

Seeds of Chance, The Selfers and The Outcrossers

It's snowing seed catalogs - a veritable blizzard at this time of year offering unlimited potential for spring. These piles of catalogs remind me of the seed diversity in our modern culture. Where, what to select from this unlimited supply is a question each gardener needs to answer. Where, what dreams to explore, what novelty to introduce, what cultivars to give space to in a limited garden, is the quandary of each winter. Choices unlimited are as close as the World Wide Web, and with seeds delivered direct to the door - easy temptations for my dreams of spring.

But what if new seeds only arrived with the occasional traveling stranger, or came carried by hand from other gardeners or farmers? What if the seeds I need came only from my own plantings? How then would I approach the promises of spring? It was not too long ago, that each garden was mostly its own genetic reservoir, and each farmer exploited the best plants to supply future seeds. Nor was it long ago that new varieties arrived smuggled in cuffs, hems and hatbands.

What do I need to know in order to return to the seed systems of yesterday? What knowledge and commitment is required to become my own genetic reservoir - to use the best of my own plants to reseed garden beds? And how would I change my planting, harvest and renewal to fill both the table and garden, today and tomorrow?

This is where we need to know the difference between Selfers and Outcrossers - between flowers that pollinate themselves and those dependent on pollen from others. This single difference in flower proclivity may determine what plants you save seed from, how you plant them and how you garden around them.

The Selfers, or those that are mostly self-pollinating, are the easiest to manage. Beans, fava beans, cowpeas, peas, lettuce, potatoes, sweet potatoes, garlic and tomatoes (with some exceptions,) are the common Selfers in a kitchen garden. Peas, lettuce, beans, fava beans, cowpeas and tomatoes have a flower structure that eliminates or severely reduces cross-pollination. Therefore, you can be plant them closely and harvest seeds that are mostly true to type. With garlic, there is never any cross-pollination as the entire group has sexually dysfunctional flowers and potato seed rarely reproduces true to type.

All the other plants grown in kitchen gardens are Outcrossers (mostly) that have spacing, timing and population size requirements for producing vigorous, true to type seed. For example, all squash varieties of one species (there are four common species) will cross-pollinate with others of the same species, but will not with other species (alas, again there are exceptions). So they must be isolated by space, time, or physical restrictions and hand pollinated. All radishes will cross-pollinate (I know from experience), and the mustard family is particularly complex in their sexual practices - with some that are both Selfers and Outcrossers. All of the onions will cross-pollinate, but will not cross with leeks. (Top-setting onions may be an exception)

An additional complication with saving seed of Outcrossers is their tendency toward inbreeding depression, which occurs when closely related plants reproduce with each other. It is particularly prevalent in small populations of plants as found in kitchen gardens. Generally, a population of 100 plants is recommended to avoid this detrimental influence of recessive genes. Fortunately, not all Outcrossers are susceptible, and there are ways to work around the problem. So, growing both food and seeds from these Outcrossers complicates the planning and management of the kitchen garden, and forces the gardener to make choices about which seeds to save and which to purchase each year.

In addition, the seed gardener needs to know how to harvest, clean, test and store seeds. Fortunately, much has been written about the hows of seed handling for all of the common kitchen garden plants, such as the following example for saving tomato seed:

Saving Tomato Seeds

If you plan to save seeds from you tomato plants, make sure you have open pollinated varieties. There are many hybrids available today as both seed and seedling plants, which will not produce true to type from saved seeds.

There are at least 18 seed transferred tomato diseases. Do not select fruit that are miss shaped, or show evidence of diseases, and do not select from plants that show diseases. Do not save seed from fruit that has fallen to the ground. (I personally do not save seed from late blooming plants or from late season fruit.)

Most tomatoes are self-pollinating, except for the “potato leaf” varieties, like Brandywines, that can cross out with other varieties. It is advisable to isolate the “potato leaf” varieties by at least 50-100 feet for seed saving. It is also advisable to grow a minimum of six plants in order to avoid saving seed plants that are off types or not true to that variety.

Soaking the seeds in water until a skim of mold begins to form on the water surface is advisable, but do not let is go beyond 72 hours. The slight fermentation kills some seed transferred diseases and removes or reduces substances that inhibit seed germination. Rinse the seeds well with fresh water and dry on a screen surface or in a fine mesh or nylon bag. Drying them on paper or fabric causes them to stick to the surface. Stir occasionally while drying to prevent the seeds from sticking together. Do not dry seeds in direct sun or at temperatures above 95 degrees F. Store in a cool dry place and they will retain viability for at least three years.

till next month,

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Additional source of information:

[Seed to Seed: Seed Saving and Growing Techniques for Vegetable Gardeners](#)

by Suzanne Ashworth, Kent Whealy

NOFA (Northeast Organic Farming Association) Handbook series – [The Wisdom of Plant Heritage: Organic Seed Production and Saving](#) by Bryan Connolly with *contributing editor*.

Glossary

Self-pollination is a form of pollination that can occur when a flower has both stamens and a pistil in which the cultivar or species is self-fertile and the stamens and the sticky stigma of the pistil contact each other to accomplish pollination.

A **cultivar** is a cultivated plant that has received a name under the *International Code of Nomenclature for Cultivated Plants*. For this, it must be distinct from other cultivars and it must be possible to propagate it reliably, in the manner prescribed for that particular cultivar. Status as a cultivar is a quite limited one, with nomenclatural consequences only; it offers no legal protection.

Inbreeding depression is reduced fitness in a given population as a result of breeding of related individuals. Breeding between closely related individuals results in more recessive deleterious traits manifesting themselves.