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How to Save Vegetable Seed

How do you save vegetable seeds? This is a common inquiry received by the staff at our Diagnostic Labs. Saving seed from year to year is not difficult, but there are several things that need to be taken into consideration. It is important to prepare and store seed properly to insure a high percentage of germination. Some plants such as tomatoes, peppers, beans and peas are good choices for seed saving. But some plants should be avoided. In particular plants with separate male and female flowers as well as hybrid varieties are not good choices for seed saving.

Tomato, pepper, bean and pea plants have flowers that are self-pollinating, and seeds that require little or no special treatment before storage. Seeds from biennial crops such as carrots or beets are harder to save, since the plants need two growing seasons to set seed.

Plants with separate male and female flowers, like corn and vine crops, may cross-pollinate, so it is difficult to keep the seed strain pure. A stand of sweet corn can be pollinated by popcorn from a nearby garden on a windy day. The flavor of the current sweet corn crop will be affected, and a crop grown from these seeds will be neither good sweet corn nor good popcorn.

Cucumbers, melons, squash, pumpkins and gourds can all be cross-pollinated by insects. Although the quality of the current crop will not be affected, seeds from such a cross will grow into vines with fruit unlike that of the parent plant - often inferior in flavor and other characteristics.

When saving vegetable seed, it is important to choose open-pollinated varieties rather than F1 hybrids. If open-pollinated varieties self-pollinate or are cross-pollinated by other plants of the same variety, they set seed which grows into plants that are still very similar to the parent plant, bearing similar fruit and setting seeds that will produce more similar plants. Open-pollinated varieties may be "heirlooms," varieties that have been passed down from one generation of gardeners to the next, or they may be more recent selections.

F1 hybrid vegetable plants are products of crosses between two different varieties, combining traits of the parent plants (i.e. outstanding vigor, disease or insect resistance, productivity, etc.) Seeds from F1 hybrid cultivars will produce a mixture of plant types, most of which will be inferior to the parent. For this reason do not save such seed but rather buy new seed each year.

Collect seed from the most desirable fruit, which is growing on the best looking plants in your garden. Allow the fruit to reach full maturity before picking. In most cases the seed will have a hard seed coat or turn a dark color when it is mature. A seed may not be mature at the same time a fruit reaches its mature red, yellow or green color.

When fully ripe pick and dry the seed as soon as possible. Some seeds such as tomato seeds are contained in a gel-like material. To remove the seed from the gel place the seed and gel in a jar of water. Stir the mixture a few times a day until it ferments. Once it ferments the seeds should drop to the bottom of the jar the liquid can be poured off and the seeds can be collected for drying. Different sources suggest different methods for drying. One method used is to spread the seeds out on newspapers, which are placed in a warm, dry and well-ventilated location where they are allowed to remain for about one week. After the seed has dried, remove any pulp that may remain.

Next, place equal weights of silica gel (a moisture absorbing material available from craft shops) and seed into a paper envelope. Some sources suggest using powdered milk instead of silica gel. Place the envelope into a clean

dry glass jar, which contains a lid capable of making a tight seal. Do not use paper or cardboard containers as they will be vulnerable to moisture as well as more susceptible to damage from insects or rodents. Small sized seeds should remain inside the jar for 7 to 11 days and large sized seeds should remain in the jar for 11 to 15 days. The next step is to remove all of the silica gel from the envelope. After removing the silica gel place the envelope containing the seed back into the glass jar. Replace the lid and seal it tightly.

Store the jar containing the seeds until they are ready to use in a location with a low temperature and low humidity. Temperatures between 32° F. and 41° F. are considered by several sources to be ideal. Most seed should be kept where the relative humidity does not go over 20 to 35 percent. Each kind of seed varies. If seed becomes too moist, regardless of temperature, it loses its ability to germinate over a period of time. If you are using a jar which is properly sealed a refrigerator is a good location to store the seed.

It is recommended that about a month or so before the seed is to be planted (or before you place seeds into their final storage location) that you test the percent germination of the seed. This is the percentage of the total number of seeds that have the capability to germinate and grow. This will help you decide on how many seeds to plant especially if the percent germination is low. The easiest way to do this is to moisten two or three layers of paper towels. Place an even number of seeds on the towels and roll them up. Do not roll tightly. A loose roll will provide more oxygen and give a better test. Place the rolls in a plastic bag. Keep in a warm place such as the kitchen counter or on top of the water heater. Some seed will germinate in a matter of several days and therefore it is necessary to check the rolls every two or three days. Count the number of seeds which germinate and change this to a percentage of the total seed tested to determine an approximate percent germination rate of the seed you have saved. The percent of germination for seed that you purchase can be 90% or higher, so this can be used as a guide in determining how successful you have been in saving your seed.

Resources: *Saving Vegetable Seeds: Tomatoes, Peppers, Peas and Beans*. Jill MacKenzie, Horticulture Technician. University of Minnesota Extension Service, H214S, Reviewed 10/98. and "Gardeners' Q&A. *American Horticulturist*. p. 14. September 1991.

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