

# Butterhead Lettuce

## (*Lactuca sativa var. capitata*)



### Nitrogen Deficiency

Nitrogen is a mobile element. Symptoms of nitrogen deficiency will appear first on the oldest leaves, and as the deficiency becomes more severe, will later appear on the younger leaves.

Expected symptoms include:

- Leaves turn lighter green, then yellow and chlorotic
- Loss of mass and stunting
- Leaf necrosis in advanced stages

	Nitrogen (% dry weight)	
	Control plants	N-deficient plants
New leaves	5.76- 6.46	2.15- 2.98
Old leaves	5.88- 6.45	1.88- 2.26
Roots	4.57- 4.97	1.63- 1.86



Healthy, nitrogen-supplied plant.



Early symptoms of nitrogen deficiency are exhibited as chlorosis in the oldest (lowest) leaves.



Nitrogen-deficient mature lettuce is stunted and generally chlorotic overall.

### For Further Reference:

Cornell University Lettuce Handbook:  
[www.cornellcea.com/Lettuce\\_Handbook/introduction.htm](http://www.cornellcea.com/Lettuce_Handbook/introduction.htm)

For more information, contact: Jonathan Frantz,  
[jonathan.frantz@ars.usda.gov](mailto:jonathan.frantz@ars.usda.gov),  
 USDA-ARS-ATRU, 2801 W. Bancroft St.,  
 MS #604, Toledo, OH, 43606