

# Saving Seed

Fact Sheet No. 7.602

Gardening Series | **Fruits and Vegetables**

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The art of saving seed has been practiced by gardeners long before there were commercial seed producers. In fact, most of the vegetables and flowers we have today owe their existence to the fact that these early gardeners, with an eye for quality, saved the seed of their best plants, sowed them the next year, and in this way improved the species.

In recent years, the responsibility for maintaining and improving vegetable seed has been assumed by seed companies; however, it is still possible for home gardeners to save their own seed. To do so successfully, they must be familiar with the basics.

Plants in the garden come from either seed or transplants. True seed possesses an embryo in a dormant state. Under the right conditions, it breaks dormancy and produces a plant based on its genetic makeup. Transplants, on the other hand, are living plants or plant parts that begin to grow under favorable conditions without benefit of an embryo. In this group are bulbs, tubers, corms, cuttings (“slips”) and whole living plants.

It is still common practice for home gardeners to dig dahlia and gladiolus before the ground freezes. However, it is not so common for gardeners to save the seed of flowers and vegetables. This is perhaps because seeds are relatively inexpensive and seed producers have a reputation for selling seed that germinates well and is true to the variety named on the package.

Before saving seed, consider the method of pollination, the time of seed bearing, whether the plant is a hybrid, and the manner of seed collection.

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## Pollination Methods

There are three pollination methods of concern to the home gardener: air-borne, insect and self. If the seed produced is to have the same genetic composition of its parents, it must be pollinated with pollen from the same variety. In the case of air-borne pollinated crops, there must be no other varieties within a mile shedding pollen at the same time. If there is, some of the harvested seed will result from a cross between these two varieties. The closer the varieties are located, the higher the percentage of crossing.

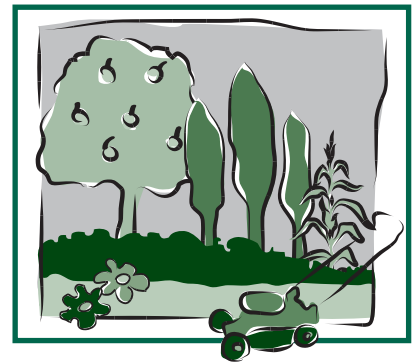
If a crop is insect pollinated, there should be 1/4 mile separating varieties. Otherwise, some of the seed saved may result from the crossing of the varieties located within this 1/4-mile radius.

Self-pollinated crops offer the best opportunity for a home gardener to save seed because the pollen is transferred directly to the stigma within the flower. Even though this occurs automatically, there is some pollen that escapes and can be transferred to an adjacent variety. To avoid this, separate varieties by a few rows of another crop.

These requirements are closely observed by commercial seed producers, who are much more concerned about trueness-to-variety than the average home gardener. However, if home gardeners totally ignore these guides, they will be disappointed in the results.

## Root Crops

Not all garden plants produce their seed at the end of the growing season. The most noteworthy exception are the biennials. This group, which includes most of the root crops, grows vegetatively the first season. To obtain seed, the roots are dug in the fall and stored between 32 and 45 degrees F through the winter. As soon as the weather permits, replant the roots to produce seed stalks and seed.



## Quick Facts

- Home gardeners were perpetuating and improving vegetable varieties through seed selection before there were commercial seed producers.
- Garden plants are wind, insect or self-pollinated.
- Seed saved from self-pollinated crops are most likely to come true to variety.
- Biennial crops do not bear seed the first year.
- Hybrids do not come true from seed.

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## How Vegetables Are Pollinated

### Air-borne pollen vegetables

Beets	Spinach
Corn	Swiss chard

### Insect-borne pollen vegetables

Asparagus	Kohlrabi
Broccoli	Melons
Brussels sprouts	Mustard
Cabbage	Onions
Carrots	Parsley
Cauliflower	Parsnips
Celeriac	Peppers
Celery	Pumpkin
Chinese cabbage	Squash
Collards	Radishes
Cucumber	Rutabaga
Eggplant	Turnips
Kale	

### Self-pollinated vegetables

Beans	Lettuce
Chicory	Peas
Endive	Tomatoes

### Biennial vegetables

Beets	Kohlrabi
Brussels sprouts	Leeks
Cabbage	Onions
Carrots	Parsley
Celeriac	Parsnips
Celery	Radishes, winter
Collards	Rutabaga
Florence fennel	Salsify
Kale	Swiss chard
	Turnips

## Hybrids

Hybrids result from a deliberate cross between two inbred lines. They are becoming increasingly popular among vegetables because they usually are more vigorous and uniform than open-pollinated varieties. They afford built-in protection for the seed producer, because they do not come true from seed. Seed saved from hybrids produces many different plant types and is a disappointment for any gardener who has unknowingly saved and planted hybrid seed. Only the person who controls the original parents can produce this hybrid seed. Nearly all corn varieties are hybrid. Other vegetables may be. To be sure, check the package to see if it says "F<sub>1</sub> hybrid." F<sub>2</sub> plants are not hybrids and lend themselves to seed savings.

## Harvesting Seed

Seed producers have developed some very ingenious equipment for harvesting, extracting and cleaning seed. The home gardener, however, will have to do with available utensils. Seed is extracted from fruit after it ripens and before it rots. Leave summer squash and cucumbers on the vine until after frost, just like winter squash and pumpkin. Separate the seed from its pulp and dry at room temperature.

Leave pod crops on the vine until the pod dries. Harvest before the seed is dispersed. Similarly, harvest seed heads after they dry but before dispersal.

## Storage

Once the seed is dried, gently hand rub to rid it of any chaff, then store in an envelope in a cool, dry, rodent-free place. The seed will germinate best the following year. Thereafter, its germination percentage declines in accordance with the storage conditions, seed type and original seed quality. It is, therefore, best to replant every year and then select the best plants for seed.