

**Fertility Injury Symptoms**  
or  
**Nutrient Deficiency/Toxicity Symptoms in Plants**

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Diagnosing a nutrient deficiency, toxicity or fertilizer injury symptom in plants requires keen visual examination as well as an open mind in searching out possible causes. The first consideration should be the size of the area affected, is it a large area of several acres, a small area of an acre or less having several trees or hundreds of plants or is it a very small area of several square feet having a single tree or perhaps 2-3 alfalfa or other crop plants? The next step is to view individual trees or plants, beginning with an observation of the whole plant and then selected parts—the leaves, stems and branches that are affected. Are the leaves in the top of the tree affected more than those on the lower branches? Likewise, in field crops or smaller plants, are the younger leaves or older leaves most affected and show the more severe symptoms. The next level of observation involves the part of the leaf that is most affected. Is the whole leaf generally yellow or chlorotic, or are the margins or center beginning at the tip of the leaf most affected? Is there some type of interveinal chlorosis or yellowing of the leaf that is showing most prominently? Is there a change in color of the leaf part or even death of affected leaf area occurring as the leaves mature? The presentation will involve a discussion of some of these aspects of the development of different nutrient deficiencies, toxicity of several elements or nutrients and some fertilizer responses as they affect a number of plants. There are a number of references including the Western Fertilizer Handbook, 9<sup>th</sup> Ed., 2002. Interstate Publishers, Inc., Danville, IL. which can be utilized to identify some of the plant symptoms found in the field. Perhaps the most important step in the process of proper diagnosing of plant symptoms is the sampling and chemical analysis of affected and non-affected plant tissue for all the possible nutrients or elements that might be present in deficient or toxic concentrations.