Gardening the organic way


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Virginia Cooperative Extension

Virginia Tech • Virginia State University

Mission

Sharing Knowledge.
Empowering Communities.

Vision

To be the Virginia Cooperative Extension volunteer organization extending horticulture and environmental outreach across the Commonwealth.

Core Values

Respect:
The environment, each other, and those we serve.

Accountability:
Wise stewardship of resources.
To our organization, our community and each other.

Collaboration:
Willing to work with a diverse group to reach a common goal.
Actively seeking out partners.

What is “Organic”?

- In 1990, the federal government passed the Organic Foods Production Act (OFPA), setting specific standards for organic growers and use of the “organic” term. Under this law, a grower must use growing practices and materials (called “inputs”) as defined by the USDA’s National Organic Program (NOP). All inputs (fertilizers, pesticides, soils, etc.) used to help produce a plant must be specifically permitted under the NOP to be considered “organic.”

What is Organic?

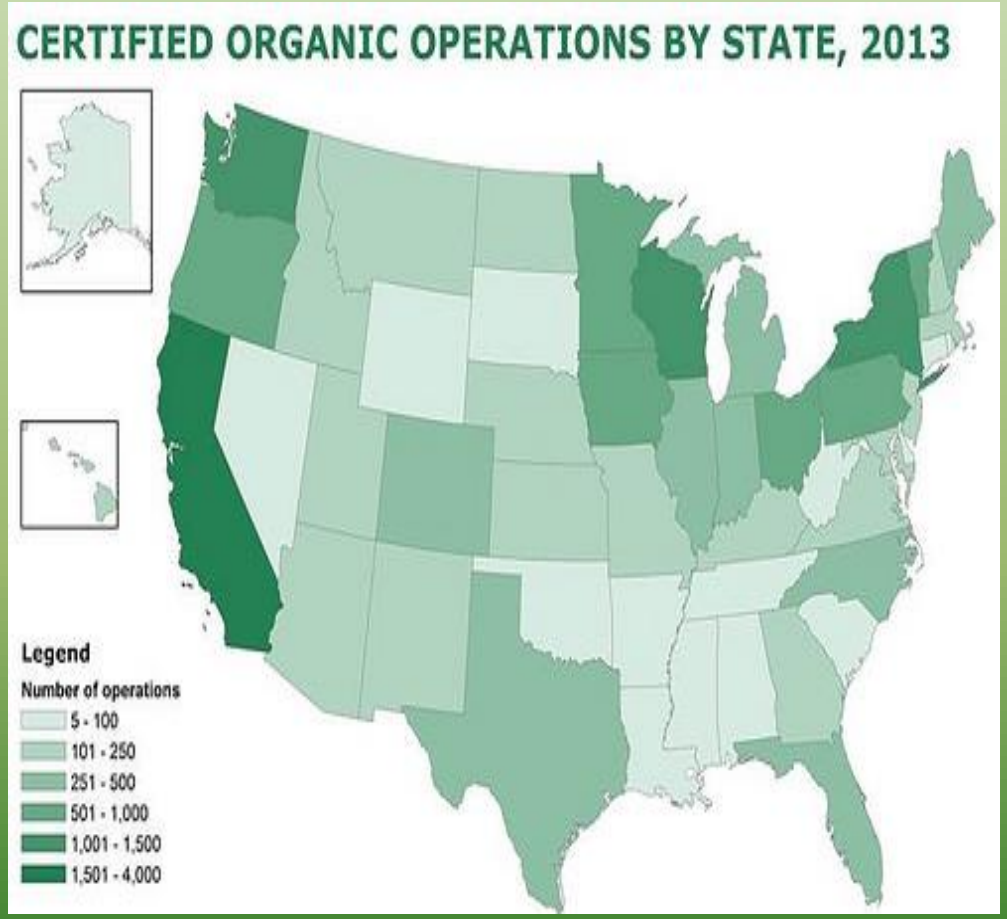
- No Synthetic Chemicals
- No Genetically Modified Organisms
- Certified by the USDA

Organic certification

- The USDA organic label is backed by a certification system that verifies farmers or handling facilities located anywhere in the world comply with the USDA Organic Regulations. Certification entails five steps:

Organic certification

- 1: Develop an organic system plan.
- 2: Implement the organic system plan. Have it reviewed by a certifying agent.
- 3: Receive inspection.
- 4: Have a certifying agent review the inspection report.
- 5: Receive a decision from the certifier.
- Typically, there is an application fee, annual renewal fee, assessment on annual production or sales, and inspection fees.



