***	-1.294 to -0.9665												
2018ED vs 2019AI	-0.06489	1.986	No	ns	-0.2285 to 0.09876												
2018ED vs 2019ED	-0.032	0.9792	No	ns	-0.1957 to 0.1317												
2018ED vs 2019MD	-0.05404	1.654	No	ns	-0.2177 to 0.1096												
2018ED vs 2019LD	-0.07847	2.401	No	ns	-0.2421 to 0.08519												
2018ED vs 2019DD	-0.587	17.96	Yes	***	-0.7507 to -0.4233												
2018MD vs 2018LD	-0.02899	0.887	No	ns	-0.1926 to 0.1347												
2018MD vs 2018DD	-0.8258	25.27	Yes	***	-0.9894 to -0.6621												
2018MD vs 2019AI	0.2395	7.328	Yes	**	0.07581 to 0.4031												
2018MD vs 2019ED	0.2723	8.334	Yes	***	0.1087 to 0.4360												
2018MD vs 2019MD	0.2503	7.66	Yes	***	0.08666 to 0.4140												
2018MD vs 2019LD	0.2259	6.912	Yes	**	0.06223 to 0.3895												
2018MD vs 2019DD	-0.2827	8.65	Yes	***	-0.4463 to -0.1190												
2018LD vs 2018DD	-0.7968	24.38	Yes	***	-0.9605 to -0.6332												
2018LD vs 2019AI	0.2684	8.215	Yes	***	0.1048 to 0.4321												
2018LD vs 2019ED	0.3013	9.221	Yes	***	0.1377 to 0.4650												
2018LD vs 2019MD	0.2793	8.547	Yes	***	0.1156 to 0.4429												
2018LD vs 2019LD	0.2549	7.799	Yes	***	0.09121 to 0.4185												
2018LD vs 2019DD	-0.2537	7.763	Yes	***	-0.4173 to -0.09001												
2018DD vs 2019AI	1.065	32.6	Yes	***	0.9016 to 1.229												
2018DD vs 2019ED	1.098	33.6	Yes	***	0.9345 to 1.262												
2018DD vs 2019MD	1.076	32.93	Yes	***	0.9125 to 1.240												
2018DD vs 2019LD	1.052	32.18	Yes	***	0.8880 to 1.215												
2018DD vs 2019DD	0.5431	16.62	Yes	***	0.3795 to 0.7068												
2019AI vs 2019ED	0.03289	1.006	No	ns	-0.1308 to 0.1965												
2019AI vs 2019MD	0.01085	0.332	No	ns	-0.1528 to 0.1745												
2019AI vs 2019LD	-0.01358	0.4155	No	ns	-0.1772 to 0.1501												
2019AI vs 2019DD	-0.5221	15.98	Yes	***	-0.6858 to -0.3585												
2019ED vs 2019MD	-0.02204	0.6745	No	ns	-0.1857 to 0.1416												
2019ED vs 2019LD	-0.04647	1.422	No	ns	-0.2101 to 0.1172												
2019ED vs 2019DD	-0.555	16.98	Yes	***	-0.7187 to -0.3913												
2019MD vs 2019LD	-0.02443	0.7475	No	ns	-0.1881 to 0.1392												
2019MD vs 2019DD	-0.533	16.31	Yes	***	-0.6966 to -0.3693												
2019LD vs 2019DD	-0.5085	15.56	Yes	***	-0.6722 to -0.3449												

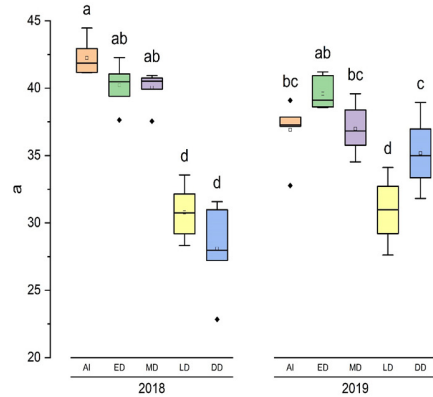
Tukey
Significance Level: 0.05



Tukey
Significance Level: 0.05

Table S3. Tukey's test outputs

1way ANOVA - Compare all pair: a				1way ANOVA of Data-Column: a											
Parameter				2018AI	2018ED	2018MD	2018LD	2018DD	2019AI	2019ED	2019MD	2019LD	2019DD		
Table Analyzed	Colour-a			Number o	6	6	6	6	6	6	6	6	6		
One-way analysis of variance				Minimum	41.16	37.64	37.55	28.32	22.84	32.78	38.56	34.53	27.62	31.82	
P value	< 0.0001			25% Perce	41.17	38.96	39.34	28.97	26.11	36.08	38.6	35.46	28.81	32.97	
P value summary	***			Median	41.85	40.48	40.53	30.75	27.97	37.29	39.11	36.83	30.97	34.99	
Are means signif. different? (P < 0.)	Yes			75% Perce	43.33	41.37	40.8	32.5	31.13	38.17	41.01	38.69	33.07	37.46	
Number of groups	10			Maximum	44.47	42.27	40.94	33.56	31.58	39.09	41.21	39.59	34.12	38.94	
F	32.58			Mean	42.24	40.22	40.04	30.79	28.09	36.91	39.59	36.99	30.94	35.18	
R squared	0.8543			Std. Devia	1.28	1.577	1.27	2.103	3.161	2.148	1.213	1.814	2.339	2.585	
Bartlett's test for equal variances				Std. Error	0.5227	0.6438	0.5186	0.8584	1.291	0.8769	0.4951	0.7404	0.955	1.055	
Bartlett's statistic (corrected)	8.844			Lower 95%	40.9	38.57	38.7	28.58	24.77	34.66	38.32	35.09	28.48	32.46	
P value	0.4518			Upper 95%	43.59	41.87	41.37	32.99	31.41	39.17	40.86	38.89	33.39	37.89	
P value summary	ns														
Do the variances differ signif. (P < 0)	No														
ANOVA Table	SS	df	MS												
Treatment (between columns)	1222	9	135.8												
Residual (within columns)	208.4	50	4.168												
Total	1431	59													
Tukey's Multiple Comparison Test	Mean Diff q	Significant? P < 0.05	Summary	95% CI of diff											
2018AI vs 2018ED	2.023	2.427 No	ns	-1.887 to 5.932											
2018AI vs 2018MD	2.205	2.645 No	ns	-1.705 to 6.114											
2018AI vs 2018LD	11.46	13.74 Yes	***	7.547 to 15.37											
2018AI vs 2018DD	14.15	16.98 Yes	***	10.24 to 18.06											
2018AI vs 2019AI	5.329	6.394 Yes	**	1.420 to 9.239											
2018AI vs 2019ED	2.654	3.185 No	ns	-1.255 to 6.564											
2018AI vs 2019MD	5.254	6.304 Yes	**	1.345 to 9.164											
2018AI vs 2019LD	11.31	13.57 Yes	***	7.398 to 15.22											
2018AI vs 2019DD	7.068	8.48 Yes	***	3.158 to 10.98											
2018ED vs 2018MD	0.182	0.2184 No	ns	-3.727 to 4.091											
2018ED vs 2018LD	9.433	11.32 Yes	***	5.524 to 13.34											
2018ED vs 2018DD	12.13	14.55 Yes	***	8.219 to 16.04											
2018ED vs 2019AI	3.307	3.967 No	ns	-0.6028 to 7.216											
2018ED vs 2019ED	0.6317	0.7579 No	ns	-3.278 to 4.541											
2018ED vs 2019MD	3.232	3.877 No	ns	-0.6778 to 7.141											
2018ED vs 2019LD	9.285	11.14 Yes	***	5.376 to 13.19											
2018ED vs 2019DD	5.045	6.053 Yes	**	1.136 to 8.954											
2018MD vs 2018LD	9.251	11.1 Yes	***	5.342 to 13.16											
2018MD vs 2018DD	11.95	14.33 Yes	***	8.037 to 15.86											
2018MD vs 2019AI	3.125	3.749 No	ns	-0.7848 to 7.034											
2018MD vs 2019ED	0.4497	0.5395 No	ns	-3.460 to 4.359											
2018MD vs 2019MD	3.05	3.659 No	ns	-0.8598 to 6.959											
2018MD vs 2019LD	9.103	10.92 Yes	***	5.194 to 13.01											
2018MD vs 2019DD	4.863	5.835 Yes	**	0.9535 to 8.772											
2018LD vs 2018DD	2.695	3.233 No	ns	-1.215 to 6.604											
2018LD vs 2019AI	-6.127	7.351 Yes	***	-10.04 to -2.217											
2018LD vs 2019ED	-8.802	10.56 Yes	***	-12.71 to -4.892											
2018LD vs 2019MD	-6.202	7.441 Yes	***	-10.11 to -2.292											
2018LD vs 2019LD	-0.1483	0.178 No	ns	-4.058 to 3.761											
2018LD vs 2019DD	-4.388	5.265 Yes	*	-8.298 to -0.4789											
2018DD vs 2019AI	-8.821	10.58 Yes	***	-12.73 to -4.912											
2018DD vs 2019ED	-11.5	13.79 Yes	***	-15.41 to -7.587											
2018DD vs 2019MD	-8.896	10.67 Yes	***	-12.81 to -4.987											
2018DD vs 2019LD	-2.843	3.411 No	ns	-6.752 to 1.066											
2018DD vs 2019DD	-7.083	8.498 Yes	***	-10.99 to -3.174											
2019AI vs 2019ED	-2.675	3.209 No	ns	-6.584 to 1.234											
2019AI vs 2019MD	-0.075	0.08998 No	ns	-3.984 to 3.834											
2019AI vs 2019LD	5.978	7.173 Yes	***	2.069 to 9.888											
2019AI vs 2019DD	1.738	2.086 No	ns	-2.171 to 5.648											
2019ED vs 2019MD	2.6	3.119 No	ns	-1.309 to 6.509											
2019ED vs 2019LD	8.653	10.38 Yes	***	4.744 to 12.56											
2019ED vs 2019DD	4.413	5.295 Yes	*	0.5039 to 8.323											
2019MD vs 2019LD	6.053	7.263 Yes	***	2.144 to 9.963											
2019MD vs 2019DD	1.813	2.176 No	ns	-2.096 to 5.723											
2019LD vs 2019DD	-4.24	5.087 Yes	*	-8.149 to -0.3305											



