

CCS Pipeline™



FOLIAR APPLICATION OF MICRO-NUTRIENTS IF SOIL LEVEL IS LOW

High rainfall could lead to a excess moisture diluting the soil solution, therefore, it is a good idea to review how crops respond to foliar applications of micro-nutrients.

The attached list has either: L, M, H or nothing. The blank space means no response has been observed when application of a micro-nutrient foliarly has been made when the level in the soil is Low. L = Low response, M = Moderate response and H = High response.

EMPHASIZE THAT THE LIST IS BASED ON LOW SOIL LEVELS NOT LOW TISSUE LEVELS. ALSO REMEMBER THAT FOLIAR APPLICATION OF SOME NUTRIENTS CAN BE TOXIC TO SOME CROPS, I.E. BORON CAN BE VERY TOXIC TO SNAP BEANS.

A tissue test showing low levels is different than a soil test. If the tissue test indicates a nutrient (micro-nutrient) is low, a foliar application can make a difference. Also note that Macro-nutrients; Calcium, Sulfur, Magnesium, Potassium, Phosphorus and Nitrogen are not included in this scenario. Low soil levels of these nutrients usually have to be corrected by pre-plant, side-dress and can be augmented with foliar application, however, for macro-nutrients soil application/balance is always the best way to prevent problems. Some exceptions would be: MKP for stressed plants, Foliar Calcium for BER (Blossom End Rot) issues and Nitrogen (Urea or other form) to stimulate nutrient uptake and/or fruit set.

Sulfur is usually not a problem that we correct foliarly, however, if a sulfur deficiency exists, application of 2 - 4 lbs/ac of a foliar grade sulfur material will usually help solve the problem. The Thio-Sulfate materials (Ca^{++} , NH_4^+ & K^+) are good sources for soil relief). If sulfur is low and other micro-nutrients are also low, it is recommended to use sulfate form, i.e. Magnesium, Manganese, Iron and Zinc sulfate. If sulfate forms are used then be sure to include at least 1 - 2% N from low biuret Urea in the tank to facilitate uptake. Carbolyte inclusion will also help.

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RESPONSE OF CROPS TO MICRONUTRIENT FERTILIZERS

CROP	Mn	B	Cu	Zn	Mo	Fe
Alfalfa	L	H	H	L	M	
Barley	M	L	M	L	L	M
Blueberry	L	L	L	L	L	M
Broccoli	M	H	M		H	H
Cabbage	M	M	M	L	M	M
Cauliflower	M	H	M		H	H
Celery	M	H	M		L	
Corn	M	L	M	H	L	M
Cucumber	H	L	M			
Dry Beans	H	L	L	H	M	H
Grass	M	L	L	L	M	H
Lettuce	H	M	H	M	H	
Oats	H	L	H	L	L	M
Onion	H	L	H	H	H	
Pea	H	L	L	L	M	
Pepper	M	L	L		M	
Potato	H	L	L	M	L	
Radish	H	M	M	M	M	
Rye	L	L	L	L	L	
Snap Bean	H	L	L	H	M	H
Sorghum	H	L	M	H	L	H
Soybean	H	L	L	M	M	H
Spinach	H	M	H	H	H	H
Sudangrass	H	L	H	M	L	H
Sweet Corn	H	M	M	H	L	M
Table Beets	H	H	H	M	H	H
Tomato	M	M	H	M	M	H
Turnip	M	H	M		M	
Wheat	H	L	H	L	L	L

The response intensity is based on soil levels being low. If the soil level is low in the subject micronutrient and the rating is L, this indicates that the crop will probably not respond to foliar treatment. If the tissue test indicates a deficiency apply the nutrient to the crop. Some crops have a low tolerance for specific nutrients and they can become toxic. An example is snap beans and Boron. Be specially careful when making an application foliarly on crops with a "L" rating. Crops with blue background are those we typically find in the S.E. in our market area.

SITES OF NUTRIENT DEFICIENCIES IN PLANTS