What is organic gardening?

- A basic definition of organic gardening is gardening without synthetic fertilizers and pesticides. But organic gardening is much more than simply replacing manmade chemicals with those derived from natural sources. It is a philosophy of gardening that supports the health of the whole system. **In an organically managed yard or vegetable garden the emphasis is on cultivating an ecosystem that sustains and nourishes plants, soil microbes and beneficial insects rather than simply making plants grow.**

Regulation of Organic vs. All Natural:

- According to the Food Marketing Institute (FMI), “natural” foods are minimally processed and free of artificial sweeteners, colors, flavors and additives like hydrogenated oils, stabilizers and emulsifiers. But there is no certification or inspection system to ensure that the label is accurate.

Neither the FDA nor the USDA has rules or regulations for products labeled “natural.”

Difference Between Organic and Natural Food

Organic Facts

Production

Organic Food- Produced using organic means

Natural Food- Are minimally synthesized

Demand and Price

Organic Food- Higher demand and higher price

Natural Food- Priced higher than non-organic foods

Labels

Organic Labels- Have legal implications

Natural Labels- Normally used freely by manufacturers

Certification Agencies

Organic Food- United States Department of Agriculture (USDA)

Natural Food- The International Association of Natural Products Producers (IANPP)

www.organicfacts.net

Organic vs. Natural

	Organic	Natural
Toxic persistent pesticides	Not allowed	Allowed
GMOs	Not allowed	Allowed
Antibiotics	Not allowed	Allowed
Growth hormones	Not allowed	Allowed
Sludge & irradiation	Not allowed	Allowed
Animal welfare requirements	Yes	No
Cows required to be on pasture for pasture season	Yes	No
Lower levels of environmental pollution	Yes	Not Necessarily
Audit trail from farm to table	Yes	No
Certification required, including inspections	Yes	No
Legal restrictions on allowable materials	Yes	No

CONVENTIONAL STRAWBERRY

LIVE LOVE FRUIT

ORGANIC STRAWBERRY

Ingredients: Captan, Pyraclostrobin, Boscalid, Tetrahydrophthalimide, Myclobutanil, Pyrimethanil, Fludioxonil, Bifenthrin, Malathion, Fenhexamid, Cyprodinil, Carbendazim, Malaoxon, Azoxystrobin, Methomyl, Quinoxyfen, Fenpropathrin, Acetamiprid, Propiconazole, Bifenazate, Thiamethoxam, Spinosad A, Methoxyfenozide, Triflumizole, Dichlorvos, Hexythiazox, Metalaxyl, Propiconazole II, Thiabendazole, Spinosad D, Imidacloprid, Endosulfan sulfate, Propiconazole I, Iprodione, Piperonyl butoxide, Endosulfan II, Chlorpyrifos, Carbaryl, Pyriproxyfen, Endosulfan I, 1-Naphthol, Acephate, Clothianidin, Azinphos methyl, Naled, Cyhalothrin, Dicloran, Folpet, Tebuconazole, Fenbuconazole, Propargite, Dimethoate, Heptachlor epoxide, Diazinon

Ingredients: Strawberry

Try Organic Food

...or as your grandparents called it, "Food"

FEDERAL REGISTER
The Daily Journal of the United States Government

Rule

National Organic Program: USDA Organic Regulations

A Rule by the Agricultural Marketing Service on 03/21/2017

PUBLISHED DOCUMENT

AGENCY:

Agricultural Marketing Service, USDA.

ACTION:

Notification of 2017 sunset review.

