

Basic Organic Program

Using natural techniques makes gardening easier and more enjoyable. Americans use more fertilizer chemicals on their yard than all the commercial growers use on their fields. When you go organic, you have to be afraid of letting kids or pets play in the yard. Change and new ideas of any kind always come harder and more complicated, but the Natural Way really is better in every way, even from an economic standpoint. Another important point is that it all gets easier and better every year. And there is no need to replace worn-out beds ever. After about two years you don't have to do much anything except spread compost tea or use some organic fertilizer once or twice a year.

Build the Organic Matter

Increase the health of the soil by using compost, earthworm castings, and organic fertilizers to build organic matter. Mulch all plantings. Maintain an organic mulch layer on the bare soil year-round. **Avoid synthetic fertilizers.** These fake fertilizers not only don't build soil health, they decrease it with application. They compact the soil.

Build the Mineral Content

Balance the minerals in the soil by applying rock powders or sands that provide the major nutrients and minerals needed by plants to be healthy. Volcanic rock materials are especially important because they provide much more than minerals. The best choices include lava sand, Texas greensand, soft rock granite sand, zeolite, decomposed granite, and natural diatomaceous earth.

Encourage Biodiversity

Healthy gardens need a mix of plants and animals. Monocultures of plants are often very productive while but later succumb to insects and diseases. Examples include the Irish potato blight, Dutch elm disease, and more recently oak wilt here in Texas. Monocultures lack the genetic diversity to respond to environmental threats and become sitting ducks for parasites, predators, and pathogens. Stop using pesticides and products that do damage to the life in the soil. Encourage life. Plant a variety of trees shrubs and plants. Plant native when ever possible. Fast growing plants are usually not the best choice. Plants that take time to develop. Choosing the correct plants help the environment and attract wild life to your yard. The more wild life in your yard the less trouble you will have with insects.

Synthetic Fertilizers

Compacting the soil kills the beneficial living organic fungi in the soil. Compacted soil is unable to hold an even level of moisture. It is either too wet or too dry. Plants need soil that has air pockets and good drainage. Putting compost on the top of your soils will go down into the soil and break up the compacted soil. It will be better to till it into the soil before planting but just putting it on top greatly improves the soil. Fertilizer is double trouble. It compacts the soil and kills or damages trees, shrubs and other plants. The directions tell you not to use it on the root systems of trees or shrubs.

Watering

Most people don't water their plants deeply. This usually means watering for at least an hour once a week. Use 20-minute **increments**. After 20 minutes or less the water starts running off and not soaking in. It should be in the ground section after 20 minutes. Let the first section wait at least 30-40 minutes before watering again. Trees should be watered for 2-4 hours a week when first planted and any time it doesn't rain for 3-4 weeks. Use a soaker hose or a drip system to water plants with like water requirement together. Plant the ones that need the most water closest to your house to minimize

give them extra water. Using compost tea decreases the amount of water you will need to water. The compost healthier plant so it doesn't lose water as quickly.

Insects and Diseases

98% of all insects are beneficial. Get to know your good bugs. Spraying and dusting without knowing the cause will kill the good as well as the bad. By the time you notice the damage the good bugs usually have taken care of. If you don't see the insect and fresh damage don't do anything. This is called Integrated Pest Management. Spraying your garden once a week probably will not be enough. If you can't then you need to plant plants that are resistant to insects. Mildew and bad fungi have been a real problem this spring due to the extra moisture, and cloudy days. There are organic sprays to help with the problem. Sunshine is the best cure. Plant plants that are more inclined to mildew should be planted away from the house or fence to give them more air circulation. Don't spray water on these plants.

Molasses accelerates the decomposing of organic material and stimulates microbial activity in the soil. You can use either it either dried or spray the liquid. Sugar provides carbohydrates to feed the microbes in the soil. Gardeners, who have used dry molasses, have found it is effective in driving off fire ants. The chemicals in the molasses eat into the body of the ant so ants avoid it.

1. Soap Insecticidal

You can treat many problems with a product like insecticidal soap. Many soft-bodied pests can be treated with a product such as this. Be forewarned, though, soap, if used extensively, can cause phytotoxicity and growth retardation problems with your plants. The trick to success with insecticidal soap is to apply it twice. First, spray it on the aphids (it has to have contact with the bug to work) late in the day - right before sunset. Spraying late in the day prevents leaf damage caused by the sun hitting the leaves and the heat reacting with the spray. Then, two days later go out and spray any aphids that escaped your first spray. You'll be amazed at how quickly they reproduce! If you miss one, you'll quickly have hundreds more in a matter of days. I think they're born pregnant.

2. Orange Oil

A cold-press orange peel extract is one of the best oils for use in the preparation of organic elixirs for plants and insects. It works on ants, fire ants, roaches, fleas, silverfish, plant pests, and other insects. The active ingredient d-Limonene (orange peel extract) destroys the wax coating of the insect's respiratory system. When applied directly, the insect suffocates. It acts as a repellent. It is a very good cleaner and can be used for many cleaning purposes.

3. Granite Decomposed

Decomposed granite gravel comes in several sizes. Decomposed Granite is a wonderful product to use in your garden. We use it in many of our soil and compost mixtures as an amendment to help break up heavy clay soils and provide better drainage. The Decomposed Granite is also a great source of slow-release minerals to help produce sturdier, healthier plants. Another great use for the Decomposed Granite is for walkways or patio areas. Decomposed Granite has been screened to be 1/4-inch and smaller. The pieces settle down into a nice, firm walkway. The walkways at The Natural Gardener are made of Decomposed Granite.

