

## EPSOM SALTS AND VEGGIES

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Now and then gardeners ask about using Epsom salts in gardens, especially for growing tomatoes and peppers. A key point to keep in mind is most soil amendments should not be incorporated without first taking a soil test.

Epsom salts is magnesium sulfate. It is a source of the nutrient magnesium which plants do need. However, magnesium is unlikely to be deficient in Nebraska soils and the addition of magnesium to our soils is rarely, if ever, needed.

Magnesium also does not tie up in high pH soils to make it less available to plants. The availability of nutrients for plant uptake is affected by soil pH. Some nutrients are readily available at an acid pH, like iron, and others at a neutral or alkaline pH.

Magnesium is readily available at a slightly acid or slightly alkaline pH which Nebraska soils tend to have. In highly acid pH soils common on the east coast, magnesium can become deficient in plants; hence some literature does talk about using Epsom salts as a magnesium source.

The best reason not to use Epsom salts on lawns and gardens in our area is because it is not needed. Another good reason not to use Epsom salt is it readily leaches through soil and could pollute water resources.

When I share the above answer with gardeners, they often ask if Epsom salts will hurt plants if they do not need it. While magnesium toxicity in plants is rare, it is not impossible. Adding a soil amendment without knowing if it is needed is not a good practice and could be harmful.

Other than organic matter, such as compost, it is wise to have a soil test done before incorporating most soil amendments.

In years past, the University had a soils lab where soil samples could be tested. This is no longer the case. We now recommend using private labs in Nebraska which can be found on the Internet.

Along with Epsom salts, iron and gypsum are two other products asked about. Gypsum is only effective as a soil amendment under very specific conditions. Iron is a nutrient that is often needed in Nebraska.

While magnesium does not tie up in alkaline soils, iron does become tied up in our higher pH soils. An iron deficiency is easy to diagnose. The signs are pale green to yellow leaves with darker green veins.

If these signs are noticed, iron can be applied to soils or to plants without a soil test. However, read and follow label directions as iron will burn plants if misapplied.

Gypsum is sold as an amendment that will loosen hard soil. This is only true in well drained soils that are high in sodium. If a soil is not high in sodium, then gypsum is an ineffective amendment and may cause other soil issues.

One of the best way to loosen hard soils and improve drainage is with the use of organic matter incorporated to a depth of 6 to 8 inches.