

Butterhead Lettuce

(*Lactuca sativa* var. *capitata*)



Phosphorus Deficiency

Phosphorus is a mobile element. Initial symptoms of phosphorus deficiency begin with the plant appearing darker green overall, with a reduction in plant growth, leaf size, and stem thickness.

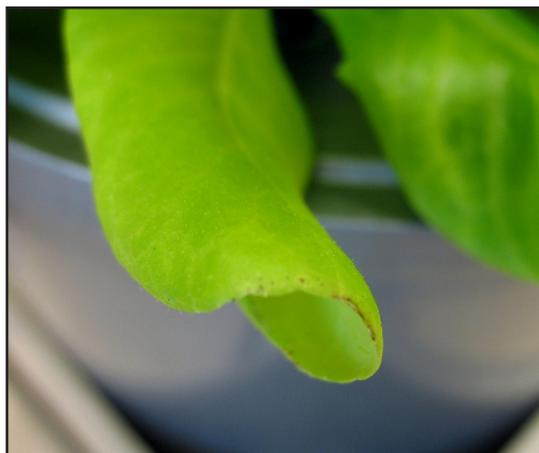
Expected symptoms include:

- Irregular spotting along leaf margins, turning necrotic
- Purplish to red pigmentation on leaf margins, older leaves, or stems
- Stunting

	Phosphorus (% dry weight)	
	Control plants	P-deficient plants
New leaves	0.79- 0.97	0.14- 0.18
Old leaves	0.64- 0.77	0.11- 0.13
Roots	0.64-0.95	0.13- 0.17



Healthy, phosphorus-supplied plant.



Marginal spotting on older leaves along the leaf margin.



Irregular brown spots will form on leaf margins during early stages of phosphorus deficiency.

For Further Reference:

Cornell University Lettuce Handbook:
www.cornellcea.com/Lettuce_Handbook/introduction.htm

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During moderate phosphorus deficiency, the appearance of necrotic brown spots persists and moves beyond leaf margins.



Severe phosphorus deficiency leads to severely stunted plants and leaf death of oldest leaves.

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