SUMMARY:

This document addresses the 2017 sunset review submitted to the Secretary of Agriculture (Secretary) through the Agricultural Marketing Service's (AMS)

DOCUMENT DETAILS

Printed version:
PDF

Publication Date:
03/21/2017

Agencies:
Agricultural Marketing Service

Dates:
This document is effective March 15, 2017.

Effective Date:
03/15/2017

Document Type:

Site Feedback

Allowed Cleaners and Sanitizers

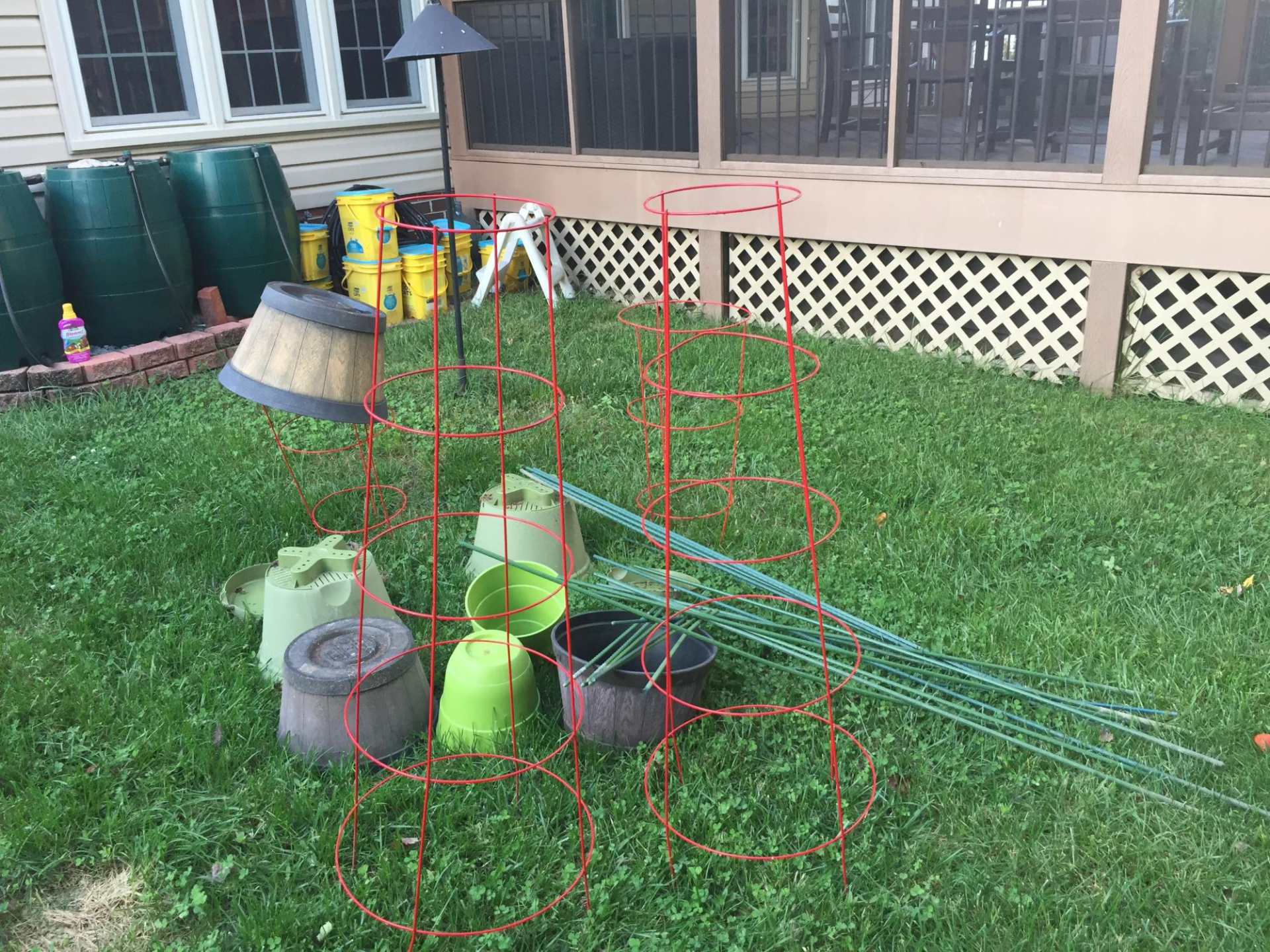
- The cleaning agent itself is not required to be organic. Any cleaner or detergent may be used provided that the cleaning agent is disclosed in the handler's organic system plan and also meets the Food & Drug Administration's (FDA) requirements. Cleaners and detergents are designed to be rinsed off, and a subsequent rinse step is sufficient to prevent contamination of organic foods from synthetic cleaner residues

