



FERTILIZER AND NUTRIENT GUIDE

Major Nutrients

- ❑ Nitrogen
 - Nitrogen (N) is a necessary part of all proteins, enzymes and metabolic processes involved in the synthesis and transfer of energy
 - Nitrogen is a part of chlorophyll, the green pigment of the plant that is responsible for photosynthesis
 - Helps plants with rapid growth, increasing seed and fruit production and improving the quality of leaf and forage crops
 - Nitrogen often comes from fertilizer application and from the air (*legumes get their N from the atmosphere*)
- ❑ Phosphorus
 - Like nitrogen, phosphorus (P) is an essential part of the process of photosynthesis
 - Encourages blooming and root growth
 - Helps with the transformation of solar energy into chemical energy; proper plant maturation; withstanding stress
 - Usually applied at time of seeding or sod installation
- ❑ Potassium
 - Potassium (K) is absorbed by plants in larger amounts than any other mineral element except nitrogen and, in some cases, calcium
 - Helps in the building of protein, photosynthesis, and reduction of diseases
 - Promotes strong cellular walls to resist heat, drought, and cold stresses

Secondary Nutrients

- ❑ Calcium
 - Calcium, an essential part of plant cell wall structure, provides for normal transport and retention of other elements as well as strength in the plant tissue
- ❑ Sulfur
 - Essential plant food for production of protein
 - Promotes activity and development of enzymes and vitamins
 - Helps in chlorophyll formation
 - Improves root growth and seed production
 - Helps with vigorous plant growth and resistance to cold
- ❑ Magnesium
 - Magnesium is part of the chlorophyll in all green plants and essential for photosynthesis
 - It also helps activate many plant enzymes needed for growth

Micro Nutrients

- ❑ Iron
 - Essential for formation of chlorophyll, maintains dark green vegetation
- ❑ Manganese, Zinc, Copper, Molybdenum, Sodium, Silicon, Cobalt, and more
 - Usually available from native soil; specific deficiencies can be limiting factors in growth, vigor, or color



Organic Soil Treatment –

- ❑ Apply “live” organic amendments and humates along with fertilization in order to increase the uptake and efficiency of nutrients
- ❑ Use organic treatments to improve water penetration and plant usage and to protect the turf against disease, drought and wear stress
- ❑ Beneficial microbes help oxidize soil contaminants and remediate soil problems
- ❑ Earthworms are exceptional aerators who work for scraps!

Fertilizer Guidelines:

General Landscape

- ❑ N – P – K ratio is more important than number values; 4 – 1 – 2 is often ideal
- ❑ Quality, slow release nutrients result in healthy ‘sustainable’ growth
- ❑ Use high performance slow release N sources such as Methylene Urea and IBDU or natural organics to promote steady, non-damaging growth
- ❑ Excessive fertilizer application will weaken, injure, retard, and kill plants
- ❑ Organic nutrients are usually slow and cost more, but yield better long-term results
- ❑ Organic / Synthetic blends generally provide the best combination of benefits

Turfgrass:

- ❑ Apply 1-1½ lbs of N per 1000ft² every 60-90 days throughout the growing season
- ❑ Avoid high salt indexes (*ammonium nitrate*) and “weed-n-feed” type combos if possible
- ❑ Fall feeding (*just after first frost*) may be the most critical- SLOW RELEASE

***Vegetable and Perennial Gardening Considerations**

- Whole nutrient sources like alfalfa, cottonseed, bone, and blood meals are best as supporting soil nutrients applied at planting either top-dressed or incorporated into the soil
- Liquid nutrient sources like fish emulsion or compost tea are excellent maintenance fertilizers applied every 2 – 3 weeks as a foliar spray or soil drench
- Seaweed/Kelp contains micronutrients, vitamins, and hormones that fortify plant tissue and can help prevent environmental stress

