

Good Vegetable Gardens Begin with Good Soil Preparations

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Good soil is essential for a successful garden. Soil provides plant nutrients, air, and water. If these materials are not available, or if the soil is in poor condition (hard and crusty when dry or sticky when wet), vegetables will not grow and develop properly.

A soil that is in good "tilth" (physical condition) is loose and easy to work, and has water-holding capacity, drainage, and aeration. You can improve soil tilth by adding organic matter. Apply manure, compost or similar material to the soil and work it in before planting, or turn under a green manure crop.

Organic materials to be spread per 100 square feet of garden are listed in the table below. The table also shows the pounds of nitrogen to be added per 100 pounds of material. **Note:** corn-cobs, sawdust, wood chips, leaves, and straw vary considerably in nitrogen content, and you may need to apply supplemental fertilizer containing nitrogen during the growing season. Do not use lawn clippings from grass that has been treated with sprays containing fungicides, insecticides, or herbicides.

Organic material	Material per 100 square feet	Nitrogen to be added per 100 pounds of material
corn-cobs	50 pounds	1-1½ pounds
sawdust	50 pounds	1¼-1½ pounds
woodchips	50 pounds	1¼-1½ pounds
leaves	75 pounds	½-1 pound
straw	60 pounds	½-1 pound
hay	60 pounds	None
peat moss	6-10 cubic feet	None
compost	10-20 cubic feet	None
lawn clippings	4 bushels	None

1 pound of nitrogen = 10 pounds of 10-10-10 fertilizer or 3 pounds of ammonium nitrate (33-0-0); etc.

Manure is a common form of organic matter used in gardens. It will also fulfill part of the fertilizer requirements of the soil. Because manure is low in phosphorus, you should add 1 to 1½ pounds of superphosphate to each bushel of manure. Use 500 to 1,000 pounds of horse or cattle manure per 1,000 square feet. Sheep and goat manure should be used at one-half this rate.

Compost can be made from leaves, straw, grass clippings, manure, and any other disease-free waste vegetable matter. To make compost, pile these materials in layers as they accumulate during the season. Cover each 6" layer of organic material with about 2 inches of top soil and add a handful of fertilizer to each layer.

This fertilizer treatment will hasten decay and improve the fertility of the compost. Water the pile to keep it damp, and occasionally turn and mix the soil and decaying material. The compost will be ready to spread over garden soil in 6 to 12 months.

Green manure or cover crops, such as rye or oats, improve soil tilth when they are plowed under in the spring or fall. The seed can be broadcast over prepared soil areas and between rows of late vegetables. Incorporate the seed into the soil with a rake, hand cultivator, or harrow.

The amounts of rye, rye-grass, and oats seed that should be sown per 1,000 square feet of garden, the best planting dates, and the times when the cover should be plowed under are as follows:

Rye: 3 pounds of seed; plant September 1-30, plow under in early spring.

Rye-grass: ½ pounds of seed; plant September 1-15; plow under in early spring.

Oats: 1-1½ pounds of seed; plant late August to early September; plow under or incorporate into the soil in early spring.

Fertilizer applications should be made before planting. Later in the season additional fertilizer may be necessary.



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