Allowed Cleaners and Sanitizers

- Acetic acid (Vinegar)
- Alcohol, Ethyl & Isopropyl.
- Bleach.
- Detergents.
- Hydrogen peroxide

USDA NIFA

United States Department of Agriculture
National Institute of Food and Agriculture



Allowed Cleaners and Sanitizers

- Hydrogen peroxide is allowed as a sanitizer of tools/implements, but not as an soil enhancer.

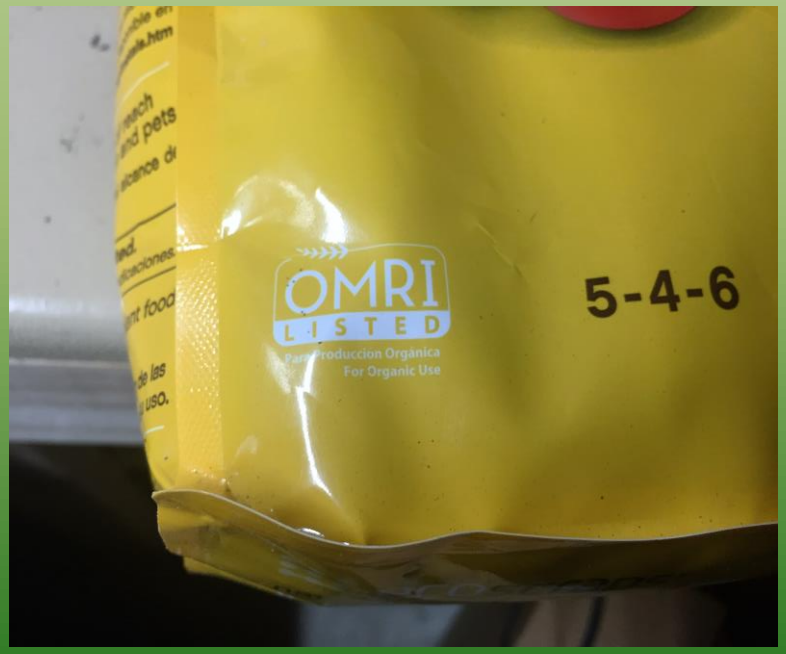
USDA
United States Department of Agriculture

OMRI

- The **Organic Materials Review Institute** (OMRI) is a private, nonprofit organization that determines whether or not a product qualifies as organic under the USDA's National Organic Program (NOP). Goods that are found to comply are listed on the OMRI Brand Name Products List (BNPL). The list is used by certifiers, growers, manufacturers and suppliers to confirm that an item is approved for organic use according to USDA rules.

OMRI

- OMRI's mission is to support the growth and trust of the global organic community through expert, independent and transparent verification of input materials, and through education and technical assistance.

