



## Fertilizers, Soil Amendments and Conditioners, Planting Mixes

Here are some of our favorite products to use if you wish to achieve optimum growth, vigor, and productivity in your garden spaces. Whether you are planning a beautiful flower border, setting out a perennial bed, tending a large vegetable garden, or installing trees and shrubs, you will find these products earth friendly and easy to use – without sacrificing great results.

### Fertilizers

- Espoma Organic Biotone® Starter Plus (4-3-3) – starter fertilizer for transplants; contains Bio-tone® microbes (beneficial bacteria, humates, endo- and ecto-mycorrhizae); use to enhance root development and reduce transplant shock, and for faster plant establishment
- Espoma Organic Plant-tone, Garden-tone, Tomato-tone, Berry-tone, Citrus-tone, Bulb-tone, Flower-tone, Rose-tone, Tree-tone, Holly-tone – each 'Tone' has been developed for specific purposes with the right balance of nitrogen, phosphorus and potassium (N-P-K) as well as calcium, magnesium and frequently sulfur; contains Bio-tone® microbes; long-lasting, slow-release formula for continuous feeding; non-burning; no fillers or inert ingredients
- Espoma Iron-tone (3-0-3)– fast-acting iron supplement for lawns, shrubs, trees; use where iron chlorosis exists; contains Bio-tone® microbes
- Espoma Organic All-Season Lawn Food (9-0-0)– for use on all lawns including newly seeded and sodded areas; contains Bio-tone® microbes; provides long-lasting nutrition; won't burn lawns or leach out of soil; creates healthy lawns and soil, requiring less frequent mowing
- Espoma Organic Chicken Manure (5-3-2)– dehydrated and granulated; for vegetable and flower beds as well as around trees and shrubs
- Milorganite (6-2-0) – organic source for nitrogen and non-leaching phosphorous; high iron provides rich green color and maintains it during heat stress; slow release formulation is long-lasting and non-burning; promotes beneficial microbial activity and improves soil
- Liquid Fertilizer Espoma Grow! (2-2-2), Bloom! (1-3-1), Tomato! (1-3-1) – these liquid concentrates are enriched with beneficial microbes; use every two to four weeks for all indoor and outdoor containerized plants
- Liquid Fertilizer Nature's Source (10-4-3) – nutritionally complete plant food sustainably derived from soybeans; promotes strong plant and root development; serves as plant growth regulator when used as a foliar spray

### Soil Amendments

- Espoma Organic Garden Lime – raises the pH of excessively acid soil; pelletized; safer than hydrated lime
- Espoma Organic Soil Acidifier – lowers the pH of soils; allows acid-loving plants to achieve optimum growth; elemental sulfur is non-toxic and doesn't have the health hazards of aluminum sulfate

## Soil Conditioners

The ideal soil structure consists of 50% solids (3-10% of that is organic matter), 25% pore space for air, 25% pore space for moisture. These soil conditioner products build up pore space in heavier soils, where topsoil has eroded or has been stripped away, or years of compaction have made it difficult for anything to take root and grow:

- Espoma *Soil Perfector* – expanded aggregate made of crushed, kiln-fired slate; permanently improves soil structure with one-time application at bed preparation or tree and shrub installations; prevents compaction and promotes root growth; use for both container and garden beds; approved for organic gardening
- *Surface* – expanded aggregate made of kiln-fired clay; conditions soil to resist compaction, adding permanent water- and air-holding space; mix into soil before planting trees and shrubs or when making flower and vegetable beds; add to potting mixes for annuals, tropicals and houseplants; also great to use as a topdressing after lawn aeration

## Composts, Potting Mixes, and Specialty Mixes

- Dr. Earth Products: made with a combination of forest humus, fir bark fines, peat moss, worm castings, seaweed extract, kelp meal and other meals; pH adjusted to 6.5; infused with ProBiotic® (7 strains of beneficial microbes and 8 ecto- and endo-mycorrhizae); and ProMoisture Hydrate® (aloe vera and yucca extract to preserve the ProBiotic®)
  - Dr. Earth *Motherland Planting Mix* – compost to add to soil in raised beds or amend garden beds to improve drainage; mulch garden beds with it for moisture retention and weed control; microflorae suppress soil-borne diseases, stimulate early root development, and increase transplant success
  - Dr. Earth *Acid Lovers Planting Mix* – same compost as *Motherland* but formulated for acid-loving plants; also rich in natural cottonseed meal
  - Dr. Earth Container Mixes: *Pot of Gold* – for all vegetables and flowers; and *Home-Grown* – with added nitrogen from bat guano, especially for leafy vegetables and foliage plants
- Espoma Organic Mixes: enhanced with Mycotone™, a blend of endo- and ecto-mycorrhizae
  - Espoma *Potting Mix* – for all indoor and outdoor containers; a blend of sphagnum peat moss, aged forest products, humus and perlite; fortified with earthworm castings, alfalfa, kelp, and feather meals, and yucca extract
  - Espoma *Cactus Mix* – for cactus, palm and citrus container plants; made with sphagnum peat moss, aged forest products, humus, perlite, and yucca extract
  - Espoma *Seed Starter Mix* – for seedlings and cuttings; made with sphagnum peat moss, perlite, and yucca extract
- Espoma Orchid Mix – improves drainage and aeration for orchids and other epiphytes; made with aged pine bark, horticultural charcoal, perlite and yucca extract
- Espoma 100% Organic Additives: Charcoal, Peat Moss, Perlite, and Vermiculite

## FYI Soil Testing

If you are concerned about soil health, are growing more than a third of your family's food, or preparing a large installation or renovation, consider having your soil tested. Testing may be requested for specific gardens: annuals, vegetables, perennials, lawns, trees, and shrubs. The results will reveal any deficiencies or excesses and prevent over-amending with specific nutrients. In addition, a test will measure soil pH (which affects the availability of essential plant nutrients), percentage of organic matter (3-6% is considered optimum) and cation exchange capacity (CEC) which is a measure of the soil's capacity to hold and release nutrients. For more information, see <https://extension.missouri.edu/programs/soil-and-plant-testing-laboratory>