



Useful Garden Notes, Number 1

## Broccoli, Beets, and Boron

Soils in the region where I live are short on the mineral boron. The University of Georgia soil lab doesn't measure boron levels in its routine test for garden soil, but when garden soil test results come back from the UGA soil lab, near the end of the report, in tiny print, is a note about adding boron to the soil for broccoli and beets. The recommendation is for one tablespoon of boron per 100 feet of row or per 100 square feet.

Boron, an essential micronutrient for plant growth, tends to leach out of soils that receive a lot of rainfall, and the metro-Atlanta area usually (drought years excepted) gets at least 50 inches of rain each year. That counts as a lot.

The good news is that organic matter helps hold boron -- and other nutrients -- in the soil. This means that gardens that get regular additions of organic matter, like composts, are less likely to be deficient.

However, some plants need more boron than others. Broccoli and beets are two that need more, but the boron page of the [Agronomic Library for Spectrum Analytics](#) has a longer list of high-boron users, referred to as "high response crops," and the list includes other root vegetables in addition to home-garden staples like lettuce and corn. The page also includes a table of deficiency symptoms that might help a gardener figure out whether low boron is a problem in his or her garden.

I'm thinking about this now because I planted the carrot and beet seeds yesterday. Both are on the "high response crops" list, so I will be adding a tiny amount to their space tomorrow (it is raining today).

Boron isn't present in the usual NPK chemical-fertilizer formulations (which I will not be using anyway), but it is available in the laundry-soap aisles of many grocery stores, as 20 Mule Team Borax. I never plant as much as 100 square feet of any one crop, so I adjust the amount of borax to match the approximate square footage that I've planted.

I usually add the borax to a full watering can and try to move the can smoothly over the planted area for even dispersal. It is also possible to just sprinkle the dry powder over the area, but any wind makes even distribution difficult.

I only add boron to the areas that are planted with "high response crops" each year, rather than the entire garden, because I don't want to add too much. The problem with micronutrients is right in their category name, the prefix "micro." They are useful only when present in very small amounts. Too much is as big a problem as too little, and getting rid of what's already been added is much harder than adding more.

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Amy Whitney  
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Revised from the original first published  
by Amy Whitney in March, 2010  
at [atlantaveggies.blogspot.com](http://atlantaveggies.blogspot.com)