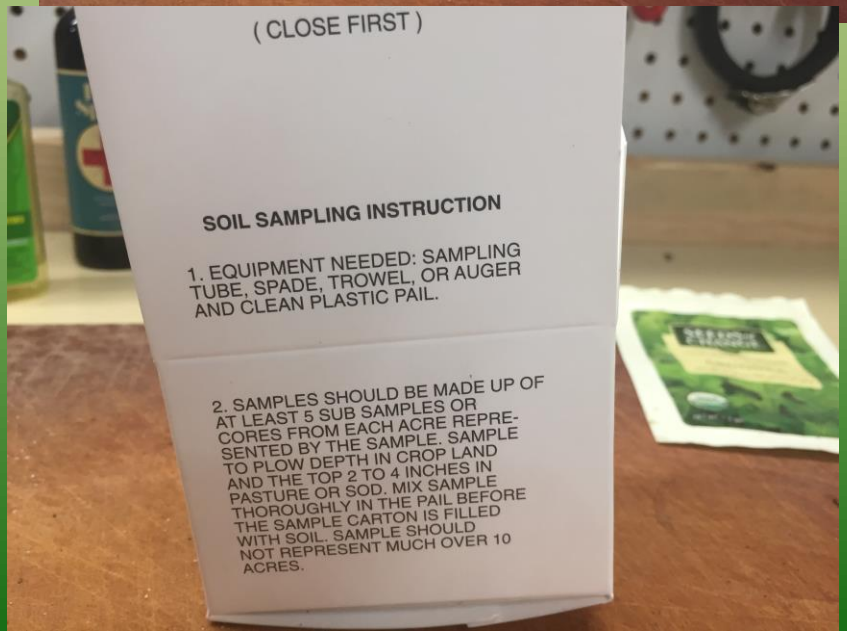


OMRI

- Just because a product does not have the OMRI certification, does not necessarily mean that it is not organic. Not every organic product on the market has gone through the process of having their product certified and listed by the OMRI, due to the expense or stringent guidelines.

Organically enhancing your soil

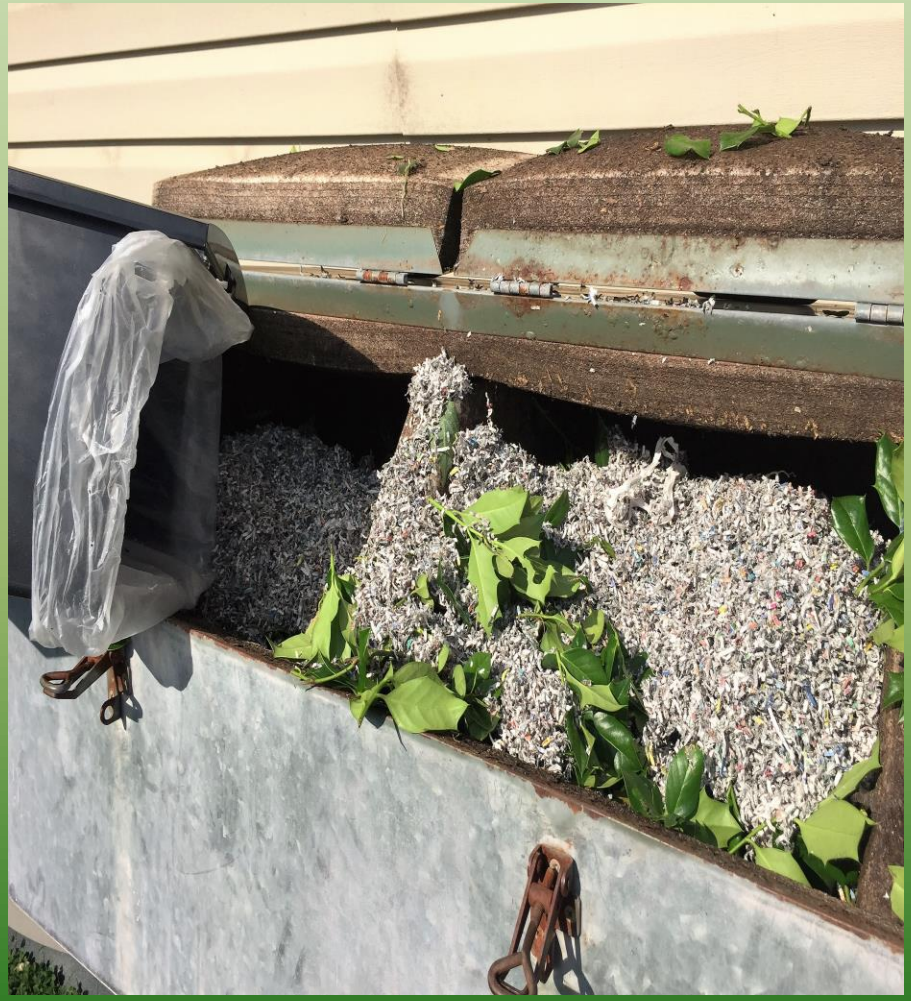
- Before you apply fertilizer to your garden/lawn, you should have your soil tested. This will also help you determine what balance of fertilizer numbers will be appropriate for your garden's soil needs and deficiencies.



