

## Fertilizer basics for the smart gardener

Rebecca Finneran, Michigan State University Extension

Soils that contain adequate amounts of nutrients will enable gardeners to produce healthy plants. The nutrient requirement varies with each species. For certain crops such as trees and shrubs, Michigan soils provide abundant nutrients with little need for supplemental fertilizer. However, in some cases where a plant exhibits a deficiency or to ensure production of a crop with high nutrient requirements, fertilizers can be applied to enhance growth.

Deciding what type of fertilizer to buy can be confusing, but choosing the right one will help ensure successful plant growth. In general, there are two classes of products available to home gardeners: naturally derived and synthetic. Naturally derived (sometimes called natural organic) and synthetic fertilizers have different characteristics, variability in cost and availability to the plant.



Pelleted or slow release forms of fertilizer can be used easily and have a high level of safety from over-application.

as a top dressing. Unless specifically designated as “slow release,” these products are quickly available for plants to take up once watered in. This makes this type of fertilizer especially useful for short-season, high need crops such as vegetables.

Pelleted fertilizer consists of granules that are

### Synthetic granulated fertilizers

Synthetic, granulated fertilizer is commonly found in garden stores and products may list a specific target crop such as a lawn. Simple formulations are relatively inexpensive and easy to spread using a commercially available fertilizer spreader or by hand

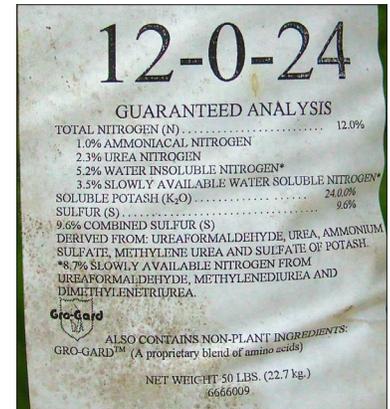
uniformly coated so they are easy to handle and spread, but tend to be more expensive. Either of these may have slow-release granules incorporated into the products or may be 100 percent slow release. A slow-release fertilizer has the advantage of being available to the plant over a much longer stretch of time. Formulations generally are sold to represent a three- to four-month window or five- to six-month window.

### Soluble fertilizers

Soluble fertilizers are sold as concentrated liquids or solids and are formulated to be diluted with water and applied directly to the plants. Nutrients in this form become available quickly to the plant and are used to augment plant growth for immediate response or to correct a deficiency. This very useful type of fertilizer is relatively low cost and most often used in tandem with a slow-release type of fertilizer.

### What determines an organic fertilizer?

The term organic as defined by a chemist versus a home gardener may not be the same thing. Organic compounds contain the element carbon, which would represent naturally derived sources of fertilizer as well as urea, a synthetically derived fertilizer. Generally speaking, products that



A wide variety of granular fertilizers with the nutrient analysis clearly printed on the label. Many are for specialty crops such as a lawn.



Soluble fertilizers are sold in either solid form or as a liquid. Both are intended to be diluted with water according to the label.

are composed of organic matter such as composted animal manure, bone meal or leaf litter are accepted as “organic” by gardeners.

One of the advantages of using a naturally derived fertilizer is their ability to release nutrients slowly to plants. This is especially helpful to plants that live for more than one season, such as perennials, woody trees and shrubs, etc. Natural organic fertilizers will not quickly correct a nutrient deficiency and may not supply



**Many varieties of organically derived fertilizers are available which may have a lower analysis, but are also slow release and non-burning to plant material.**

enough nutrients for crops such as tomatoes that utilize larger amounts of fertilizer for optimum performance.

The second advantage of using a naturally derived fertilizer is its positive impact on the soil’s ability to hold nutrients, water and air. Because of the time involved in producing these products, they can often be more costly.

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