

EFFECT OF CYTOKININS ON YIELD OF ICEBERG LETTUCE

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ABSTRACT

The effect of field applications of cytokinin solutions (5 ppm) on fresh weight and size of iceberg lettuce was investigated.

A first trial included 6- benzylaminopurine (6-BAP) and kinetin applied three times after head formation or once two weeks prior to harvest. All four cytokinin treatments produced larger heads than the control. Lettuce treated with 6-BAP once two weeks before harvest and those treated with kinetin three times before harvest were heavier than the control. The cytokinins had no significant effect on whole plant weight (Table 1).

Table 1: Effect of Cytokinins on Yield of Iceberg Lettuce

Treatment	Whole Plant Weight (g) <i>ns</i>	Head Weight (g)	Head Diameter (cm)
Control	1147.44	921.64 b	13.47 d
6- BAP- 3 applications after head formation	1225.78	972.33 ab	13.95 ab
6-BAP-2 weeks before harvest	1258.04	995.37 a	14.0 a
Kinetin- 3 applications after head formation	1207.35	976.94 a	13.82 abc
Kinetin – 2 weeks before harvest	1198.13	953.90 ab	13.88 abc

ns indicates no significant differences among values in the same column; z Values followed by different letters in the same column are significantly different (P<0.05).

Table 2: Effect of HappyGro® on Yield of Iceberg Lettuce

Treatment	Whole Plant Weight (g) <i>ns</i>	Head Weight (g)	Head Diameter (cm)
Control	1162.95	899.77 b	13.62 b
HappyGro-3 applications after head formation	1152.95	957.71 a	14.13 a
HappyGro-7 days before harvest	1143.23	933.76 ab	14.06 a

ns indicates no significant differences among values in the same column; z Values followed by different letters in the same column are significantly different (P<0.05).

A second trial was conducted to evaluate the effect of HappyGro®, a commercial kinetin and vitamin formula, on weight and size of lettuce at harvest. Lettuce heads treated with HappyGro® three times before harvest were 6% heavier and 4% larger than the control. HappyGro® applied once before harvest also produced larger heads than the control. The whole plant weight was similar for all treatments (Table 2).

These results suggest that cytokinins may be a viable approach to increase weight and size of heads of iceberg lettuce if the chemicals were approved for such use.

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