Organically enhancing your soil

- Adding organic matter by mixing compost into the soil increases its capacity to retain water and nutrients and supports beneficial microbes, which are essential to healthy plant growth. Compost can be made at home from grass clippings, leaves, yard debris, and kitchen scraps, or purchased from garden centers and mulch suppliers.

Organically enhancing your soil



Organically enhancing your soil

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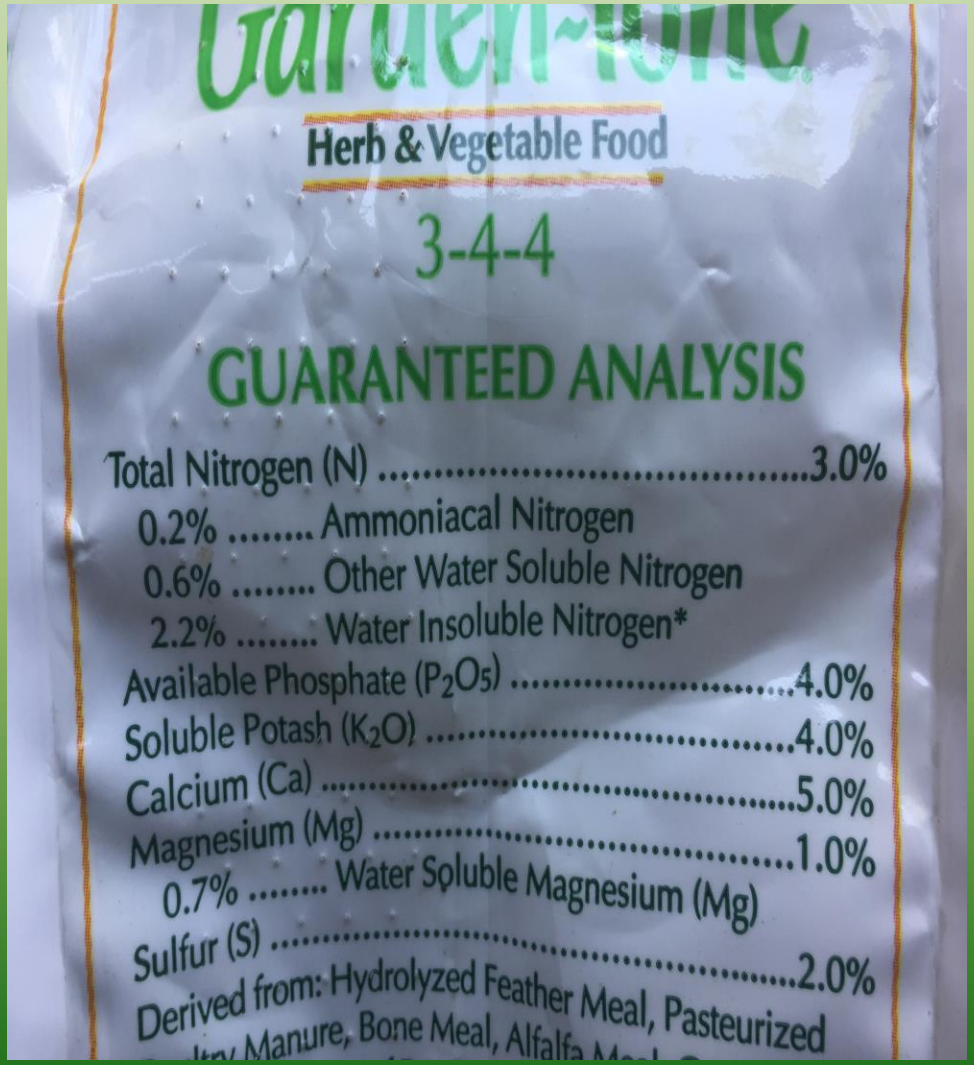
Fertilizers – Macro Nutrients

