

MONTHLY TIPS

From Boron to Zinc: What Your Plants Need and Why

Because plants need nitrogen, phosphorus, and potassium in large amounts, these elements are known as primary macronutrients. Plants require smaller amounts of the secondary macronutrients—sulfur, calcium, and magnesium. Iron, manganese, zinc, copper, chlorine, boron, and molybdenum are still essential for growth but are required in even smaller amounts. They are often referred to as micronutrients or trace elements. Each of these macro- and micronutrients serves specific purposes for our plants, and, for plants grown indoors, it's entirely up to us to make sure we supply them.

Nitrogen (N)

Nitrogen is always listed first in the fertilizer grade (or N-P-K ratio) on nutrient product bags, boxes, and bottles because it is one of the biggies. (For example, if the ratio on your nutrient package reads “11-13-3”, that means it contains 11 percent nitrogen.) Plants use nitrogen to produce new, green growth.

Phosphorus (P)

Phosphorus is listed second in the N-P-K ratio. (That nutrient package with the “11-13-3” ratio contains 13 percent phosphorus.) Phosphorus is essential to plant fruiting and flowering because it promotes root growth. When you supplement the amount of phosphorus your flowering plants get, you'll likely notice more blooms and more vigorous growth overall.

Potassium (K)

Potassium takes up the last spot in the N-P-K ratio. (So an “11-13-3” nutrient ratio contains 3 percent potassium.) Because plants use potassium to build cells and tissue, supplementing this nutrient contributes to overall plant hardiness. Stronger, more durable plants are usually more tolerant of temperature extremes and are more pest- and disease-resistant.

Sulfur (S)

One of the secondary macronutrients, sulfur helps plants maintain their dark green color. Mainly, plants use sulfur to create essential proteins.

Calcium (Ca)

As with sulfur, plants also need calcium to make proteins. Calcium promotes new root growth and facilitates overall plant vigor.

Magnesium (Mg)

Even though it's classified as a secondary macronutrient, magnesium is still critical for growth. Without magnesium, plants can't use light to make food! Plants also need magnesium to be able to take in their other essential nutrients and to make seeds.

Iron (Fe)

Iron makes for healthy, dark green growth. As with magnesium, iron is essential for photosynthesis. Plants must have iron in order to produce chlorophyll.

Manganese (Mn)

In short, manganese makes things happen. Manganese is necessary for chlorophyll formation, and without it, plants wouldn't be able to carry out essential cellular functions.

Copper (Cu)

Copper contributes to many natural processes including plant metabolism and reproduction.

Zinc (Zn)

Plants use zinc in conjunction with other elements to carry out many natural processes including forming chlorophyll.

MONTHLY TIPS (CONT'D)

Boron (B)

Plants don't need much of it, but boron does facilitate nutrient uptake and it helps plants to grow new tissue.

Molybdenum (Mo)

Plants need molybdenum to produce essential proteins.

Finally, to help your plants make the best use of the nutrients you offer them, make sure the nutrient solution is well aerated and not too hot or too cold. A good temperature range for most solutions is 60 to 65 degrees F. Even though they will absorb the nutrients at different rates according to what they need, you can avoid imbalances by offering your plants fresh nutrient solution every week or so.