Tukey
Significance Level: 0.05

Table S3. Tukey's test outputs

1way ANOVA - Compare all pair: BCI					1way ANOVA of Data-Column: BCI										
Parameter					2018AI	2018ED	2018MD	2018LD	2018DD	2019AI	2019ED	2019MD	2019LD	2019DD	
Table Analyzed	Color-BCI				Number o	6	6	6	6	6	6	6	6	6	6
One-way analysis of variance					Minimum	38.21	38.63	33.03	30.52	20.29	32.38	40.22	33.39	28.46	31.65
P value	< 0.0001				25% Perce	40.87	39.32	37.78	31.08	24.33	35.65	40.28	35.66	29.24	33.23
P value summary	***				Median	44.77	43.07	42.34	32.72	28.32	39.73	41.18	36.85	30.85	35.98
Are means signif. different? (P < 0.05)	Yes				75% Perce	47.32	45.52	45.92	37.4	32.19	40.02	41.88	41.93	33.14	37.4
Number of groups	10				Maximum	48.69	46.5	45.96	38.75	33.51	40.5	42.76	42.96	36.99	38.02
F	13.4				Mean	44.18	42.67	41.49	33.82	27.98	38.16	41.2	38.01	31.42	35.43
R squared	0.7069				Std. Devia	3.84	3.094	4.951	3.409	4.914	3.122	0.9401	3.581	3.021	2.396
Bartlett's test for equal variances					Std. Error	1.568	1.263	2.021	1.392	2.006	1.275	0.3838	1.462	1.233	0.9782
Bartlett's statistic (corrected)	12.3				Lower 95%	40.15	39.42	36.3	30.24	22.82	34.88	40.22	34.25	28.25	32.91
P value	0.197				Upper 95%	48.21	45.92	46.69	37.4	33.14	41.43	42.19	41.76	34.59	37.94
P value summary	ns														
Do the variances differ signif. (P < 0.05)	No														
ANOVA Table	SS	df	MS												
Treatment (between columns)	1483	9	164.7												
Residual (within columns)	614.6	50	12.29												
Total	2097	59													
Tukey's Multiple Comparison Test	Mean Diff	q	Significant? P < 0.05	Summary	95% CI of diff										
2018AI vs 2018ED	1.507	1.053	No	ns	-5.206 to 8.221										
2018AI vs 2018MD	2.684	1.875	No	ns	-4.030 to 9.397										
2018AI vs 2018LD	10.36	7.236	Yes	***	3.644 to 17.07										
2018AI vs 2018DD	16.2	11.32	Yes	***	9.484 to 22.91										
2018AI vs 2019AI	6.019	4.205	No	ns	-0.6945 to 12.73										
2018AI vs 2019ED	2.972	2.077	No	ns	-3.741 to 9.686										
2018AI vs 2019MD	6.171	4.311	No	ns	-0.5428 to 12.88										
2018AI vs 2019LD	12.76	8.914	Yes	***	6.045 to 19.47										
2018AI vs 2019DD	8.747	6.111	Yes	**	2.034 to 15.46										
2018ED vs 2018MD	1.176	0.8218	No	ns	-5.537 to 7.890										
2018ED vs 2018LD	8.85	6.183	Yes	**	2.137 to 15.56										
2018ED vs 2018DD	14.69	10.26	Yes	***	7.976 to 21.40										
2018ED vs 2019AI	4.512	3.152	No	ns	-2.202 to 11.23										
2018ED vs 2019ED	1.465	1.024	No	ns	-5.248 to 8.179										
2018ED vs 2019MD	4.663	3.258	No	ns	-2.050 to 11.38										
2018ED vs 2019LD	11.25	7.861	Yes	***	4.538 to 17.97										
2018ED vs 2019DD	7.24	5.058	Yes	*	0.5265 to 13.95										
2018MD vs 2018LD	7.674	5.361	Yes	*	0.9603 to 14.39										
2018MD vs 2018DD	13.51	9.441	Yes	***	6.800 to 20.23										
2018MD vs 2019AI	3.336	2.33	No	ns	-3.378 to 10.05										
2018MD vs 2019ED	0.2889	0.2018	No	ns	-6.425 to 7.002										
2018MD vs 2019MD	3.487	2.436	No	ns	-3.226 to 10.20										
2018MD vs 2019LD	10.08	7.039	Yes	***	3.362 to 16.79										
2018MD vs 2019DD	6.064	4.237	No	ns	-0.6497 to 12.78										
2018LD vs 2018DD	5.84	4.08	No	ns	-0.8737 to 12.55										
2018LD vs 2019AI	-4.338	3.031	No	ns	-11.05 to 2.375										
2018LD vs 2019ED	-7.385	5.16	Yes	*	-14.10 to -0.6714										
2018LD vs 2019MD	-4.187	2.925	No	ns	-10.90 to 2.527										
2018LD vs 2019LD	2.402	1.678	No	ns	-4.312 to 9.115										
2018LD vs 2019DD	-1.61	1.125	No	ns	-8.324 to 5.104										
2018DD vs 2019AI	-10.18	7.111	Yes	***	-16.89 to -3.465										
2018DD vs 2019ED	-13.22	9.24	Yes	***	-19.94 to -6.511										
2018DD vs 2019MD	-10.03	7.005	Yes	***	-16.74 to -3.313										
2018DD vs 2019LD	-3.438	2.402	No	ns	-10.15 to 3.275										
2018DD vs 2019DD	-7.45	5.205	Yes	*	-14.16 to -0.7363										
2019AI vs 2019ED	-3.047	2.129	No	ns	-9.760 to 3.667										
2019AI vs 2019MD	0.1517	0.106	No	ns	-6.562 to 6.865										
2019AI vs 2019LD	6.74	4.709	Yes	*	0.02642 to 13.45										
2019AI vs 2019DD	2.728	1.906	No	ns	-3.985 to 9.442										
2019ED vs 2019MD	3.198	2.235	No	ns	-3.515 to 9.912										
2019ED vs 2019LD	9.787	6.838	Yes	***	3.073 to 16.50										
2019ED vs 2019DD	5.775	4.035	No	ns	-0.9386 to 12.49										
2019MD vs 2019LD	6.588	4.603	No	ns	-0.1253 to 13.30										
2019MD vs 2019DD	2.577	1.8	No	ns	-4.137 to 9.290										
2019LD vs 2019DD	-4.012	2.803	No	ns	-10.73 to 2.702										