- Macro-nutrients are **nitrogen** (N), **phosphorus** (P) and **potassium** (K) or NPK for short. The higher the number, the more concentrated the nutrient is in the fertilizer. For example, numbers on fertilizer listed as 20-5-5 has four times more nitrogen in it than phosphorus and potassium.



Fertilizers – Macro Nutrients

- **Nitrogen** (N) – nitrogen is largely responsible for the growth of leaves on the plant.
- **Phosphorus** (P) – Phosphorus is largely responsible for root growth and flower and fruit development
- **Potassium** (K) – Potassium is a nutrient that helps the overall functions of the plant perform correctly.

Comparing Organic & Synthetic Fertilizers

Organic Vs. Synthetic Fertilizers

- **Organic** can be either plant-derived or animal-derived. Some examples would be mushroom manure, blood meal, bone meal, cottonseed meal, kelp meal, poultry or horse manure (aged) and compost.
- **Synthetic** fertilizers are those composed of the synthesized chemicals of nitrogen, phosphorus and potassium.

Organic Vs. Synthetic Fertilizers

- **Organic fertilizers**
- Since they are the ultimate slow-release fertilizers, it's very difficult to over fertilize (and harm) your plants.
- There's little to no risk of toxic buildups of chemicals and salts that can be deadly to plants.
- Organic fertilizers are renewable, biodegradable, sustainable, and environmentally friendly.
- Organic fertilizers break down according to nature's rules, so they may not release nutrients as soon as you need them. You have to be patient – you won't see improvement overnight.

- **Synthetic fertilizers**
- Chemical fertilizers are primarily made from nonrenewable sources, including fossil fuels.
- Because the nutrients are readily available, there is a danger of over fertilization. This not only can kill plants but upset the entire ecosystem.
- Since nutrients are available to the plants immediately, improvement occurs in days.
- They're inexpensive.

Synthetic Fertilizers

- Ammonium sulfate is an inorganic, factory-made compound used as the nitrogen source in commercial N (nitrogen) P (phosphorus) K (potassium) fertilizer. Ammonium sulfate used as lawn fertilizer has the disadvantage of creating high levels of acidity in the soil. ” It requires approximately two to three times as much lime to neutralize the same amount of acidity as formed by other common N (nitrogen) carriers,” :Ohio State University Extension Agronomist Jay W. Johnson.

Organic Fertilizers

- While compost and organic matter will increase your soil's ability to hold nutrients, they do not supply large amounts of nutrients themselves. In addition to compost, organic gardeners also have to provide fertilizers derived from natural sources such as animal manures and byproducts.

Organic Fertilizers

- **Fish fertilizer/emulsion** contains a lower concentration of nutrients than traditionally processed fertilizers, which means the nutrients are released into the soil slowly and the effects last longer.

Organic Fertilizers

Fish Fertilizer/Emulsion

2-3 tablespoons per gallon of water every 3 weeks is recommended for annuals, shrubs, berries, vegetables, and perennials. Root vegetables do best with a more diluted mix of 1 tablespoon in 1 gallon of water, which is the same solution used for herbs and outdoor container plants.

Organic Fertilizers

- **Blood meal** is an organic nitrogen amendment that you can add to your garden. Adding blood meal to garden soil will help raise the level of nitrogen and will help plants to grow more lush and green.

Organic Fertilizers

- **Blood meal** is also used as a deterrent for some animals, such as moles, squirrels and deer. Blood meal may also attract unwanted visitors, such as dogs, raccoons, possums and other meat eating or omnivorous animals.