



LANDSCAPE DESIGNS, INC

A COMPREHENSIVE LANDSCAPE DESIGN COMPANY

MADISON, WI 53705-1340 • 608-233-4215

TIME RELEASE FERTILIZER

Regretfully, OUR PLGF TIME AND TEMPERATURE RELEASE FERTILIZER is no longer available.

We have offered this fertilizer since 1988. However, due to the owner's death, the company that produced it for us, is no longer in business.

We have managed to find a very comparable replacement product!

Florikan's Nutricote 270 day** release fertilizer 18% Nitrogen, 6% Phosphorus, 8% Potassium + 7 minor nutrients of Magnesium 1.20%, Sulfur 4.0%, Boron 0.02%, Copper 0.05%, Iron 0.20%, Manganese 0.06% and Molybdenum 0.02%

Early Spring is a great time to feed your gardens with Nutricote formulated, granular, time & temperature release fertilizer. *

'One Early Spring application feeds the garden for the entire season.'

ONLY **\$147.65** per 50-pound bag (1 bag feeds ~3,000 to 4,500 ft.²)

** 270-day release is based upon an average soil temperature of 77°F.

Three primary and seven minor or secondary nutrients provide excellent growth and development throughout the growing season. No other fertilization is generally required, unless new plantings are installed. For best results, and continued plant health and vitality, Nutricote 270 should be applied once every Autumn during October through December or immediately following Spring thaw.

Broadcast Nutricote over the beds at 1 to 2 pounds per 100 square feet on all PREVIOUSLY well-feed soils and at 2 to 3 pounds per 100 square feet on all FIRST TIME or poor nutrient soils.

2 cups equal approximately 1 pound. No need to dig in Nutricote.

NUTRITION IN THE PERENNIAL GARDEN

Over 100,000 different perennial species and cultivars are hardy in our gardens. Due to this tremendous diversity, it is difficult to delineate the individual nutritional requirements of each specific plant. These requirements vary when plants are in different ecosystems. Small stresses, local soil conditions, temperatures, water supplies and wind all influence a plant's nutrient use. All perennials, such as Lilacs, Peony, Iris and Daffodils, require the same basic nutrients. Their specific requirements vary due to their stage of development. Tubers, rhizomes, bulbs, flowers, seeds, fruits, pods, and fragrance are being produced at different times in the garden. Since most of us cannot take the time to feed each plant with their individual needs, the best fertilizer

would be one that would have a continuous supply of these nutrients so the plants can have them whenever they desire.

The following list of elemental nutrients is an explanation of what they do to accomplish the production of life. Whether the system of release is organic or inorganic makes little difference to the plant. Organic fertilizers are slow release because the mineral contents must be broken down into primary components before the plants can use them. Organic fertilizers are usually more complete in analysis but much lower in total percentage of usable nutrients. Inorganic fertilizers have the nutrients available in a form that the plant can directly use, even through the foliage. Non-organic fertilizers are usually incomplete but generally much higher in total percentage of usable fertilizer. A complete fertilizer contains the three primaries, Nitrogen, Phosphorus and Potassium, N-P-K, nutrients plus up to 10 additional secondary ones. Boron, Copper, Iron, Magnesium, Manganese, Molybdenum, Sulfur and Zinc are generally considered the most desirous of the secondary elements. (In Dane County, our soils and water have more than adequate supplies of Calcium for plant growth.)

PLANT NUTRIENTS

NITROGEN (N)

REQUIRED FOR:

Synthesis of amino acids, alkaloids chlorophyll, protoplasm, nucleic acids and enzymes
Good growth and protein content

DEFICIENCY SYMPTOMS:

Younger leaves remain small
Reduced disease tolerance
Older leaves fade to yellow

PHOSPHORUS (P)

REQUIRED FOR:

Formation of DNA, RNA, energy transfer and storage.
Aids in root and shoot formation
Rapid healthy growth
Proper fruiting and seeding
Fat production

DEFICIENCY SYMPTOMS:

Oldest leaves turn dull or dark green with gradual 'autumn' reddening
Yellowing and/or bluing mid-veins
Young leaves remain very small
Necrosis begins at leaf tip and progresses to the base
Shortened internodes

POTASSIUM (K)

REQUIRED FOR:

Translocation of sugars
Starch formation
Increased size and quality of fruit and grains

Cell membranes and stomatal changes

Disease and chill resistance

Root growth and xylem formation

DEFICIENCY SYMPTOMS:

Weak stems

Old leaves turn brown as tip and side necrosis curls the leaf upwards and inwards

Bending and lodging

MAGNESIUM (Mg)

REQUIRED FOR:

Chlorophyll formation

Catalyst for plant growth enzymes

Prevention of 'rattiness'

DEFICIENCY SYMPTOMS:

Oldest leaves develop a bronze yellow chlorosis which progresses inward and downward like

a "V" until the leaf withers

Inter-venial yellowing on new leaves

Leaves curl upward along margins

CALCIUM (Ca)

REQUIRED FOR:

Cell wall formation

Enzyme catalyst

New cell production

Maintaining a balance between Mg & K

Neutralizing harmful by products

Preventing tips from dying

DEFICIENCY SYMPTOMS:

Older leaves become thick & brittle

Premature shedding of blossoms and buds

Weak stems

SULFUR (S)

REQUIRED FOR:

Protein components

Volatile plant oils/scents

Fruit and seed maturity

Vitamin B₁

DEFICIENCY SYMPTOMS:

(Uncommon)

Youngest leaves turn pale green then gradually yellow and remain small.

IRON (Fe)

REQUIRED FOR:

Chlorophyll formation

Activation of respiration

Photosynthesis

Nitrogen fixation

DEFICIENCY SYMPTOMS:

- New leaves with inter-venial chlorosis
- Veins remain small
- New leaves may turn creamy in color, remain small and fall off.

MANGANESE (Mn)**REQUIRED FOR:**

- Chlorophyll formation with Iron
- Activator of growth enzymes
- Formation of O₂ in photosynthesis

DEFICIENCY SYMPTOMS:

- Similar to Iron
- Even tiny veins remain green

COPPER (Cu)**REQUIRED FOR:**

- Activating enzymes
- Vitamin A synthesis
- Protein synthesis
- Pigments
- Regulation of soil nitrogen
- High concentration of seeds

DEFICIENCY SYMPTOMS:

- Young leaves remain small and wilt
- Stunted growth
- Poor pigmentation
- Die-back in fruit Hard fruits
- Lack of vegetables

BORON (B)**REQUIRED FOR:**

- Active growing tissue differentiation
- Geotropic responses
- Regulation of carbohydrate metabolism

DEFICIENCY SYMPTOMS:

- Short thick stems
- Small rigid leaves
- Sunken necrotic spots and nodes
- New stems die-back and petiole and edges of leaves crack
- "Witches Broom" development

ZINC (Zn)**REQUIRED FOR:**

- Enzyme constituents
- Controlling the synthesis of some growth regulators
- Chlorophyll formation
- Respiration

Nitrogen metabolism
DEFICIENCY SYMPTOMS:
The new leaves form rosettes
Leaf size reduction
Fruit size reduction
Inter-venial chlorosis
Twig die-back

MOLYBDENUM (Mb)

REQUIRED FOR:

Transformation of nitrates into amino acids
Nitrogen fixation in legumes

DEFICIENCY SYMPTOMS:

Old leaves yellow followed by cupping and marginal scorching
Stunting

CHLORINE (Ch)

REQUIRED FOR:

Red, blue and violet pigments
Maturation
Photosynthesis
Water retention in cells
Catalyst in O₂ production

DEFICIENCY SYMPTOMS:

Marginal necrosis

FLUORINE (F)

DEFICIENCY SYMPTOMS:

Marginal burning on old leaves tips

COBALT (Co)

REQUIRED FOR:

Nitrogen fixation in root nodules
Vitamin B₁₂

SODIUM (Na)

REQUIRED FOR:

Part of the manner in which K is used

Further information may be found at http://soil5813.okstate.edu/Nutrient_cycles_text.htm