4. Greensand

Greensand is mined from ancient sea-beds, it is a dry organic fertilizer. It is useful for its ability to supply to the soil a number of different micronutrients, as well as potassium. A naturally occurring potassium silicate (also known as glauconite) with the consistency of sand, but 10 times the moisture absorption. Its mineralization improves soil life by increasing populations of certain bacteria that dissolve insoluble mineral nutrients. It is a natural source of phosphorus, potash, and trace minerals. It contains about 19% iron and about 2% magnesium. Use it on all plants for effective green-up. It works on heavy clay soils and helps in the release of nutrients that are bound up in the soil structure. Use 40-80 lbs per 1000 square feet. (7 cups = 4 pounds)

5. Diatomaceous Earth

Diatomaceous earth is a mineral product mined from the fossilized silica shell remains of unicellular

colonial algae from the class Bacillariophyceae, better known as diatoms. It can be applied in a variety of ways. Use food grade. To use for flea and tick control, apply a light dusting over the lawn, in dog runs, around pet bedding or favorite resting spots and sprinkle a little on your pet between baths of a natural herbal soap. Another use is in animal production units for the control of external parasites and in greenhouses it can be used effectively to prevent the entry of certain insects such as earwigs, ants, and cockroaches, and to control these and others that are present in cupboards containing food, car basements, attics, window ledges, pet areas (for fleas), etc. Made into a paste it can be painted on exterior surfaces. In all of these examples it is important to place a small amount of the powder in corner cracks, crevices, and other areas where insects might hide. Whereas with a contact pesticide the insect dies quite quickly, with DE control may take several days. The more important difference is that the effect of the protection provided by the chemical is short-lived. Whereas DE will control the pest as long as the powder remains. In this respect DE is an ideal pesticide; it is residual but nontoxic. The only precautions that need to be taken are that if large areas are being treated with a power duster, the applicator should wear a mask to prevent inhalation. This is achieved by dusting the animals and their litter or bedding area. It has also been included in the diet (two per cent in the grain ration) to control certain internal parasites, and this practice is said to result in lower fly populations in the resulting manure.

6. Lava Sand

It is a high-energy soil amendment; it increases the water-holding capacity of the soil and plants, and increases the Paramagnetism. Paramagnetic materials bring atmospheric energy into the plant and soil. The result is increased vigor and production of any crop. Lava sand makes soil nutrients more available to the plant root. It provides aeration and porosity to the soil. It helps retain the right amount of moisture in the soil, is durable and resists degradation. Use 40-80 pounds per 1000 square feet.

7. Rock Phosphate

This is a mineral source of phosphorus and breaks down very slowly in the soil. It contains phosphorus as well as calcium and 18 other essential trace minerals. I always add this deep into the soil when preparing a garden bed. It does not move rapidly in the soil so it is useful to dig it in deeply when you have the chance. The phosphorus is released very slowly, over many years. It really helps plants to have more abundant flowers and stronger stems. Consult the phosphorus level listed in your soil test and add the needed amount of rock phosphate according to the amounts listed on the bag. Build soil phosphate fertility where levels are low to increase rooting activity in transplants and sprouting. Also mineralizes the soil and improves quality of crops and soil structure. Its slow release allows you to use it before it is fixed. Apply 1-2 lbs per plant for tree or shrub transplants. To correct soil deficiency apply from 500-4,000 lbs per acre depending on severity of deficiency.

8. Shale Expanded

A form of expanded shale is now available to gardeners that will be useful in loosening tight clay soils, making them more workable. Using expanded shale with containerized plants calls for putting one part of the material in the bottom, then mixing the expanded shale with potting soil 50-50 for the rest of the pot. For flower beds with sticky or gumbo-type soil, put down 3 inches of expanded shale on top of the area, and tilling it in six to eight inches deep. Also add 3 inches of finished, plant-based compost on top which results in a 6-inch raised bed. Crown the bed to further improve water drainage. Expanded shale will open up and aerate heavy, sticky clay soils faster than any material that I have ever used.

9. Zeolite

Zeolites are mined alumino-silicate materials, containing only insignificant levels of plant nutrients. Their use in crop production stems primarily from high nutrient-exchange capacities, which allow them to absorb and release plant nutrients and moisture without any change in the nature of the zeolite. Their action results from the mineral's porous-but-stable chemical structure. Zeolites enhance the performance of fertilizers by making them resistant to leaching, immobilization, and gaseous losses.

10. Volcanite

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11. Vinegar

Its potential use as an herbicide is exciting. Vinegar can be produced naturally by decomposing products under anaerobic conditions. Acetic acid readily degrades in water (so I wouldn't spray before an expected rainstorm) and doesn't bio-accumulate. Vinegar will decrease the pH of the somewhat, but within 48 hours the pH balance is back to its original state. It is also a biodegradable product. The research conducted so far using vinegar shows that vinegar can kill several weed species at different growth stages. Using 10, 15 or 20% acetic acid concentrations, field researchers had a 100% kill rate of selected weeds. Re-growth from the roots, however, continued. Spray very small weeds with 2-6 leaves. Continue spraying at two-week intervals. He's found that the maximum stage for best kill-rate is the 4-leaf stage. Spot spraying with 20% concentration killed 80-100% of weeds harming the corn.