

Comparison of Light Emitting Diode and High Pressure Sodium Light Treatment for Hydroponics Growth of Boston Lettuce

Summary Report

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replications and 0.452g/mol/m² and 0.142g/mol/m² for LED light treatment replications, respectively.

S-2 Dry matter produced by mole of light					
	<i>Dry matter (D.M)</i>	<i>D.M. par mètre carré</i>	<i>D.M. produced by Artificial lighting</i>	<i>D.M. per mole of Artificial lighting</i>	<i>Total D.M. per total moles</i>
<i>Units</i>	<i>(g)</i>	<i>(g/m²)</i>	<i>(g/m²)</i>	<i>(g/mole/m²)</i>	<i>(g/mole/m²)</i>
Plot 1, Optimal HPS Near	7,1	172,0	38,19	0,57	0,57
Plot 2, Optimal LED Near	5,8	140,5	15,81	0,45	0,45
Plot 3, Regular HPS	5,7	138,1	6,22	0,49	0,48
Plot 4, Optimal LED Far	5,9	143,0	16,23	0,45	0,45
Plot 5, Optimal HPS Far	5,4	130,8	25,97	0,34	0,34
Plot 6, Control	4,8	116,3	0,81	0,32	0,38

Data in this table has not been normalised and may differ from data in the texte. Between run 1 and 2 HPS regular and control plots were exchanged. For comparison needs, in this table, all the HPS regular data are in plot 3 and control data in plot 6. DM are the averages extract from **Table A4** (1st run) and **A8** (run 2) mean. DM/m² is the DM multiplied by the number of plant per plot divided by the surface. DM produced by artificial lighting is the D.M. per m² by % of artificial light in both runs, data extracted from **Table B1** and **B7** for HPS and **B2** and **B8** for LED lights.

Table S-2 indicates that the actual effect on plant mass production was statistically identical between both light treatments. Table S-3 is of the ratios for each light treatment replications and shows the similarity between dry ratios for both experimental replications. Plant dry ratios are typically more stable than wet ratios and provide a better understanding of the effect of light on plant growth. Table S-4 summarises the weather and irradiance data for the entire experiment.

S-3 Normalized Ratio of Plant Mass versus Artificial Light per plant			
	<i>Wet ratio per percent</i>	<i>Dry ratio percent</i>	<i>Supplement light / total light</i>
<i>Units</i>	<i>(g/moles/plant)</i>	<i>g/moles/plant</i>	<i>%</i>
HPS average - run 1	11,41	0,54	21,10%
HPS average - run 2	4,95	0,35	20,90%
LED average - run 1	10,96	0,59	10,80%
LED average - run 2	3,45	0,26	11,80%
Regular - run 1	11,56	0,65	4,80%
Regular - run 2	6,13	0,34	4,20%
Control - run 1	8,74	0,45	0,30%
Control - run 2	3,04	0,23	1,10%

Wet and dry plant mass in grams versus artificial light in moles per plant; normalized by percentage of supplemental light versus total light. All the data for this table has been extracted from Table 3 of the final report.

