



Lady Bird Johnson Wildflower Center

Guidelines for Seed Collecting

Educating people about the environmental necessity, economic value, and natural beauty of native plants

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Seed Harvesting

Most wild seeds are collected by hand because the desired species usually do not grow in pure stands and the site's topography often limits the use of mechanical equipment.

Plants are easiest to identify when they are flowering, so it is a good idea to mark individual plants with surveyor's flagging tape, or to write down specific landmarks to help you relocate populations when the seeds are ready (For example: 6 miles from town on Farm Road 12 by an Adopt-a-Highway sign on the south side). Always get permission from the landowner when collecting on private land. Never collect on public land. Areas destined to be developed or destroyed in the near future provide excellent sites for collecting seeds, provided the landowner has given permission.

Never collect seeds from rare or endangered species—collect only from plants that you find growing abundantly in a given area, to ensure that you do not eradicate an isolated population. Take at most, only one-tenth of the seeds so that enough seeds are left to reseed and perpetuate the stand.

Collecting seeds at the correct time is crucial for propagation to be successful. Gather fruits from the ground only if they have recently dropped. Reject fruits or seeds that have been on moist ground for some time, or any seed that may have begun to decay, mold, or become infested with insects. They could contaminate the rest of your seed harvest if combined with other seeds during storage. Delayed harvesting of species with persistent pods often results in insect-infested seeds.

The tools and material you will need depends on the size of the harvest. Basic equipment includes gloves, boots, drop cloths, pruning shears, boxes, baskets, paper bags, and/or canvas bags. Although plastic bags may be used for collecting, storing seeds in airtight containers or plastic bags will encourage mold growth. Many plants can be stripped by hand or the seed can be beaten onto drop cloths.

Seed Maturation

Proper seed harvesting is aided by an understanding of seed ripening, dispersal mechanisms, and the influences of weather on the timing of seed maturation. Flowering and fruiting dates vary from year to year. You should be familiar with the approximate flowering and fruiting dates and then be able to recognize mature fruit or seeds. An early spring and dry summer, for example, may cause seeds to set early. Seed quality also varies from year to year and from location to location. Experience is often the best teacher in learning to determine whether a seed is mature.

When seeds are mature you should begin collecting. Mature seeds are usually dark in color, firm, and dry. Seeds that are green and moist are immature and generally will not germinate or will produce unhealthy seedlings. The flesh of pulpy fruits often becomes soft and changes from green or yellowish to reddish or blue-purple when ripe. Seeds are often mature a week or more before the fleshy fruits turn color and fall from the plant. You can determine seed maturity by cutting open the fruit and examining seeds for firmness, fullness, and dark color. A delay of only a few days may be the difference between success and failure in collecting a good crop, especially for those species with seeds that are dispersed quickly or are attractive to birds and other animals.

Many pods or capsules dehisce when ripe and mature at staggered intervals making a quantity difficult to collect. Once maturation begins on a plant, check it every few days to collect any newly matured seeds. You may also try inverting a paper sack over the immature seed and tying it off with string.

Seed Cleaning and Preparation

Seeds should be collected just before, or, as the pod or capsule turns brown and dries, and before it dehisces. The pods should be dried in single layers spread thinly on canvas cloths, screens, or trays elevated from the ground. Curing on the pod may take longer for species other than legumes. Air-drying takes one to three days, depending

on the humidity. After the seeds have dried, you can extract them from the pods by beating or thrashing. A mature pod will often twist and split open to drop the seeds.

Although not all seeds need to be cleaned before storage, those with pulpy fruit should be cleaned to reduce mold. Remove the pulp of large fruits by hand by rubbing on a screen or mashing with a wooden block, rolling pin, or fruit press being careful not to damage the seed. You can clean smaller fruits with a blender, as long as you are careful not to damage the seeds. It is best to start with a small batch and check to be sure they are not being damaged. Blend a small amount of the seeds in a two to one ratio with water. Use brief, intermittent agitation at low speed and then strain the mixture to separate the seeds from the pulp.

Thrashing seeds (separating seeds from the rest of the collected plant material) is optional, but it does have at least two advantages: it reduces the volume of seeds to be stored, which saves on storage space; and more seed-predators such as insect eggs, mold spores, and other seed disease vectors may be removed with the discarded chaff. The easiest way to thrash seeds is to rub the collected material against a coarse screen with a gloved hand.

Seed Storage

The two most critical necessities for storing seeds are constant temperature and low humidity. A temperature of 50 degrees Fahrenheit or less and 50 percent humidity or lower is ideal. In general, fluctuating temperature and humidity harms seeds more than slightly higher constant values of each.

Store seeds in the refrigerator, not the freezer, until you are ready to plant. Low temperatures, humidity, and darkness protect seed longevity. If it is not practical to store seeds in your refrigerator, store them in any place that is cool, dark, and dry, protecting them from insects as much as possible. Store the seeds in paper sacks to allow good air circulation and prevent molding. Do not store seeds in plastic bags or other non-breathable containers unless they are air-dried thoroughly first. It is important to include basic information on labels, including date of collection, species name, location of collection, and name of collector.

Dusting the seeds with a mild insecticide will help prevent insect infestation and kill any pests collected with the seeds. Or, you can insert a pest strip for several days while leaving the paper bag open to allow insects to escape. Freezing the seed for a brief period may also be a viable alternative.

Seeds of fleshy fruits should be kept moist to maintain viability. If allowed to dry out, they will either germinate prematurely or not at all. This type of seed should be planted immediately or mixed in a one-to-one ratio of moist sand, sphagnum moss, or a peat and perlite mixture, and stored in a cool place. If the root emerges from the seeds during storage, the seedling should be removed and planted immediately.

Seed storage longevity varies from species to species. Some seeds may be viable after ten years of storage, while others may not germinate after two years in storage. Ideally, seeds should be planted within one year of collection.