Tukey
Significance Level: 0.05

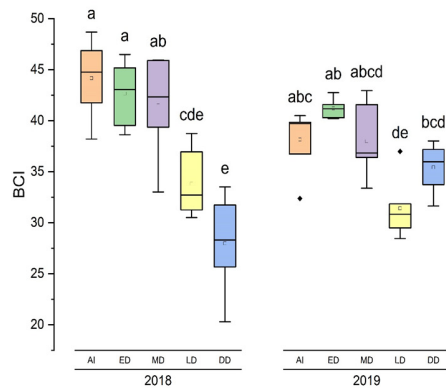


Table S3. Tukey's test outputs

1way ANOVA - Compare all pair: Blush coverage					1way ANOVA of Data-Column: Blush coverage										
Parameter					2018AI	2018ED	2018MD	2018LD	2018DD	2019AI	2019ED	2019MD	2019LD	2019DD	
Table Analyzed	Blushcover				Number o	6	6	6	6	6	6	6	6	6	
One-way analysis of variance					Minimum	65	65	56.7	50.12	33	58.7	67.7	55.7	48.3	
P value	<0.0001				25% Perce	65	65.75	63.68	51.64	34.5	59.68	69.43	56.15	49.58	
P value summary	***				Median	66.35	66.15	67.5	55.12	38.65	60.35	72	58	51.7	
Are means signif. different? (P < 0.05)	Yes				75% Perce	72.25	67.75	68.5	59.7	40.5	62.75	74.02	60	55.43	
Number of groups	10				Maximum	73	70	70	60	45	65	75	60	56.7	
F	51.48				Mean	67.95	66.72	65.95	55.35	38.22	61.07	71.73	58	52.23	
R squared	0.9026				Std. Devia	3.597	1.733	4.722	4.072	4.118	2.207	2.643	1.809	3.182	
Bartlett's test for equal variances					Std. Error	1.468	0.7073	1.928	1.662	1.681	0.901	1.079	0.7385	1.299	
Bartlett's statistic (corrected)	9.205				Lower 95%	64.18	64.9	60.99	51.08	33.89	58.75	68.96	56.1	48.89	
P value	0.4185				Upper 95%	71.72	68.53	70.91	59.62	42.54	63.38	74.51	59.9	55.57	
P value summary	ns														
Do the variances differ signif. (P < 0.05)	No														
ANOVA Table	SS	df	MS												
Treatment (between columns)	5057	9	561.9												
Residual (within columns)	545.8	50	10.92												
Total	5603	59													
Tukey's Multiple Comparison Test	Mean Diff	q	Significant? P < 0.05	Summary	95% CI of diff										
2018AI vs 2018ED	1.233	0.9144	No	ns	-5.093 to 7.560										
2018AI vs 2018MD	2	1.483	No	ns	-4.327 to 8.327										
2018AI vs 2018LD	12.6	9.34	Yes	***	6.272 to 18.92										
2018AI vs 2018DD	29.73	22.04	Yes	***	23.41 to 36.06										
2018AI vs 2019AI	6.883	5.103	Yes	*	0.5568 to 13.21										
2018AI vs 2019ED	-3.783	2.805	No	ns	-10.11 to 2.543										
2018AI vs 2019MD	9.95	7.377	Yes	***	3.623 to 16.28										
2018AI vs 2019LD	9.183	6.809	Yes	***	2.857 to 15.51										
2018AI vs 2019DD	15.72	11.65	Yes	***	9.390 to 22.04										
2018ED vs 2018MD	0.7667	0.5684	No	ns	-5.560 to 7.093										
2018ED vs 2018LD	11.37	8.426	Yes	***	5.038 to 17.69										
2018ED vs 2018DD	28.5	21.13	Yes	***	22.17 to 34.83										
2018ED vs 2019AI	5.65	4.189	No	ns	-0.6765 to 11.98										
2018ED vs 2019ED	-5.017	3.719	No	ns	-11.34 to 1.310										
2018ED vs 2019MD	8.717	6.463	Yes	**	2.390 to 15.04										
2018ED vs 2019LD	7.95	5.894	Yes	**	1.623 to 14.28										
2018ED vs 2019DD	14.48	10.74	Yes	***	8.157 to 20.81										
2018MD vs 2018LD	10.6	7.858	Yes	***	4.272 to 16.92										
2018MD vs 2018DD	27.73	20.56	Yes	***	21.41 to 34.06										
2018MD vs 2019AI	4.883	3.621	No	ns	-1.443 to 11.21										
2018MD vs 2019ED	-5.783	4.288	No	ns	-12.11 to 0.5432										
2018MD vs 2019MD	7.95	5.894	Yes	**	1.623 to 14.28										
2018MD vs 2019LD	7.183	5.326	Yes	*	0.8568 to 13.51										
2018MD vs 2019DD	13.72	10.17	Yes	***	7.390 to 20.04										
2018LD vs 2018DD	17.14	12.7	Yes	***	10.81 to 23.46										
2018LD vs 2019AI	-5.715	4.237	No	ns	-12.04 to 0.6115										
2018LD vs 2019ED	-16.38	12.15	Yes	***	-22.71 to -10.06										
2018LD vs 2019MD	-2.648	1.963	No	ns	-8.975 to 3.678										
2018LD vs 2019LD	-3.415	2.532	No	ns	-9.742 to 2.912										
2018LD vs 2019DD	3.118	2.312	No	ns	-3.208 to 9.445										
2018DD vs 2019AI	-22.85	16.94	Yes	***	-29.18 to -16.52										
2018DD vs 2019ED	-33.52	24.85	Yes	***	-39.84 to -27.19										
2018DD vs 2019MD	-19.78	14.67	Yes	***	-26.11 to -13.46										
2018DD vs 2019LD	-20.55	15.24	Yes	***	-26.88 to -14.22										
2018DD vs 2019DD	-14.02	10.39	Yes	***	-20.34 to -7.690										
2019AI vs 2019ED	-10.67	7.908	Yes	***	-16.99 to -4.340										
2019AI vs 2019MD	3.067	2.274	No	ns	-3.260 to 9.393										
2019AI vs 2019LD	2.3	1.705	No	ns	-4.027 to 8.627										
2019AI vs 2019DD	8.833	6.549	Yes	**	2.507 to 15.16										
2019ED vs 2019MD	13.73	10.18	Yes	***	7.407 to 20.06										
2019ED vs 2019LD	12.97	9.614	Yes	***	6.640 to 19.29										
2019ED vs 2019DD	19.5	14.46	Yes	***	13.17 to 25.83										
2019MD vs 2019LD	-0.7667	0.5684	No	ns	-7.093 to 5.560										
2019MD vs 2019DD	5.767	4.275	No	ns	-0.5599 to 12.09										
2019LD vs 2019DD	6.533	4.844	Yes	*	0.2068 to 12.86										

Tukey

Significance Level: 0.05

Tukey
Significance Level: 0.05

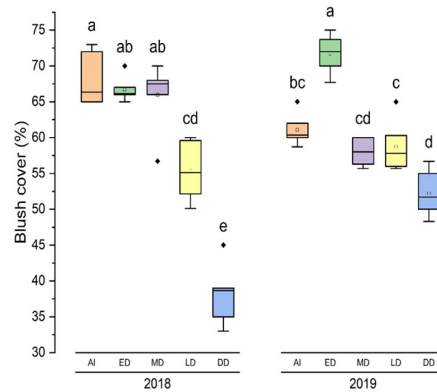


Table S3. Tukey's test outputs

1way ANOVA - Compare all pair: Fruit size (weight)					1way ANOVA of Data-Column: Fruit size (weight)										
Parameter						2018AI	2018ED	2018MD	2018LD	2018DD	2019AI	2019ED	2019MD	2019LD	2019DD
Table Analyzed	Size					Number o	6	6	6	6	6	6	6	6	6
One-way analysis of variance						Minimum	223.7	225.9	215.4	211.1	129.6	249.7	234.2	224.3	211.4
P value	< 0.0001					25% Perce	235.3	226.3	217	213.9	139.2	251.3	236.8	236	228.3
P value summary	***					Median	244.2	232.9	222.3	221.1	155.6	254.4	246.1	244.5	219.5
Are means signif. different? (P < 0.05)						75% Perce	250.5	243.2	228.5	223.2	168	260.7	252.6	249.9	229.3
Number of groups	10					Maximum	251.8	248.7	231.2	225.2	169.9	260.9	254.6	251.4	234.1
F	63.89														
R squared	0.92					Mean	242.2	234.7	222.7	219.3	153.4	255.3	245.1	243.1	221.2
						Std. Devia	10.13	9.026	6.22	5.313	15.84	4.62	8.384	8.133	8.722
Bartlett's test for equal variances						Std. Error	4.135	3.685	2.539	2.169	6.466	1.886	3.423	3.32	3.561
Bartlett's statistic (corrected)	13.79														
P value	0.1298					Lower 95%	231.6	225.2	216.2	213.7	136.8	250.5	236.3	234.6	212.2
P value summary	ns					Upper 95%	252.8	244.2	229.2	224.9	170	260.1	253.9	251.6	230.4
Do the variances differ signif. (P < 0.05)															
ANOVA Table	SS	df	MS												
Treatment (between columns)	43310	9	4813												
Residual (within columns)	3766	50	75.33												
Total	47080	59													
Tukey's Multiple Comparison Test	Mean Diff q		Significant? P < 0.05	Summary	95% CI of diff										
2018AI vs 2018ED	7.5	2.117	No	ns	-9.120 to 24.12										
2018AI vs 2018MD	19.5	5.503	Yes	**	2.880 to 36.12										
2018AI vs 2018LD	22.9	6.463	Yes	**	6.280 to 39.52										
2018AI vs 2018DD	88.8	25.06	Yes	***	72.18 to 105.4										
2018AI vs 2019AI	-13.1	3.697	No	ns	-29.72 to 3.520										
2018AI vs 2019ED	-2.9	0.8185	No	ns	-19.52 to 13.72										
2018AI vs 2019MD	-0.9	0.254	No	ns	-17.52 to 15.72										
2018AI vs 2019LD	11.6	3.274	No	ns	-5.020 to 28.22										
2018AI vs 2019DD	21	5.927	Yes	**	4.380 to 37.62										
2018ED vs 2018MD	12	3.387	No	ns	-4.620 to 28.62										
2018ED vs 2018LD	15.4	4.346	No	ns	-1.220 to 32.02										
2018ED vs 2018DD	81.3	22.95	Yes	***	64.68 to 97.92										
2018ED vs 2019AI	-20.6	5.814	Yes	**	-37.22 to -3.980										
2018ED vs 2019ED	-10.4	2.935	No	ns	-27.02 to 6.220										
2018ED vs 2019MD	-8.4	2.371	No	ns	-25.02 to 8.220										
2018ED vs 2019LD	4.1	1.157	No	ns	-12.52 to 20.72										
2018ED vs 2019DD	13.5	3.81	No	ns	-3.120 to 30.12										
2018MD vs 2018LD	3.4	0.9596	No	ns	-13.22 to 20.02										
2018MD vs 2018DD	69.3	19.56	Yes	***	52.68 to 85.92										
2018MD vs 2019AI	-32.6	9.201	Yes	***	-49.22 to -15.98										
2018MD vs 2019ED	-22.4	6.322	Yes	**	-39.02 to -5.780										
2018MD vs 2019MD	-20.4	5.757	Yes	**	-37.02 to -3.780										
2018MD vs 2019LD	-7.9	2.23	No	ns	-24.52 to 8.720										
2018MD vs 2019DD	1.5	0.4233	No	ns	-15.12 to 18.12										
2018LD vs 2018DD	65.9	18.6	Yes	***	49.28 to 82.52										
2018LD vs 2019AI	-36	10.16	Yes	***	-52.62 to -19.38										
2018LD vs 2019ED	-25.8	7.281	Yes	***	-42.42 to -9.180										
2018LD vs 2019MD	-23.8	6.717	Yes	***	-40.42 to -7.180										
2018LD vs 2019LD	-11.3	3.189	No	ns	-27.92 to 5.320										
2018LD vs 2019DD	-1.9	0.5362	No	ns	-18.52 to 14.72										
2018DD vs 2019AI	-101.9	28.76	Yes	***	-118.5 to -85.28										
2018DD vs 2019ED	-91.7	25.88	Yes	***	-108.3 to -75.08										
2018DD vs 2019MD	-89.7	25.32	Yes	***	-106.3 to -73.08										
2018DD vs 2019LD	-77.2	21.79	Yes	***	-93.82 to -60.58										
2018DD vs 2019DD	-67.8	19.14	Yes	***	-84.42 to -51.18										
2019AI vs 2019ED	10.2	2.879	No	ns	-6.420 to 26.82										
2019AI vs 2019MD	12.2	3.443	No	ns	-4.420 to 28.82										
2019AI vs 2019LD	24.7	6.971	Yes	***	8.080 to 41.32										
2019AI vs 2019DD	34.1	9.624	Yes	***	17.48 to 50.72										
2019ED vs 2019MD	2	0.5645	No	ns	-14.62 to 18.62										
2019ED vs 2019LD	14.5	4.092	No	ns	-2.120 to 31.12										
2019ED vs 2019DD	23.9	6.745	Yes	***	7.280 to 40.52										
2019MD vs 2019LD	12.5	3.528	No	ns	-4.120 to 29.12										
2019MD vs 2019DD	21.9	6.181	Yes	**	5.280 to 38.52										
2019LD vs 2019DD	9.4	2.653	No	ns	-7.220 to 26.02										

