

Saving seeds has taught me a lot about plants and community. Through observation and engagement I have witnessed transformations; a plethora of colors and sizes; the waiting...for flowers, food, and seed; insects that are attracted to particular plants; significance of diversity; different seed pods and seed dispersion; and did I mention the waiting (ha). I have gathered some data both personal and through the work of others to create this chart with the hope that it helps in your seed saving adventure. And while on this adventure, take notes, and date your notes; weather can have a big impact on why that normally high producing vegetable/fruit did not produce so well. **This chart is for open-pollinated varieties, as most hybrids (F1) will not produce true to type nor uniform seed.**

Botanical names are important, they can indicate whether or not a cross is possible between two plants among other things. If two different plants share the same *species* then a cross is possible. This is a big deal when trying to save seed for reasons that vary: a backyard favorite; preserving an endangered variety; large scale seed production. There are a large # of *Brassica oleracea* on the vegetable seed chart which represent several different plants: broccoli, cabbage, kohlrabi, etc. Because of this, it would prove difficult to save seed from *all* of these in the backyard, providing the minimum # of plants per variety, without them cross-pollinating each other, in the same year.

The life of a plant is important to know, especially if you mistakenly keep waiting for the biennial plant to flower and produce seed in the first year. There are techniques such as planting some biennials early to harvest seed the first year. **Annuals** grow, flower, fruit and die after one growing season. **Biennials** typically produce flowers the second year, seed soon after, then die. Most vegetable crops are treated as annuals or biennials. **Perennials** grow and die back to the ground, are survived by their roots, and repeat the process for at least 3 years- but typically longer.

Pollination can occur in different ways; these charts cover the 3 main ways pollen is transferred to produce seed. Self-pollination occurs when the flower's own anthers pollinate the stigma, typically before the flower opens all the way. Some insects can still transfer pollen from self-pollinating plants. Insects help move lots of pollen, and can do it traveling great distances, hence the greater isolation distances for Insect pollinated crops vs self-pollinating crops. Wind is another mover of pollen, however it tends to move pollen that is very small such as that of corn and spinach. And yet a great distance can be covered by wind carried pollen; there has been reports of corn pollen traveling 5 miles by wind.

Collecting seed from the # of plants on this chart is highly important and should be used as a minimum; this helps to maintain genetic diversity that cannot be obtained by collecting from one flower or plant alone. What exactly does this diversity look like? It means that one plant might produce early fruit, while another is very drought tolerant; the list continues with such characteristics as: seedling vigor, plant stalk strength, nutrient utilization efficiency, heat and/or cold tolerance, disease resistance, and taste. The more plants collected from, the higher diversity of genes within your seed collection. Over time your seed bank will exhibit plant characteristics that have been developed to withstand and even thrive in your region. Collecting seed depends upon when the seed matures which varies from *Genus* to *Genus*. We harvest food to eat when it is horticulturally ripe, seed should be harvested when the fruit has become physiologically ripe; some crops become unpalatable at this stage. Some seed is poisonous or hot (spicy), use gloves.

Isolation distances are listed as minimums on this chart; the farther the isolation distance the better when trying to collect pure seed. Pollinators move pollen, so techniques such as caging plants, or covering flowers might be needed in addition to maintaining the isolation distance. Alternating years of saving seed from different varieties in the same *species* can help reduce the complexities and madness of trying to save all the seed during one growing season. Hand-pollination is also a great method, especially with squash, that allows you to save seed from multiple varieties of the same species. Make sure to take the necessary precautions such as taping up the female flowers after pollinating them, as well as labeling which fruits have been hand pollinated.

Seed life varies by *Genus* as well as storage methods. Ideally seed should be cleaned and then dried (14 days), stored in jars or sealable plastic bags, and placed in a dark cool environment until ready for use. The sum of the temperature and humidity should not exceed 100 in the storage area or the vigor and life of the seeds can be adversely affected.

Resources: www.seedsavers.org; [Seed to Seed](#), Suzanne Ashworth; [The Complete Guide to Saving Seeds](#), Robert Gough and Cheryl Moore-Gough; www.victoryseeds.com; the trial and error of Joshua Fietz- can be reached at toledoseeds@gmail.com