Down To Earth features a complete line of natural and organic fertilizers, soil amendments, composts, and potting media. They work with the microorganisms, fungi and organic matter in the soil to feed plants and stimulate growth.

They are carefully blended from the best sources of organic nutrients in ideal proportions without the use of synthetics, growth stimulants, or low quality fillers like poultry waste. You can be confident that you are giving your farm or garden the best product available, whether it's a multi-purpose blend or a specialized soil amendment.

Visit *downtoearthfertilizer.com* to see the complete line of fertilizers complete with descriptions, nutrient analysis, and application rates.

Down To Earth Distributors
Home Grown since 1977
Eugene, Oregon

WHY ORGANIC FERTILIZER?

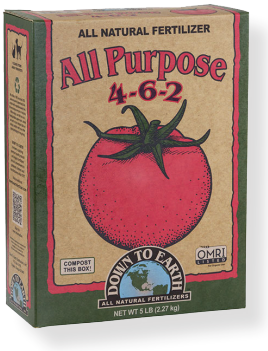
BASICS OF AN ORGANIC FERTILIZER

This handout will be referencing Down To Earth's natural and organic fertilizers. Organic fertilizers that are derived from plant, animal, or mineral resources and combined with organic matter, are ideal for enhancing soil fertility and also stimulating plant growth in a sustainable and environmentally friendly way.

Organic fertilizers add nutrients to soil for uptake by plants and for use by the myriad of microorganisms that inhabit healthy, productive soil. Fertilizers are available as single ingredient nutrients or as complete blends with multiple applications.

UNDERSTANDING THE NPK RATIO

Fertilizers are labeled with numbers that represent the percentage of the three primary macronutrients *(nitrogen (N), phosphorus (P), and potassium (K)* that are immediately available in the fertilizer. These elements are listed as the NPK ratio.



For example, ***All Purpose Mix 4-6-2*** is comprised of each primary nutrient, whereas ***Blood Meal 12-0-0*** is a single ingredient source of nitrogen.

Each nutrient plays specific and complementary roles. *Nitrogen* energizes vegetative growth, *phosphorus* produces expansive roots, flowers, fruits and viable seeds, while *potassium* (or potash) promotes resistance to disease and temperature stresses.

Most fertilizers will also contain varying amounts of the secondary macronutrients – calcium, sulfur, and magnesium – along with trace elements or micronutrients that also play essential roles in plant nutrition.

To someone accustomed to the higher NPK ratios of chemical fertilizers, such as 18-51-20, the modest amounts occurring in organic fertilizers may appear inadequate. However, nothing could be further from the truth; *organics simply break down at a slower rate.* Nitrogen supplying organic fertilizers contain insoluble nitrogen that releases slowly with greater

effectiveness than conventional fertilizer, thus reducing the need to re-apply fertilizers as often in order to maintain soil fertility.

Organics minimize the possibility of “burning” plants with concentrated chemical supplies of nutrients. They improve overall soil health rather than degrade it by encouraging microbial life in the soil to flourish. Since organic fertilizers last longer and release their nutrients slowly, their long-term NPK amounts will be greater and more beneficial than what is shown on the label.

Single ingredient fertilizers are used for specific plant needs and in certain stages of a plant’s development. For example, a high nitrogen source like ***Feather Meal 12-0-0*** is used when heavy feeding plants such as corn need an additional boost early in the season. To promote big, beautiful blooms on your flowering plants, you might utilize a high phosphorus fertilizer, such as ***Seabird Guano 0-10-0.***

Fertilizer blends on the other hand, are used for more general needs around the home and garden. Our ***All Purpose Mix 4-6-2*** is ideal for vegetables, flowers and trees as well as houseplants. A great advantage of multipurpose blends is that they save the gardener time and labor by offering a variety of single ingredients pre-mixed in exact and balanced proportions.

THE VARIOUS FERTILIZER STYLES

Organic fertilizers are sold in three main styles, or forms: dry, water-soluble powder, and liquid. Dry fertilizers come in several textures: pulverized powder, granulated, and pelletized. They can be broadcast or spread over garden soils and lawns, and also incorporated into potting soils prior to planting to provide nutrients to transplants and new plants.

Dry organic fertilizers generally meet plant needs by releasing their nutrients slowly over time in a steady supply.

Soluble powder fertilizers begin to break down immediately, so they can be applied to the top few inches of soil for quick release, transformed into a liquid fertilizer for foliar feeding, or for use in irrigation systems. A foliar tea can be made by soaking the fertilizer powder overnight in a cloth bag suspended in a container of water. In the morning, empty the residue that is left in the bag around your garden, and pour or spray the richly colored liquid on garden plants.

Liquid fertilizers usually come as a concentrate and need to be diluted with water before using in your garden or feeding to your houseplants. Both teas and dilutions can be applied with watering cans, hose end sprayers, or through irrigation systems in a method known as fertigation. Tea and liquid soil feeding work best after a light rain or regular watering when the soil is more absorbent. Teas and liquids can also be applied directly to the leaves, bark of plants, and trees using the above mentioned foliar feeding methods.

Foliar sprays are several times more effective as a method of fertilizing than soil applications in correcting nutritional deficiencies and stress related problems under some conditions. For best results, spray early in the morning and when the air temperature is below 85° F.

NUTRIENT IMBALANCES

Even with organic fertilizer, too much of something can be a bad thing. Luckily, the signs of imbalance are easily recognizable.

Too much nitrogen produces dark green foliage, few to no flowers or fruits, and burnt leaf tips.

Too little nitrogen produces light green to yellow leaves and slow growth, especially in the lower leaves of older plants.

An excess of phosphorous is rare, yet when it does occur, symptoms are similar to an excess of nitrogen.

A phosphorous deficiency is revealed by deep green, red or purple leaves, few blooms and fruits, yellowing bottom leaves, and stunted growth.

Potassium toxicity will create nitrogen, phosphorous and trace mineral imbalances.

Potassium deficiency produces very tall plants with weak stems, as well as leaf tips and edges turning yellow, then brown later.

Too much calcium and magnesium increase potassium problems, and can also inhibit reciprocal uptake of each other.

Too little calcium will cause young leaf tips to die back, blossom end rot on tomato fruits, short roots, stunted growth, and rotten plant centers.

Magnesium deficiencies show up in leaf tips turning brown and curling upwards in a hook shape.