New ANOVA - Compare all pairs: IF										New ANOVA of Data Columns IF																				
Parameter										2018harv vs 2018harv	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post	2018harv vs 2018post		
Table Analyzed	FF									Number	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
One-way analysis of variance																														
F-value	<0.0001									Minimum	65.91	57.95	68.27	65.98	65.98	59.88	68.04	49.41	64.66	58.48	68.91	45.42	65.06	58.58	67.86	47.99	74.47	66.69	67.12	41.91
F-value summary	***									Median	67.99	57.96	70.92	66.49	66.18	62.27	70.49	49.91	67.21	59.38	71.04	49.33	66.13	58.77	69.4	48.6	75.04	68.28	68.95	45.53
Are means significantly different? (P < 0.05)										Std error	0.6467	0.2462	1.4612	0.1829	0.1474	1.204	0.7961	0.4467	1.164	0.2495	0.8388	1.385	0.4086	0.2201	0.7023	0.6038	1.194	0.1809	1.180	
Number of groups	20									Maximum	68.91	58.7	73.91	49.91	68.63	64.91	71.91	51.91	70.34	61.02	71.96	51.58	67.06	59.91	71.97	59.91	77.12	71.91	70.46	47.12
t-Test																														
t-Test	118.2									Mean	67.7	58.94	71.01	47.19	66.4	62.34	70.34	50.34	67.35	58.56	70.6	48.91	66.1	58.89	69.51	48.09	75.42	68.79	68.87	45.04
t-Test summary	0.0001									Std error	1.057	0.4461	2.824	1.035	0.7498	2.408	1.52	0.8891	2.329	1.081	1.058	2.171	0.8392	0.471	1.405	1.208	2.897	1.891	2.326	
ANOVA Table	55	df	MS							Std error	0.6467	0.2462	1.4612	0.1829	0.1474	1.204	0.7961	0.4467	1.164	0.2495	0.8388	1.385	0.4086	0.2201	0.7023	0.6038	1.194	0.1809	1.180	
Treatment (between columns)	66.71	19	35.4							66.71	58.94	71.01	47.19	66.4	62.34	70.34	50.34	67.35	58.56	70.6	48.91	66.1	58.89	69.51	48.09	75.42	68.79	68.87	45.04	
Residual (within columns)	178.4	40	4.45							178.4	58.94	71.01	47.19	66.4	62.34	70.34	50.34	67.35	58.56	70.6	48.91	66.1	58.89	69.51	48.09	75.42	68.79	68.87	45.04	
Total	686.6	59								686.6	58.94	71.01	47.19	66.4	62.34	70.34	50.34	67.35	58.56	70.6	48.91	66.1	58.89	69.51	48.09	75.42	68.79	68.87	45.04	
Tukey's Multiple Comparison Test																														
										Mean Diff										Significance										
2018harv vs 2018postMD	8.661	11.22	Yes	***						-5.343 to 24.26																				
2018harv vs 2018postMD	3.389	3.888	No							-1.827 to 2.249																				
2018harv vs 2018postMD	20.151	23.79	Yes	***						15.99 to 25.03																				
2018harv vs 2018postMD	1.388	1.518	No							-1.229 to 1.827																				
2018harv vs 2018postMD	5.388	6.227	Yes	***						0.800 to 9.887																				
2018harv vs 2018postMD	2.437	2.827	No							-0.999 to 2.082																				
2018harv vs 2018postMD	17.17	20.36	Yes	***						11.05 to 22.09																				
2018harv vs 2018postMD	8.969	9.402	No							-1.489 to 4.888																				
2018harv vs 2018postMD	8.14	9.442	Yes	***						1.622 to 12.66																				
2018harv vs 2018postMD	2.884	3.557	No							-1.413 to 1.624																				
2018harv vs 2018postMD	18.79	21.47	Yes	***						14.73 to 21.51																				
2018harv vs 2018postMD	1.666	1.883	No							-1.812 to 1.125																				
2018harv vs 2018postMD	8.775	10.31	Yes	***						4.272 to 13.29																				
2018harv vs 2018postMD	1.883	2.095	No							-0.412 to 2.736																				
2018harv vs 2018postMD	18.77	21.76	Yes	***						14.76 to 22.79																				
2018harv vs 2018postMD	2.767	3.891	Yes	***						-12.319 to 1.588																				
2018harv vs 2018postMD	1.884	1.257	No							-0.800 to 3.405																				
2018harv vs 2018postMD	1.187	1.181	No							-1.681 to 3.943																				
2018harv vs 2018postMD	22.67	20.29	Yes	***						18.15 to 27.18																				
2018harv vs 2018postMD	12.97	11.94	Yes	***						17.49 to 4.401																				
2018harv vs 2018postMD	9.129	10.19	Yes	***						-4.611 to 13.45																				
2018harv vs 2018postMD	4.791	4.979	No							-8.811 to 10.278																				
2018harv vs 2018postMD	21.1	24.08	Yes	***						16.16 to 27.98																				
2018harv vs 2018postMD	7.907	9.172	Yes	***						3.389 to 12.43																				
2018harv vs 2018postMD	9.912	10.8	Yes	***						-11.819 to 4.791																				
2018harv vs 2018postMD	1.521	1.766	No							-1.039 to 2.988																				
2018harv vs 2018postMD	12.16	14.76	Yes	***						17.079 to 8.037																				
2018harv vs 2018postMD	9.129	10.19	Yes	***						-4.611 to 13.45																				
2018harv vs 2018postMD	4.791	4.979	No							-8.811 to 10.278																				
2018harv vs 2018postMD	21.1	24.08	Yes	***						16.16 to 27.98																				
2018harv vs 2018postMD	7.907	9.172	Yes	***						3.389 to 12.43																				
2018harv vs 2018postMD	9.912	10.8	Yes	***						-11.819 to 4.791																				
2018harv vs 2018postMD	1.521	1.766	No							-1.039 to 2.988																				
2018harv vs 2018postMD	12.16	14.76	Yes	***						17.079 to 8.037																				
2018harv vs 2018postMD	9.129	10.19	Yes	***						-4.611 to 13.45																				
2018harv vs 2018postMD	4.791	4.979	No							-8.811 to 10.278																				
2018harv vs 2018postMD	21.1	24.08	Yes	***						16.16 to 27.98																				
2018harv vs 2018postMD	7.907	9.172	Yes	***						3.389 to 12.43																				
2018harv vs 2018postMD	9.912	10.8	Yes	***						-11.819 to 4.791																				
2018harv vs 2018postMD	1.521	1.766	No							-1.039 to 2.988																				
2018harv vs 2018postMD	12.16	14.76	Yes	***						17.079 to 8.037																				
2018harv vs 2018postMD	9.129	10.19	Yes	***						-4.611 to 13.45																				
2018harv vs 2018postMD	4.791	4.979	No							-8.811 to 10.278																				
2018harv vs 2018postMD	21.1	24.08	Yes	***						16.16 to 27.98																				
2018harv vs 2018postMD	7.907	9.172	Yes	***						3.389 to 12.43																				
2018harv vs 2018postMD	9.912	10.8	Yes	***						-11.819 to 4.791																				
2018harv vs 2018postMD	1.521	1.766	No							-1.039 to 2.988																				
2018harv vs 2018postMD	12.16	14.76	Yes	***						17.079 to 8.037																				
2018harv vs 2018postMD	9.129	10.19	Yes	***						-4.611 to 13.45																				
2018harv vs 2018postMD	4.791	4.979	No							-8.811 to 10.278																				
2018harv vs 2018postMD	21.1	24.08	Yes	***						16.16 to 27.98																				
2018harv vs 2018postMD	7.907	9.172	Yes	***						3.389 to 12.43																				

