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## COMPOSTS FOR GARDEN SOILS

by

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The necessity for home food production as an aid to the war effort is generally recognized. Home gardeners will need to make greater efforts for the production of garden crops in 1943. Plans should be started now for a more fertile garden soil as one step in growing more and better garden crops this coming year.

This mimeograph discusses the preparation of composted organic materials to enrich garden soils when home gardeners do not have access to stable or barnyard manures.

Soil organic matter is a requisite for the production of truck and garden crops. This soil organic matter is of greatest benefit when it is decayed or partially decayed.

Many home gardeners are handicapped right from the start because of the lack of organic matter in the soil. The source of organic matter for home gardens on farms is not so much of a problem because most farms have enough stable manure to supply fertility and organic material for a garden plot. The addition of 5 to 10 loads of barnyard manure per acre annually is usually sufficient to supply organic matter and fertility for a garden. The application of stable manures to garden soils may be double this amount with good results.

Drawbacks to composting for home gardens in cities and suburban areas are: lack of suitable space to make the compost pile; labor required for composting; and the time required to decompose the organic material. Provision for a compost heap should be a part of the garden plan, which may include a screen of some kind to hide it from view.

### Composting Materials

Sources of organic matter for composting may be found in the leaves from maple trees, oak trees, deciduous ornamentals, or deciduous fruit trees. Clippings from the lawn may be used. Pea vines, bean vines, cabbage leaves, and other organic materials from the garden are valuable for composting.

Amounts of nitrogen, phosphoric acid, and potash that may be found in 100 pounds of organic materials commonly available to home gardeners from which composts may be made

Material, 100 lbs.	Nitrogen	Phosphoric Acid P <sub>2</sub> O <sub>3</sub>	Potash K <sub>2</sub> O
Peach Leaves	.9 pounds	.15 pounds	.60 pounds
Oak Leaves	.8 "	.35 "	.15 "
Grape Leaves	.45 "	.1 "	.35 "
Pear Leaves	.7 "	.12 "	.4 "
Apple Leaves	1.00 "	.15 "	.35 "
Cherry Leaves	.6 "	.11 "	.72 "
Raspberry Leaves	1.35 "	.27 "	.63 "
Garden Pea Vines	.25 "	.05 "	.7 "
Red Clover, Green	.55 "	.13 "	.5 "
Vetch Hay	2.8 "	.75 "	2.3 "
Alfalfa Hay	2.45 "	.5 "	2.10 "
Corn Stalks	.75 "	.40 "	.9 "
Immature Grass	1. "	.5 "	1.2 "

### Building the Compost Pile

The compost pile may be any length and width to suit the convenience of the maker and may be built 5 feet in height.

One method of making compost is to pile leaves or other organic refuse 1 foot deep covering the space the size of the compost heap. Over this layer of leaves, straw, or other organic material spread a nitrogen fertilizer. This nitrogen fertilizer may be sulfate of ammonia, if available, cyanamid, or nitrate of soda at the rate of 1/4 to 1/2 pound per square yard of compost area. Also add superphosphate at the rate of 1/4 pound per square yard, and lime, preferably ground lime rock, at the rate of 1/4 pound for each square yard. In the place of lime, 1/2 pound of wood ashes may be used per square yard. (Do not use more ashes than this.) Each successive layer of leaves or other bulky organic material should receive the same amounts of fertilizers per square yard. Add water enough to make the layer moist. Rapid decomposing of bulky organic materials in compost heaps depends upon the addition of chemical fertilizers and upon keeping the mass of material moist.

On this first layer of leaves, straw, or other organic material, place a thin layer of stable manure, poultry manure, or manure from rabbit hutches or a layer of soil. This layer should be 1 or 2 inches deep. Manures are desirable for this layer, but not a necessity. Add successive layers of organic material to the compost heap as already directed until it is completed. Add water at regular intervals to keep the compost heap in a moist condition but not dripping wet. If rainfall is excessive, a roof should be provided to ward off or drain away the excess water which might leach valuable fertility from the compost pile.

### Mix Compost Piles at Stated Intervals

After the compost pile has been completed for 8 to 10 weeks, it should be forked and turned over or repiled. After a lapse of another 3 weeks, fork or turn it again to thoroughly mix it. The forking and turning process is to more thoroughly mix the compost and promote rotting and decomposition.

The outer edges of the compost heap should be kept slightly higher than the center so that drainage will be towards the center of the pile.

The plan just outlined for making composts may vary somewhat from methods followed by the greenhouse operators and flower gardeners wherein manure in large lots is mixed with earth to prepare a very fertile soil for plant growing.

### Work Composted Material into the Soil

Compost piles made in the fall of the year when leaves fall should provide rotted organic matter rich in fertilizer values to spade or plow under next spring. This compost material may be broadcast over the garden area just before spading or plowing takes place.

Acknowledgment is made to A. S. King, Extension Specialist in Soils, and A. N. Roberts, Instructor in Horticulture, for suggestions relating to this manuscript.

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