



Simple Strategies for Improving Your Soils From The Ground Up!

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Healthy soils: Healthy Plants- The foundation of organic production is building healthy soils--fertilizing and building soil organic matter through the use of cover crops, compost, and biologically based soil amendments. The benefits of composts include: improving soil structure and tilth, improving moisture holding capacity, nutrient retention and buffering the pH (stabilizing the pH).

Soil Organic matter –Improve your soil organic matter using biologically based soil amendments such as: manures (poultry, cow, sheep, horse, dairy, steer), peanut hulls, corn cobs, grain straw, seaweed (kelp), sawdust, wood shavings, hay, peat moss, leaf mold. Organic matter influences the soil physical properties such as infiltration, drainage and tilth

In selecting organic nutrient sources, one has to recognize the fact that large amounts of these soil amendments have to be used to meet the plant’s needs. The recommended rate of application for composts is 500-2000 pounds/1000 square feet. You can purchase compost locally or create your own.

What most organic gardeners wish to know is the organic materials to use to provide them with the major soil nutrients: *Nitrogen, Phosphorus and Potassium*. You can also add organic fertilizers such as alfalfa meal and cotton meal. Below is a list of some of the major organic nutrient sources:

Total Nitrogen %N	Total Phosphorus % (P)	Total Potassium %(K)
Blood (slaughter house)-10-12	Rock Phosphate-17-26	Sul-Po-Mag -22
Fish Waste- 4-10	Bone Meal -20-30	Polyhalite- Ca-K-SO4-10-15
Seaweed meal-2-3	Fish Meal-5-10	Wood Ash-5-10
Poultry Manure-1.5-3	Wood Ash-2-5	Green sand -5-7
Green Manure-1.5-5		Seaweed meal -2-3
BioFlor- 5.47	BioFlor- 3.00	BioFlor- 0.77
Gorilla Oga- 0.41	Gorilla Oga- 0.05	Gorilla Oga- 14.28

- ❖ **Other Organic Concentrates include-** dried blood (13%N), hoof and horn meal (12%N), fish meal (10%N), soybean meal (7%N), fish scrap/fish emulsion (5%N), cocoa shell meal (2.5%),

Commercially available inorganic/synthetic fertilizers

Nitrogen %N	Phosphorus % P₂O₅	Total Potassium % (K₂O)
Urea -45:0:0	Ammonium Phosphate-11:48:0	Muriatic of Potash - 0:0:60
Ammonium Nitrate-34:0:0	Diammonium Phosphate-11:46:0	Potassium Sulphate-0:0:50
Ammonium Sulphate-21:0:0	Super Phosphate-0:20:0	Potassium Nitrate-13:0:44
Calcium Nitrate-16:0:0	8:16:16	8:16:16
<i>Other examples include: 10:20:20 , 16:16:16 . 20:20:20 and so on.</i>		

- ❖ **Soil Tests-** It's important to know the state of your soils (pH and nutrient content). Test your soils every 3-4 years. Take a Soil Sample-See information on soil testing from University of Hawaii <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/AS-4.pdf>

- ❖ **Mulches-**wood chips, wood shavings, sawdust, shredded bark, partially decomposed manure, shredded leaves, straw, grass clippings, corn husks, and cocoa bean hulls, hay,

- ❖ **Cover crops and living/green mulches**

- **Nitrogen fixing cover crops:** Alfalfa, Sweet clover, beans, peas, hairy vetch, chick pea, soybean, lupin, Cow pea, peanuts, strawberry clover, White clover
- **Other cover crops:** barley, Sunn hemp, buckwheat, etc)

- ❖ **Practice Crop Rotation**

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