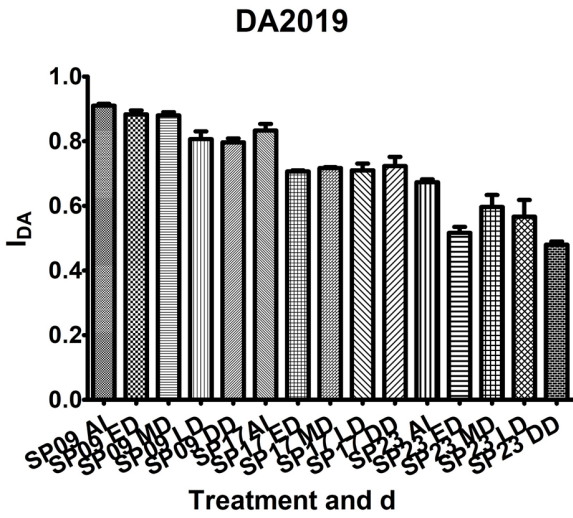
Temp ANOVA - Compare all pairs 1A

One-way analysis of variance	TA	Sum of Squares	df	Mean Square	F	Significance	95% CI of diff																
F value	***	Minimum	257.6	180.2	246.4	163.1	257.2	212.8	244.3	187.5	286.4	182.9	255.9	172	249.3	184.1	246.5	176.9	257	232.9	245.7	173.7	
F value summary	***	Median	258.3	181.3	250.9	163.4	259.7	228.2	247.1	187.7	285.7	183.8	255.9	172.1	251	249.3	184.7	246.7	176.9	257	232.9	245.7	173.7
Anova significant? (P < 0.05)	Yes	75th Percentile	266.2	188.6	265.6	165.6	268.9	233.6	246.7	189.7	287.2	187.2	261.3	172.6	261.5	249.6	185.7	249.9	178.7	249.9	247.4	247.6	174.7
Number of groups	20	Mean	266.2	188.6	265.6	165.6	268.9	233.6	246.7	189.7	287.2	187.2	261.3	172.6	261.5	249.6	185.7	249.9	178.7	249.9	247.4	247.6	174.7
F summary	85.94	Std Dev	5.82	5.748	10.87	2.605	7.301	3.309	3.451	4.395	25.14	2.904	3.075	3.939	0.949	1.548	1.308	3.863	10.12	1.19	3.771	2.262	
ANOVA Table	16	df	MS	206.9	180.2	246.4	163.1	257.2	212.8	244.3	187.5	286.4	182.9	255.9	172	249.3	184.1	246.5	176.9	257	232.9	245.7	173.7
Treatment (between columns)	120560	15	8037																				
Residual (within columns)	42776	80	532.1	Lower 95%	255.9	178	165	165.6	205.8	227.4	247	163.8	223.9	182.3	173	178	181.3	246.5	176.9	257	232.9	245.7	173.7
Total	124636	95	1305.7	Upper 95%	296.9	200.9	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7	278.7
Tukey's Multiple Comparison Test	Mean Diff	Significance Summary	95% CI of diff																				
2020harv vs 2020post1A		74.87	17.78 Yes	***	52.74 to 97.00																		
2020harv vs 2020post1B		-0.2042	0.0002 No		-12.41 to 12.84																		
2020harv vs 2020post1C		96.22	22.79 Yes	***	74.09 to 118.3																		
2020harv vs 2020post1D		5.225	1.226 No		-27.34 to 38.85																		
2020harv vs 2020post1E		89.49	8.337 Yes	***	67.30 to 111.6																		
2020harv vs 2020post1F		14.55	1.446 No		-27.34 to 38.85																		
2020harv vs 2020post1G		10.88	16.76 Yes	***	68.74 to 103.0																		
2020harv vs 2020post1H		0.9253	0.0249 No		-22.01 to 22.23																		
2020harv vs 2020post1I		75.21	17.81 Yes	***	53.06 to 97.34																		
2020harv vs 2020post1J		2.665	0.636 No		-19.41 to 24.81																		
2020harv vs 2020post1K		89.46	21.30 Yes	***	67.30 to 111.6																		
2020harv vs 2020post1L		0.1026	0.1187 No		-13.01 to 13.21																		
2020harv vs 2020post1M		76.29	18.07 Yes	***	54.36 to 98.42																		
2020harv vs 2020post1N		11.92	1.822 No		-12.31 to 36.04																		
2020harv vs 2020post1O		82.33	18.48 Yes	***	60.20 to 104.4																		
2020harv vs 2020post1P		21.84	3.798 No		-4.03 to 5.094																		
2020harv vs 2020post1Q		27.61	4.538 No		-4.476 to 40.74																		
2020harv vs 2020post1R		13.26	1.343 No		-8.868 to 35.39																		
2020harv vs 2020post1S		86.34	20.13 Yes	***	64.41 to 108.7																		
2020harv vs 2020post1T		75.16	17.47 Yes	***	52.74 to 97.00																		
2020post1 vs 2020post1A		21.34	3.593 No		-2.789 to 14.47																		
2020post1 vs 2020post1B		-80.09	-18.97 Yes	***	-102.21 to 57.96																		
2020post1 vs 2020post1C		34.86	8.366 No		-7.744 to 14.33																		
2020post1 vs 2020post1D		-60.12	-14.29 Yes	***	-82.45 to 38.13																		
2020post1 vs 2020post1E		3.993	0.0497 No		-26.11 to 38.14																		
2020post1 vs 2020post1F		-74.77	-17.73 Yes	***	-96.90 to 52.68																		
2020post1 vs 2020post1G		0.9409	0.0097 No		-21.79 to 22.47																		
2020post1 vs 2020post1H		-72.10	-17.13 Yes	***	-94.23 to 50.06																		
2020post1 vs 2020post1I		14.38	1.854 No		-7.545 to 36.71																		
2020post1 vs 2020post1J		-75.8	-17.89 Yes	***	-97.93 to 54.67																		
2020post1 vs 2020post1K		1.438	0.1889 No		-20.71 to 23.55																		
2020post1 vs 2020post1L		-62.86	-14.95 Yes	***	-85.09 to 45.83																		
2020post1 vs 2020post1M		7.861	1.343 No		-14.71 to 29.49																		
2020post1 vs 2020post1N		-96.81	-22.85 Yes	***	-118.16 to 74.68																		
2020post1 vs 2020post1O		-42.22	-12.21 Yes	***	-68.92 to 24.44																		
2020post1 vs 2020post1P		-61.61	-14.59 Yes	***	-83.74 to 38.48																		
2020post1 vs 2020post1Q		11.67	1.296 No		-12.46 to 35.80																		
2020post1 vs 2020post1R		86.51	22.88 Yes	***	64.36 to 108.6																		
2020post1 vs 2020post1S		4.923	1.068 No		-27.05 to 17.21																		
2020post1 vs 2020post1T		38.32	8.407 Yes	***	17.59 to 61.05																		
2020post1 vs 2020post1U		14.84	1.512 No		-7.289 to 36.97																		
2020post1 vs 2020post1V		72.47	16.26 Yes	***	50.24 to 94.7																		
2020post1 vs 2020post1W		0.9393	0.0093 No		-21.74 to 22.52																		
2020post1 vs 2020post1X		75.51	17.88 Yes	***	53.86 to 97.13																		
2020post1 vs 2020post1Y		2.077	0.3055 No		-13.51 to 25.11																		
2020post1 vs 2020post1Z		89.75	22.16 Yes	***	67.62 to 111.9																		
2020post2 vs 2020post2A		64.618	14.486 No		-12.70 to 11.50																		
2020post2 vs 2020post2B		75.58	18.24 Yes	***	54.45 to 96.71																		
2020post2 vs 2020post2C		12.14	1.296 No		-12.46 to 35.80																		
2020post2 vs 2020post2D		82.03	18.55 Yes	***	60.40 to 104.7																		
2020post2 vs 2020post2E		-21.65	-5.127 No		-43.76 to 18.623																		
2020post2 vs 2020post2F		27.19	4.607 No		-7.76 to 59.53																		
2020post2 vs 2020post2G		13.55	1.315 No		-8.579 to 35.68																		
2020post2 vs 2020post2H		86.83	20.10 Yes	***	64.71 to 108.0																		
2020post2 vs 2020post2I		-101.4	-24.02 Yes	***	-123.46 to 78.30																		
2020post2 vs 2020post2J		56.79	16.46 Yes	***	34.69 to 78.86																		
2020post2 vs 2020post2K		81.67	18.46 Yes	***	59.52 to 103.8																		
2020post2 vs 2020post2L		12.14	1.296 No		-12.46 to 35.80																		
2020post2 vs 2020post2M		82.03	18.55 Yes	***	60.40 to 104.7																		
2020post2 vs 2020post2N		-21.65	-5.127 No		-43.76 to 18.623																		
2020post2 vs 2020post2O		27.19	4.607 No		-7.76 to 59.53																		
2020post2 vs 2020post2P		13.55	1.315 No		-8.579 to 35.68																		

