

Micronutrients In Manure

Besides containing significant amounts of nitrogen, phosphorous and potassium, manure is a good source of micronutrients. The majority of the time though manure nutrient crediting focuses only on these three nutrients.

There is good reasoning for this. Micronutrients are needed in very small supply by plants. The addition of micronutrients is only cost-effective when the soil test is low, when verified deficiency symptoms appear, or when certain crops have a high requirement for micronutrients.

With typical manure application rates, almost all the micronutrients that may be deficient in WI soils are supplied. The two micronutrients that may not be supplied fully by manure are boron and zinc. WI soils are naturally low in boron, alfalfa has a high requirement for boron and zinc deficiencies have been documented on sandy soils. Therefore, University of WI fertility recommendations include applications of boron on alfalfa and zinc on corn grown on sandy soils.

In summary, if you are applying manure throughout your crop rotation or just during the corn portion, all plant micronutrient needs are satisfied except for boron on alfalfa. If you have sandy soils, you may want to test for zinc with a soil test and a concurrent tissue test.

Table 1. Micronutrient Content of Dairy Manure

Nutrient	Lb per ton	Lb per 1000 gal
<i>Calcium</i>	5	14
<i>Magnesium</i>	2	6
<i>Sulfur</i>	1.5	4.2
<i>Iron</i>	0.1	0.3
<i>Boron</i>	.01	.03
<i>Copper</i>	.01	.03
<i>Manganese</i>	.03	.08
<i>Zinc</i>	.04	.11