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Problem: Iron Chlorosis of Blueberries

Plants Affected: Numerous plants but this publication focused on blueberries.

Description: Affected leaves turn a yellowish color while the leaf veins remain a dark green. Iron chlorosis is caused by the plant not being able to obtain the iron it needs. Iron is needed for the production of chlorophyll and therefore, a lack of iron results in a loss of the green color in the leaves. In severe cases, leaf color may change from yellow to white to brown. Blueberries are especially susceptible because they require an acid pH (4.8 – 5.2 is best).

Recommendations: Though there is usually plenty of mineral iron in our Kansas soils, it becomes progressively more unavailable for plant use as the pH rises above neutral. If the pH of your soil is above the recommended range, use sulfur to acidify it and bring the pH down. However, as long as solid lime is present in the soil, it is not economically possible to decrease the pH because all the calcium carbonate must be neutralized by sulfur before the pH changes long-term. In such soils, consider planting your blueberries in raised beds and bringing in good topsoil with about 1/3 of the mix being sphagnum peat moss.

Treat soil before planting with sulfur during the fall or early spring with the fall being preferred so that the sulfur has the winter to react and lower the soil pH. Powdered (wettable) sulfur is the most common acidifying agent. Pelletized wettable sulfur is easier to apply than the dust though either will work. It should be thoroughly incorporated into the soil to a depth of 6 inches. The quantity of sulfur needed depends on initial pH and soil type. A sandy soil usually requires about 2/3 lbs sulfur per 100 square feet (300 lbs/treated acre) to lower the soil pH by one unit (i.e. 6.0 to 5.0). In contrast, a medium textured soil such as a silt loam requires about 1-1/8 lbs sulfur per 100 square feet (500 lbs/treated acre), while a heavy clay-type soil requires about 1-3/4 lbs sulfur per 100 square feet (750 lbs/treated acre) to lower soil pH by one unit.

Blueberries that have already been planted should not have over ½ pound of sulfur per 100 square feet applied at one time. Apply ½ pound of sulfur per 100 square feet each March and September until the total amount has been applied.

Chelated iron products may be applied to the soil to provide iron in a plant available form. However, high pH soils may prevent most iron chelates from working. For any soil with a pH above 7.2, use an iron chelate with EDDHA. Such products include Sequestar 6%, Sprint 138 and Millers FerriPlus.

References:

1. Growing Blueberries in Missouri, pg. 3, Missouri State University, Bulletin 44

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