Two-way ANOVA - Compare all pairs: 2018DA				Two-way ANOVA of Data-Column: 2018 DA																
Parameter				Number of	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Table Analyzed	DA2018																			
One-way analysis of variance				Minimum	0.8	0.72	0.79	0.79	0.87	0.69	0.6	0.68	0.69	0.77	0.4531	0.3875	0.4018	0.43	0.6389	
P value				25% Perc	0.8	0.72	0.79	0.79	0.87	0.69	0.6	0.68	0.69	0.77	0.4531	0.3875	0.4018	0.43	0.6389	
P value summary				Median	0.8	0.75	0.82	0.81	0.89	0.71	0.61	0.69	0.707	0.81	0.4825	0.42	0.4127	0.44	0.667	
Are means signif. dif				75% Perc	0.84	0.77	0.82	0.89	0.95	0.72	0.63	0.71	0.763	0.86	0.4857	0.425	0.4564	0.51	0.745	
Number of groups				Maximum	0.84	0.77	0.82	0.89	0.95	0.72	0.63	0.71	0.763	0.86	0.4857	0.425	0.4564	0.51	0.745	
F				Mean	0.8133	0.7467	0.81	0.83	0.9033	0.7067	0.6133	0.6933	0.72	0.8133	0.4738	0.4108	0.4236	0.46	0.6836	
R squared				Std. Devial	0.02309	0.02517	0.01732	0.02592	0.04163	0.01528	0.01528	0.01528	0.0382	0.04509	0.01799	0.02036	0.02886	0.04359	0.05498	
ANOVA Table				Std. Error	0.01333	0.01453	0.01	0.03055	0.02404	0.008819	0.008819	0.008819	0.02205	0.02603	0.01038	0.01176	0.01666	0.02517	0.03174	
Treatment (between)				Lower 95%	0.756	0.6842	0.767	0.6986	0.7999	0.6687	0.5754	0.6554	0.6251	0.7013	0.4291	0.3803	0.3519	0.3517	0.5471	
Residual (within col)				Upper 95%	0.8707	0.8092	0.853	0.9614	1.007	0.7446	0.6513	0.7313	0.8149	0.9253	0.5184	0.4614	0.4953	0.5683	0.8202	
Total																				
Tukey's Multiple Com Mean Diff q				Significant Summary 95% CI of diff																
SP06 AI vs SP06 ED				0.06667	3.462	No	ns													
SP06 AI vs SP06 MD				0.003333	0.1731	No	ns													
SP06 AI vs SP06 LD				-0.01667	0.8655	No	ns													
SP06 AI vs SP06 DD				-0.09	4.674	No	ns													
SP06 AI vs SP10AI				0.1067	5.539	Yes	*													
SP06 AI vs SP10 ED				0.2	10.39	Yes	***													
SP06 AI vs SP10 MD				0.12	6.232	Yes	**													
SP06 AI vs SP10 LD				0.09333	4.847	No	ns													
SP06 AI vs SP10 DD				0	0	No	ns													
SP06 AI vs SP18 AI				0.3396	17.63	Yes	***													
SP06 AI vs SP18 ED				0.4025	20.9	Yes	***													
SP06 AI vs SP18 MD				0.3897	20.24	Yes	***													
SP06 AI vs SP18 LD				0.3533	18.35	Yes	***													
SP06 AI vs SP18 DD				0.1297	6.736	Yes	**													
SP06 ED vs SP06 MD				-0.06333	3.289	No	ns													
SP06 ED vs SP06 LD				-0.08333	4.328	No	ns													
SP06 ED vs SP06 DD				-0.1567	8.136	Yes	***													
SP06 ED vs SP10AI				0.04	2.077	No	ns													
SP06 ED vs SP10 ED				0.1333	6.924	Yes	**													
SP06 ED vs SP10 MD				0.05333	2.77	No	ns													
SP06 ED vs SP10 LD				0.02667	1.385	No	ns													
SP06 ED vs SP10 DD				-0.06667	3.462	No	ns													
SP06 ED vs SP18 AI				0.2729	14.17	Yes	***													
SP06 ED vs SP18 ED				0.3338	17.44	Yes	***													
SP06 ED vs SP18 MD				0.323	16.78	Yes	***													
SP06 ED vs SP18 LD				0.2867	14.89	Yes	***													
SP06 ED vs SP18 DD				0.06304	3.274	No	ns													
SP06 MD vs SP06 LD				-0.02	1.039	No	ns													
SP06 MD vs SP06 DD				-0.09333	4.847	No	ns													
SP06 MD vs SP10AI				0.1033	5.366	Yes	*													
SP06 MD vs SP10 ED				0.1967	10.21	Yes	***													
SP06 MD vs SP10 MD				0.1167	6.059	Yes	*													
SP06 MD vs SP10 LD				0.09	4.674	No	ns													
SP06 MD vs SP10 DD				-0.00333	0.1731	No	ns													
SP06 MD vs SP18 AI				0.3362	17.46	Yes	***													
SP06 MD vs SP18 ED				0.3992	20.73	Yes	***													
SP06 MD vs SP18 MD				0.3864	20.06	Yes	***													
SP06 MD vs SP18 LD				0.35	18.38	Yes	***													
SP06 MD vs SP18 DD				0.1264	6.563	Yes	**													
SP06 LD vs SP06 DD				-0.07333	3.808	No	ns													
SP06 LD vs SP10AI				0.1233	6.405	Yes	**													
SP06 LD vs SP10 ED				0.2167	11.25	Yes	***													
SP06 LD vs SP10 MD				0.1367	7.097	Yes	**													
SP06 LD vs SP10 LD				0.11	5.712	Yes	*													
SP06 LD vs SP10 DD				0.01667	0.8655	No	ns													
SP06 LD vs SP18 AI				0.3562	18.5	Yes	***													
SP06 LD vs SP18 ED				0.4192	21.77	Yes	***													
SP06 LD vs SP18 MD				0.4064	21.1	Yes	***													
SP06 LD vs SP18 LD				0.37	19.21	Yes	***													
SP06 LD vs SP18 DD				0.1464	7.601	Yes	***													
SP06 DD vs SP10AI				0.1967	10.21	Yes	***													
SP06 DD vs SP10 ED				0.29	15.06	Yes	***													
SP06 DD vs SP10 MD				0.21	10.91	Yes	***													
SP06 DD vs SP10 LD				0.1833	9.521	Yes	***													
SP06 DD vs SP10 DD				0.09	4.674	No	ns													
SP06 DD vs SP18 AI				0.4296	22.31	Yes	***													
SP06 DD vs SP18 ED				0.4925	25.58	Yes	***													
SP06 DD vs SP18 MD				0.4797	24.91	Yes	***													
SP06 DD vs SP18 LD				0.4433	23.02	Yes	***													
SP06 DD vs SP18 DD				0.2197	11.41	Yes	***													
SP10AI vs SP10 ED				0.09333	4.847	No	ns													
SP10AI vs SP10 MD				0.01333	0.6924	No	ns													
SP10AI vs SP10 LD				-0.01333	0.6924	No	ns													
SP10AI vs SP10 DD				-0.1067	5.539	Yes	*													
SP10AI vs SP18 AI				0.2329	12.1	Yes	***													
SP10AI vs SP18 ED				0.2958	15.36	Yes	***													
SP10AI vs SP18 MD				0.283	14.7	Yes	***													
SP10AI vs SP18 LD				0.2467	12.81	Yes	***													
SP10AI vs SP18 DD				0.02304	1.196	No	ns													
SP10 ED vs SP10 MD				-0.08	4.155	No	ns													
SP10 ED vs SP10 LD				-0.1067	5.539	Yes	*													
SP10 ED vs SP10 DD				-0.2	10.39	Yes	***													
SP10 ED vs SP18 AI				0.1396	7.248	Yes	**													
SP10 ED vs SP18 ED				0.2025	10.52	Yes	***													
SP10 ED vs SP18 MD				0.1897	9.851	Yes	***													
SP10 ED vs SP18 LD				0.1533	7.963	Yes	***													
SP10 ED vs SP18 DD				-0.0703	3.651	No	ns													
SP10 MD vs SP10 LD				-0.02667	1.385	No	ns													
SP10 MD vs SP10 DD				-0.12	6.232	Yes	**													
SP10 MD vs SP18 AI				0.2196	11.4	Yes	***													
SP10 MD vs SP18 ED				0.2925	14.62	Yes	***													
SP10 MD vs SP18 MD				0.2697	14.01	Yes	***													
SP10 MD vs SP18 LD				0.2333	12.12	Yes	***													
SP10 MD vs SP18 DD				0.009704	0.5039	No	ns													
SP10 LD vs SP10 DD				-0.09333	4.847	No	ns													
SP10 LD vs SP18 AI				0.2462	12.79	Yes	***													
SP10 LD vs SP18 ED				0.3092	16.06	Yes	***													
SP10 LD vs SP18 MD				0.2964	15.39	Yes	***													
SP10 LD vs SP18 LD				0.26	13.5	Yes	***													
SP10 LD vs SP18 DD				0.03637	1.889	No	ns													
SP10 DD vs SP18 AI				0.3396	17.63	Yes	***													
SP10 DD vs SP18 ED				0.4025	20.9	Yes	***													
SP10 DD vs SP18 MD				0.3897	20.24	Yes	***													
SP10 DD vs SP18 LD				0.3533	18.35	Yes	***													
SP10 DD vs SP18 DD				0.1297	6.736	Yes	**													
SP18 AI vs SP18 ED				0.06295	3.298	No	ns													
SP18 AI vs SP18 MD				0.0613	2.603	No	ns													
SP18 AI vs SP18 LD				0.01376	0.748	No	ns													
SP18 AI vs SP18 DD				-0.2099	10.9	Yes	***													
SP18 ED vs SP18 MD				-0.0128	0.6649	No	ns													
SP18 ED vs SP18 LD				-0.04917	2.553	No	ns													

1way ANOVA - Compare all pair: 2019DA				1way ANOVA of Data-Column: 2019 DA																	
Parameter	Table Analyzed			Number of																	
One-way analysis of variance	DA2019			3			3			3			3			3			3		
P value	< 0.0001			Minimum			0.9			0.86			0.86			0.76			0.78		
P value summary	***			25% Percr			0.9			0.86			0.86			0.76			0.78		
Are means signif. diff	Yes			Median			0.91			0.89			0.89			0.82			0.79		
Number of groups	15			75% Percr			0.92			0.9			0.89			0.84			0.82		
F	37.62			Maximum			0.92			0.9			0.89			0.84			0.82		
R squared	0.9461			Mean			0.91			0.8833			0.88			0.8067			0.7967		
ANOVA Table	SS			Std. Deviat			0.01			0.02082			0.01732			0.04163			0.02082		
Treatment (between	0.7643			Std. Error			0.005774			0.01202			0.01			0.02404			0.01202		
Residual (within colu	0.04353			Lower 95%			0.8852			0.8316			0.837			0.7032			0.745		
Total	0.8078			Upper 95%			0.9348			0.935			0.923			0.9101			0.8484		

