



ACHIEVE
ACTION COMMUNITIES FOR
HEALTH, INNOVATION &
ENVIRONMENTAL CHANGE

Summit Achieve Community Garden

ORGANIC FERTILIZER FOR THE VEGETABLE GARDEN

Soil must be fertile in order to produce a satisfactory garden yield. Fertile soil has lots of organic matter and good texture, not too loose and light nor too heavy and stiff; is well-drained; and has a nearly neutral pH (for most crops).

Fertile soil also has an abundance of available minerals. The major plant nutrients are nitrogen (N), phosphorus (P), and potassium (K). These nutrients are represented in commercially prepared fertilizers as proportions; for example, in combination 2-4-2, 2% is nitrogen, 4% is phosphorus, and 2% is potash. The remaining 92 percent of the fertilizer is inert matter.

A fertile soil must also have a sufficient amount of micronutrients (sometimes called trace minerals).

Soils that contain ample organic matter (compost) generally contain sufficient nutrients, but during the height of crop production, most plants need an extra boost of fertilizer.

A simple soil test will determine the nutrient level of your soil . Rutgers University provides this service for \$20: <http://njaes.rutgers.edu/soiltestinglab/howto.asp>.

For the first year of the Summit Achieve Community Garden, it may be too late in the growing season to have the soil tested. We can, however, assume that the soil pH is neutral and adequate for most crops. We recommend that all gardeners have their soil tested before that start of the 2014 growing season.

Attached to this Fact Sheet is a Table of vegetable plant nutrient requirements. Below is a list of some of the many readily available, organic materials that meet these requirements. There are also commercially prepared products that are formulated to meet the nutritional needs of specific plants. For example, the Espoma Tomato-tone Organic Fertilizer has a 3-4-6 nitrogen, phosphate, potash make-up, making it ideal for a robust tomato crop. It also supplies calcium, magnesium and sulfur for an added boost. Another granular fertilizer that works well is Tomatoes-Alive! by Gardens Alive. Note that fertilizers specifically formulated for tomatoes also work well for eggplants and peppers, which have similar nutrient requirements.

Nitrogen (N) Organic Sources:

- Bone meal
- Dried blood
- Manure from poultry, rabbit, sheep (dried)
- Cottonseed meal
- Fish emulsion, or dried, ground
- Gluten meal
- Seaweed (dried)
- Tea and coffee grounds

Phosphate (P) Organic Sources:

- Phosphate rock
- Bone meal
- Cottonseed meal
- Dried blood
- Manure from poultry, cow, horse, goat, sheep (dried)
- Fish emulsion or dried, ground
- Wood ash

Potassium (K)

- Potash rock
- Manure from cattle, goat, sheep horse (dried)
- Granite dust
- Green Sand
- Cottonseed meal
- Wood ashes

NUTRIENT REQUIREMENTS AND PLANTING DIRECTIONS FOR VEGETABLES

Crop	Nitrogen	Phosphorus	Potash	pH	Distance between plants (in.)	Distance between rows (in.)	Yield (per 100 row-ft.)
Asparagus	EH	H	EH	6-7	18	48-60	12-24 lb.
Bean, bush	L	M	M	6-7.5	4-6	18-24	50 lb.
lima	L	M	M	5.5-6.5	6-10	18-24	60-75 lb.
Beet, early	EH	EH	EH	5.8-7	3	12-18	100 lb.
late	H	EH	H	5.8-7	3	12-18	100 lb.
Broccoli	H	H	H	6-7	18-24	24-30	50 lb.
Cabbage, early	EH	EH	EH	6-7	15-18	24-30	100 lb.
late	H	H	H	6-7	24-30	24-30	175 lb.
Carrot, early	H	H	H	5.5-6.5	3	12-18	100 lb.
late	M	M	M	5.5-6.5	3	12-18	150 lb.
Cauliflower, early	EH	EH	EH	6-7	18-24	24-30	30 heads
late	H	H	EH	6-7	18-24	24-30	30 heads
Corn, early	H	H	H	6-7	12-18	24-36	100 ears
late	M	M	M	6-7	12-18	24-36	100 ears
Cucumber	H	H	H	6-8	36-60	36-60	150 lb.
Eggplant	H	H	H	6-7	24-30	24-30	125 fruits
Lettuce, head	EH	EH	EH	6-7	6-12	12-18	50 lb.
leaf	H	EH	EH	6-7	6-12	12-18	50 lb.
Muskmelon	H	H	H	6-7	48-72	48-72	50 fruits
Onion	H	H	H	6-7	2-3	12-18	75-100
Parsley	H	H	H	5-7	3-6	12-18	50 lb.
Parsnip	M	M	M	6-8	3-6	18-24	100 lb.
Pea	M	H	H	6-8	1-3	18-36	40 lb.
Potato	EH	EH	EH	4.8-6.5	12-15	24-30	75 lb.
Radish	H	EH	EH	6-8	1	12-18	1,200
Rutabaga	M	H	M	6-8	6-10	18-24	150 lb.
Soybean	L	M	M	6-7	6-10	24	50 lb.
Spinach	EH	EH	EH	6.5-7	2-6	15-24	50 lb.
Squash, summer	H	H	H	6-8	36-80	36-80	100 fruits
winter	M	M	M	6-8	48-120	60-120	100 fruits
Sweet potato	L	M	H	5-7	12-18	30-48	100 lb.
Tomato	M	H	H	6-7	24-48	24-48	200 lb.
Turnip	L	H	M	6-8	3	12-18	100 lb.

L Light M Moderate H Heavy EH Extra Heavy