Tukey's Multiple Comp	Mean Diff	q	Significan	Summary	95% CI of diff
SP09 AI vs SP09 ED	0.02667	1.212	No	ns	-0.08794 to 0.1413
SP09 AI vs SP09 MD	0.03	1.364	No	ns	-0.08461 to 0.1446
SP09 AI vs SP09 LD	0.1033	4.698	No	ns	-0.01127 to 0.2179
SP09 AI vs SP09 DD	0.1133	5.153	No	ns	-0.001274 to 0.2279
SP09 AI vs SP17AI	0.07667	3.486	No	DA	-0.03794 to 0.1913
SP09 AI vs SP17 ED	0.2033	9.245	Yes	***	0.08873 to 0.3179
SP09 AI vs SP17 MD	0.1933	8.791	Yes	***	0.07873 to 0.3079
SP09 AI vs SP17 LD	0.2	9.094	Yes	***	0.08539 to 0.3146
SP09 AI vs SP17 DD	0.1867	8.487	Yes	***	0.07206 to 0.3013
SP09 AI vs SP23 AI	0.2367	10.76	Yes	***	0.1221 to 0.3513
SP09 AI vs SP23 ED	0.3933	17.88	Yes	***	0.2787 to 0.5079
SP09 AI vs SP23 MD	0.3133	14.25	Yes	***	0.1987 to 0.4279
SP09 AI vs SP23 LD	0.3433	15.61	Yes	***	0.2287 to 0.4579
SP09 AI vs SP23 DD	0.43	19.55	Yes	***	0.3154 to 0.5446
SP09 ED vs SP09 MD	0.003333	0.1516	No	ns	-0.1113 to 0.1179
SP09 ED vs SP09 LD	0.07667	3.486	No	ns	-0.03794 to 0.1913
SP09 ED vs SP09 DD	0.08667	3.941	No	ns	-0.02794 to 0.2013
SP09 ED vs SP17AI	0.05	2.273	No	ns	-0.06461 to 0.1646
SP09 ED vs SP17 ED	0.1767	8.033	Yes	***	0.06206 to 0.2913
SP09 ED vs SP17 MD	0.1667	7.578	Yes	***	0.05206 to 0.2813
SP09 ED vs SP17 LD	0.1733	7.881	Yes	***	0.05873 to 0.2879
SP09 ED vs SP17 DD	0.16	7.275	Yes	**	0.04539 to 0.2746
SP09 ED vs SP23 AI	0.21	9.548	Yes	***	0.09539 to 0.3246
SP09 ED vs SP23 ED	0.3667	16.67	Yes	***	0.2521 to 0.4813
SP09 ED vs SP23 MD	0.2867	13.03	Yes	***	0.1721 to 0.4013
SP09 ED vs SP23 LD	0.3167	14.4	Yes	***	0.2021 to 0.4313
SP09 ED vs SP23 DD	0.4033	18.34	Yes	***	0.2887 to 0.5179
SP09 MD vs SP09 LD	0.07333	3.334	No	ns	-0.04127 to 0.1879
SP09 MD vs SP09 DD	0.08333	3.789	No	ns	-0.03127 to 0.1979
SP09 MD vs SP17AI	0.04667	2.122	No	ns	-0.06794 to 0.1613
SP09 MD vs SP17 ED	0.1733	7.881	Yes	***	0.05873 to 0.2879
SP09 MD vs SP17 MD	0.1633	7.427	Yes	***	0.04873 to 0.2779
SP09 MD vs SP17 LD	0.17	7.73	Yes	***	0.05539 to 0.2846
SP09 MD vs SP17 DD	0.1567	7.123	Yes	**	0.04206 to 0.2713
SP09 MD vs SP23 AI	0.2067	9.397	Yes	***	0.09206 to 0.3213
SP09 MD vs SP23 ED	0.3633	16.52	Yes	***	0.2487 to 0.4779
SP09 MD vs SP23 MD	0.2833	12.88	Yes	***	0.1687 to 0.3979
SP09 MD vs SP23 LD	0.3133	14.25	Yes	***	0.1987 to 0.4279
SP09 MD vs SP23 DD	0.4	18.10	Yes	***	0.2854 to 0.5146
SP09 LD vs SP09 DD	0.01	0.4547	No	ns	-0.1046 to 0.1246
SP09 LD vs SP17AI	-0.02667	1.212	No	ns	-0.1413 to 0.08794
SP09 LD vs SP17 ED	0.1	4.547	No	ns	-0.01461 to 0.2146
SP09 LD vs SP17 MD	0.09	4.092	No	ns	-0.02461 to 0.2046
SP09 LD vs SP17 LD	0.09667	4.395	No	ns	-0.01794 to 0.2113
SP09 LD vs SP17 DD	0.08333	3.789	No	ns	-0.03127 to 0.1979
SP09 LD vs SP23 AI	0.1333	6.062	Yes	*	0.01873 to 0.2479
SP09 LD vs SP23 ED	0.29	13.19	Yes	***	0.1754 to 0.4046
SP09 LD vs SP23 MD	0.21	9.548	Yes	***	0.09539 to 0.3246
SP09 LD vs SP23 LD	0.24	10.91	Yes	***	0.1254 to 0.3546
SP09 LD vs SP23 DD	0.3267	14.85	Yes	***	0.2121 to 0.4413
SP09 DD vs SP17AI	-0.03667	1.667	No	ns	-0.1513 to 0.07794
SP09 DD vs SP17 ED	0.09	4.092	No	ns	-0.02461 to 0.2046
SP09 DD vs SP17 MD	0.08	3.637	No	ns	-0.03461 to 0.1946
SP09 DD vs SP17 LD	0.08667	3.941	No	ns	-0.02794 to 0.2013
SP09 DD vs SP17 DD	0.07333	3.334	No	ns	-0.04127 to 0.1879
SP09 DD vs SP23 AI	0.1233	5.608	Yes	*	0.008726 to 0.2379
SP09 DD vs SP23 ED	0.28	12.73	Yes	***	0.1654 to 0.3946
SP09 DD vs SP23 MD	0.2	9.094	Yes	***	0.08539 to 0.3146
SP09 DD vs SP23 LD	0.23	10.46	Yes	***	0.1154 to 0.3446
SP09 DD vs SP23 DD	0.3167	14.4	Yes	***	0.2021 to 0.4313
SP17AI vs SP17 ED	0.1267	5.759	Yes	*	0.01206 to 0.2413
SP17AI vs SP17 MD	0.1167	5.305	Yes	*	0.002060 to 0.2313
SP17AI vs SP17 LD	0.1233	5.608	Yes	*	0.008726 to 0.2379
SP17AI vs SP17 DD	0.11	5.002	No	ns	-0.004607 to 0.2246
SP17AI vs SP23 AI	0.16	7.275	Yes	**	0.04539 to 0.2746
SP17AI vs SP23 ED	0.3167	14.4	Yes	***	0.2021 to 0.4313
SP17AI vs SP23 MD	0.2367	10.76	Yes	***	0.1221 to 0.3513
SP17AI vs SP23 LD	0.2667	12.12	Yes	***	0.1521 to 0.3813
SP17AI vs SP23 DD	0.3533	16.07	Yes	***	0.2387 to 0.4679
SP17 ED vs SP17 MD	-0.01	0.4547	No	ns	-0.1246 to 0.1046
SP17 ED vs SP17 LD	-0.00333	0.1516	No	ns	-0.1179 to 0.1113
SP17 ED vs SP17 DD	-0.01667	0.7578	No	ns	-0.1313 to 0.09794
SP17 ED vs SP23 AI	0.03333	1.516	No	ns	-0.08127 to 0.1479
SP17 ED vs SP23 ED	0.19	8.639	Yes	***	0.07539 to 0.3046
SP17 ED vs SP23 MD	0.11	5.002	No	ns	-0.004607 to 0.2246
SP17 ED vs SP23 LD	0.14	6.366	Yes	**	0.02539 to 0.2546
SP17 ED vs SP23 DD	0.2267	10.31	Yes	***	0.1121 to 0.3413
SP17 MD vs SP17 LD	0.006667	0.3031	No	ns	-0.1079 to 0.1213
SP17 MD vs SP17 DD	-0.00667	0.3031	No	ns	-0.1213 to 0.1079
SP17 MD vs SP23 AI	0.04333	1.97	No	ns	-0.07127 to 0.1579
SP17 MD vs SP23 ED	0.2	9.094	Yes	***	0.08539 to 0.3146
SP17 MD vs SP23 MD	0.12	5.456	Yes	*	0.005393 to 0.2346
SP17 MD vs SP23 LD	0.15	6.82	Yes	**	0.03539 to 0.2646
SP17 MD vs SP23 DD	0.2367	10.76	Yes	***	0.1221 to 0.3513
SP17 LD vs SP17 DD	-0.01333	0.6062	No	ns	-0.1279 to 0.1013
SP17 LD vs SP23 AI	0.03667	1.667	No	ns	-0.07794 to 0.1513
SP17 LD vs SP23 ED	0.1933	8.791	Yes	***	0.07873 to 0.3079
SP17 LD vs SP23 MD	0.1133	5.153	No	ns	-0.001274 to 0.2279
SP17 LD vs SP23 LD	0.1433	6.517	Yes	**	0.02873 to 0.2579
SP17 LD vs SP23 DD	0.23	10.46	Yes	***	0.1154 to 0.3446
SP17 DD vs SP23 AI	0.05	2.273	No	ns	-0.06461 to 0.1646
SP17 DD vs SP23 ED	0.2067	9.397	Yes	***	0.09206 to 0.3213
SP17 DD vs SP23 MD	0.1067	5.759	Yes	*	0.01206 to 0.2413
SP17 DD vs SP23 LD	0.1567	7.123	Yes	**	0.04206 to 0.2713
SP17 DD vs SP23 DD	0.2433	11.06	Yes	***	0.1287 to 0.3579
SP23 AI vs SP23 ED	0.1567	7.123	Yes	**	0.04206 to 0.2713
SP23 AI vs SP23 MD	0.07667	3.486	No	ns	-0.03794 to 0.1913
SP23 AI vs SP23 LD	0.1067	4.85	No	ns	-0.007940 to 0.2213
SP23 AI vs SP23 DD	0.1933	8.791	Yes	***	0.07873 to 0.3079
SP23 ED vs SP23 MD	-0.08	3.637	No	ns	-0.1946 to 0.03461
SP23 ED vs SP23 LD	-0.05	2.273	No	ns	-0.1646 to 0.06461
SP23 ED vs SP23 DD	0.03667	1.667	No	ns	-0.07794 to 0.1513
SP23 MD vs SP23 LD	0.03	1.364	No	ns	-0.08461 to 0.1446
SP23 MD vs SP23 DD	0.1167	5.305	Yes	*	0.002060 to 0.2313
SP23 LD vs SP23 DD	0.08667	3.941	No	ns	-0.02794 to 0.2013



Parameter				Number of	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Table Ana DMC19																			
One-way analysis of variance				Minimum	11.72	15.64	13.25	11.72	13.26	11.67	14.36	12.46	11.15	12.92	12.42	15.29	13.97	13.21	14.79
P value <0.0001				25% Pierce	11.72	15.64	13.25	11.72	13.26	11.67	14.36	12.46	11.15	12.92	12.42	15.29	13.97	13.21	14.79
P value s ***				Median	11.83	15.8	13.33	11.83	13.32	11.79	14.39	12.62	11.66	13.08	13.43	15.69	14.03	13.24	14.99
Are mean/Yes				75% Pierce	12.3	15.84	13.41	12.3	13.42	11.79	14.7	13.16	11.68	14.08	13.66	15.87	14.22	13.68	15.68
				Maximum	12.3	15.84	13.41	12.3	13.42	11.79	14.7	13.16	11.68	14.08	13.66	15.87	14.22	13.68	15.68
Number:	15																		
F	49.54			Mean	11.95	15.76	13.33	11.95	13.33	11.75	14.48	12.75	11.5	13.36	13.17	15.61	14.07	13.38	15.16
RSquare	0.9585			Std. Deviat	0.3076	0.1032	0.07815	0.3076	0.07897	0.0722	0.1884	0.3662	0.3033	0.6273	0.6604	0.2968	0.1306	0.2619	0.4668
				Std. Error	0.1776	0.05957	0.04512	0.1776	0.04559	0.04168	0.1088	0.2115	0.1751	0.3622	0.3813	0.1714	0.07542	0.1512	0.2695
ANOVA Te SS		df	MS																
Treatme	78.63	14	5.616	Lower 95%	11.19	15.51	13.14	11.19	13.14	11.57	14.01	11.84	10.74	11.8	11.53	14.88	13.75	12.73	14
Residual	3.401	30	0.1134	Upper 95%	12.71	16.02	13.53	12.71	13.53	11.93	14.95	13.66	12.25	14.92	14.81	16.35	14.4	14.03	16.32
Total	82.03	44																	

Tukey's M Mean Diff q

Significan Summary

95% CI of diff

D87-AI vs	-3.812	19.61	Yes	***	-4.224 to -2.799
D87-AI vs	-1.382	7.11	Yes	**	-2.395 to -0.3692
D87-AI vs	0	0	No	ns	-1.013 to 1.013
D87-AI vs	-1.382	7.11	Yes	**	-2.395 to -0.3692
D87-AI vs	0.2004	1.031	No	ns	-0.8125 to 1.213
D87-AI vs	-2.533	13.03	Yes	***	-3.546 to -1.520
D87-AI vs	-0.7995	4.113	No	ns	-1.812 to 0.2135
D87-AI vs	0.4545	2.338	No	ns	-0.584 to 1.467
D87-AI vs	-1.407	7.238	Yes	**	-2.400 to -0.3941
D87-AI vs	-1.218	6.266	Yes	**	-2.231 to -0.2050
D87-AI vs	-3.664	18.85	Yes	***	-4.677 to -2.651
D87-AI vs	-2.121	10.91	Yes	***	-3.134 to -1.108
D87-AI vs	-1.426	7.337	Yes	**	-2.439 to -0.4134
D87-AI vs	-3.206	16.49	Yes	***	-4.219 to -2.193
D87-ED v	2.429	12.5	Yes	***	1.416 to 3.442
D87-ED v	3.812	19.61	Yes	***	2.799 to 4.824
D87-ED v	2.429	12.5	Yes	***	1.416 to 3.442
D87-ED v	4.012	20.64	Yes	***	2.999 to 5.025
D87-ED v	1.729	6.579	Yes	**	0.7658 to 2.292
D87-ED v	3.012	15.5	Yes	***	1.999 to 4.025
D87-ED v	4.266	21.95	Yes	***	3.253 to 5.279
D87-ED v	2.405	12.37	Yes	***	1.392 to 3.417
D87-ED v	2.594	13.34	Yes	***	1.581 to 3.607
D87-ED v	0.1478	0.7603	No	ns	-0.8651 to 1.161
D87-ED v	1.69	8.695	Yes	***	0.6773 to 2.703
D87-ED v	2.385	12.27	Yes	***	1.372 to 3.398
D87-ED v	0.6656	3.115	No	ns	-0.4071 to 1.619
D87-MD v	1.382	7.11	Yes	**	0.3692 to 2.395
D87-MD v	0	0	No	ns	-1.013 to 1.013
D87-MD v	1.583	8.142	Yes	***	0.5697 to 2.596
D87-MD v	-1.151	5.919	Yes	*	-2.164 to -0.1377
D87-MD v	0.5827	2.998	No	ns	-0.4302 to 1.596
D87-MD v	1.837	9.449	Yes	***	0.8238 to 2.850
D87-MD v	-0.02483	0.1278	No	ns	-1.038 to 0.9881
D87-MD v	0.1642	0.8447	No	ns	-0.8887 to 1.177
D87-MD v	-2.282	11.74	Yes	***	-3.295 to -1.269
D87-MD v	-0.7391	3.802	No	ns	-1.752 to 0.2738
D87-MD v	-0.04413	0.227	No	ns	-1.057 to 0.9688
D87-MD v	-1.824	9.382	Yes	***	-2.837 to -0.8108
D87-ED v	-1.382	7.11	Yes	***	-2.395 to -0.3692
D87-ED v	0.2004	1.031	No	ns	-0.8125 to 1.213
D87-ED v	-2.533	13.03	Yes	***	-3.546 to -1.520
D87-ED v	-0.7995	4.113	No	ns	-1.812 to 0.2135
D87-ED v	0.4545	2.338	No	ns	-0.584 to 1.467
D87-ED v	-1.407	7.238	Yes	**	-2.400 to -0.3941
D87-ED v	-1.218	6.266	Yes	**	-2.231 to -0.2050
D87-ED v	-3.664	18.85	Yes	***	-4.677 to -2.651
D87-ED v	-2.121	10.91	Yes	***	-3.134 to -1.108
D87-ED v	-1.426	7.337	Yes	**	-2.439 to -0.4134
D87-ED v	-3.206	16.49	Yes	***	-4.219 to -2.193
D87-DD v	1.583	8.142	Yes	***	0.5697 to 2.596
D87-DD v	-1.151	5.919	Yes	*	-2.164 to -0.1377
D87-DD v	0.5827	2.998	No	ns	-0.4302 to 1.596
D87-DD v	1.837	9.449	Yes	***	0.8238 to 2.850
D87-DD v	-0.02483	0.1278	No	ns	-1.038 to 0.9881
D87-DD v	0.1642	0.8447	No	ns	-0.8887 to 1.177
D87-DD v	-2.282	11.74	Yes	***	-3.295 to -1.269
D87-DD v	-0.7391	3.802	No	ns	-1.752 to 0.2738
D87-DD v	-0.04413	0.227	No	ns	-1.057 to 0.9688
D87-DD v	-1.824	9.382	Yes	***	-2.837 to -0.8108
D15-AI v	-2.733	14.06	Yes	***	-3.746 to -1.720
D15-AI v	-0.9999	5.144	No	ns	-2.013 to 0.01304
D15-AI v	0.2541	1.307	No	ns	-0.7588 to 1.267
D15-AI v	-1.607	8.269	Yes	***	-2.620 to -0.5945
D15-AI v	-1.418	7.297	Yes	**	-2.431 to -0.4055
D15-AI v	-3.864	19.88	Yes	***	-4.877 to -2.851
D15-AI v	-2.322	11.94	Yes	***	-3.335 to -1.309
D15-AI v	-1.627	8.369	Yes	***	-2.640 to -0.6138
D15-AI v	-3.406	17.52	Yes	***	-4.419 to -2.393
D15-ED	1.733	8.917	Yes	***	0.7204 to 2.746
D15-ED	2.987	15.37	Yes	***	1.974 to 4.000
D15-ED	1.126	5.791	Yes	*	0.1128 to 2.139
D15-ED	1.315	6.764	Yes	**	0.3019 to 2.328
D15-ED	-1.131	5.818	Yes	*	-2.144 to -0.1180
D15-ED	0.4115	2.117	No	ns	-0.6014 to 1.424
D15-ED	1.106	5.692	Yes	*	0.09352 to 2.119
D15-ED	-0.6732	3.463	No	ns	-1.686 to 0.3398
D15-MD	1.254	6.451	Yes	**	0.2411 to 2.267
D15-MD	-0.6075	3.125	No	ns	-1.620 to 0.4054
D15-MD	-0.4085	2.153	No	ns	-1.431 to 0.5994
D15-MD	-3.864	14.73	Yes	***	-4.877 to -2.851
D15-MD	-1.322	6.8	Yes	**	-2.335 to -0.3089
D15-MD	-0.6268	3.225	No	ns	-1.640 to 0.3861
D15-MD	-2.406	12.38	Yes	***	-3.419 to -1.394
D15-LD	-1.862	9.576	Yes	***	-2.874 to -0.8486
D15-LD	-1.673	8.604	Yes	***	-2.685 to -0.6596
D15-LD	-4.118	21.19	Yes	***	-5.131 to -3.105
D15-LD	-2.576	13.25	Yes	***	-3.589 to -1.563
D15-LD	-1.881	9.676	Yes	***	-2.894 to -0.8679
D15-LD	-3.66	18.83	Yes	***	-4.673 to -2.648
D15-DD	0.189	0.9725	No	ns	-0.8239 to 1.202
D15-DD	-2.257	11.61	Yes	***	-3.270 to -1.244
D15-DD	-0.7043	3.674	No	ns	-1.727 to 0.2987
D15-DD	-0.0193	0.09928	No	ns	-1.032 to 0.9936
D15-DD	-1.799	9.254	Yes	***	-2.812 to -0.7860
D136-AI v	-2.446	12.58	Yes	***	-3.459 to -1.433
D136-AI v	-0.9033	4.647	No	ns	-1.916 to 0.1096
D136-AI v	-0.2083	1.072	No	ns	-1.221 to 0.8046
D136-AI v	-1.988	10.23	Yes	***	-3.001 to -0.9750
D136-ED	1.542	7.935	Yes	***	0.5295 to 2.555
D136-ED	2.237	11.51	Yes	***	1.224 to 3.250
D136-ED	0.4578	2.355	No	ns	-0.5551 to 1.471
D136-MD	0.695	3.575	No	ns	-0.3180 to 1.708
D136-MD	-1.085	5.58	Yes	*	-2.098 to -0.0712
D136-LD	-1.78	9.155	Yes	***	-2.793 to -0.7667

DMC19

