



## Harvesting and Cleaning Seeds

Seed harvesting and cleaning techniques fall into two main categories according to whether the fruits and seeds are **dry or wet** when mature.

### *Dry Seeds*

'Dry' seeds include beans, okra, peppers, basil (most all herbs), members of the *Onion* and *Carrot Families*. Almost all flowers fall in this category.

Cleaning dry seeds usually involves simply drying and crumbling the pods or husks, then screening or 'winnowing' the seeds to separate them from the chaff.

**Chaff-** the seed coverings and other debris separated from the seed in threshing grain. Chaff of flowers is the scales borne on the receptacle among the florets in the heads of many composite plants.

**Winnow-** to free (seed) from the lighter particles of chaff, dirt, etc., especially by throwing it into the air and allowing the wind or a forced current of air (fan) to blow away impurities.

### *Wet Seeds*

'Wet' seeds are found in such plants as tomatoes, eggplants and many squashes. Cleaning wet seeds requires washing to clean the seeds and to separate them from the surrounding pulp.

In addition, in some cases wet seeds (such as tomatoes) are best fermented for several days to remove germination-inhibiting substances from the seed coats. Fermenting can also help such seeds as members of the Squash family by killing molds, mildews and other disease organisms that may be present on the seeds after growing.

Some families (such as the *Cucumber family*) include some plants that produce wet seeds (e.g., squashes and melons) and others that produce dry seeds (e.g., luffa and hard gourds).

## *Cleaning Dry Seeds*

**Harvest dry seeds from their plants when their pods or husks have dried.** Some seeds can be picked before they are fully dried on the plants if rains threaten. Other plants, however, (i.e., *Mustard family*), will not finish ripening once they have been removed from the plant. Leaving seeds on the parent plant to full maturity and dryness is always preferable.

**Once pods or husks have been harvested, store them in a dry place and wait until they are thoroughly dry.** When the pods or husks are dry enough they will easily crumble between your hands. Crumble the pods or husks until all the seeds are released. Then place seeds and chaff in a bowl or box and swirl or shake gently. Most of the larger chaff pieces will rise to the top and can simply be removed by hand.

**Seeds and finer chaff are easy to separate** by a variety of methods. One way is to use two screens of varying mesh, one a little smaller than the seeds and the other a little larger. The first screen lets anything smaller than the seeds fall through, and the second lets the seeds through and stops anything larger.

**Another method of separating seeds and chaff is to roll seeds down a gently sloping board,** leaving chaff stranded near the top of the board. This simple method works well with round seeds, but is basically useless for flat seeds such as squashes.

**A very ancient method of cleaning seeds is called 'winnowing.'** In a gentle wind, drop the seed/chaff mixture from a height of several feet into a bucket or onto a sheet or tarp. With a little skill and some cooperation from the wind (a fan in an enclosed space can be used for better control), seeds will fall into the bucket or onto the tarp while chaff blows away to one side.

**Another, very simple way to winnow small quantities of seeds is to swirl or gently bounce the seeds and their chaff in a shallow bowl while carefully blowing chaff away with your breath.** It's a good idea to do this over a cloth or newspaper to catch seeds blown out of the bowl with the chaff. These can then be hand-cleaned or planted.



## Cleaning Wet Seeds

**Wet seeds are easy to clean, though some need the additional step of fermentation.** Seeds which require fermentation should be cleaned *after*—**not before**—fermenting (see [Fermenting Seeds](#) for directions on how to ferment seeds).

**Allow the fruits to fully mature on their plants before harvesting.** The fruits will be well past the eating stage.

To clean wet seeds, scoop the seeds from the fruit, pulp and all. Pour the seeds and pulp into a large, sloping bowl and add water. **Healthy seeds will sink to the bottom of the bowl, while dead seeds and most of the pulp will float.** Use your fingers to gently separate all the seeds from the pulp.

Then, **to remove the pulp and dead seeds, carefully pour the extra water with the floating pulp and dead seeds from the bowl.** Pour quickly enough for dead seeds and pulp to pour off the top, and slowly enough so that the heavier, good seeds remain safely on the bottom. By repeating this rinsing and pouring process several times, the seeds can be gotten very clean (getting seeds as clean as possible helps to keep them from sticking to whatever surface you dry them on).

## Drying Wet Seeds after Cleaning

To initially dry your seeds after cleaning, drain them of excess moisture in a strainer. Pat the bottom of the strainer with a cloth towel to pull extra water from the seeds after they have drained. **Spread the seeds on a piece of glass, a shiny ceramic plate, even a cookie sheet works to dry (they will stick to paper, even waxed paper).** Place the glass or ceramic plate in a cool, dry shady spot for several days. On top of a refrigerator works well.

**After the seeds are dry, they can be carefully removed from the glass or plate and final-dried before being stored in jars.**



## *Why Ferment Some Seeds?*

**Fermenting some wet seeds can dramatically improve their ability to sprout.** Fermentation removes germination-inhibiting substances from seed coats, makes them more permeable to water, and also helps reduce or control seed-borne diseases (for healthier seedlings).

Purposely **fermenting wet seeds mimics the natural process of fermentation** that occurs when ripe fruits are eaten by animals or drop to the ground and rot. When we intervene to keep seeds from fermenting naturally, it becomes necessary to ferment them artificially so they can complete their natural ripening cycle.

**Fermentation is needed for tomato seeds (in order to remove a germination-inhibiting gel), and can also benefit Squash Family and eggplant seeds,** though more care must be taken with these to avoid premature sprouting. Ferment Squash Family seeds for only a day-and-a-half or so, eggplants a little longer.

## *How to Ferment Seeds*

To prepare seeds for fermenting, **simply squeeze or scoop the seeds—together with the pulp that surrounds them—into a jar with a little water** (about half as much water as seeds and pulp). There is no need to include more pulp than naturally comes with the seeds. Store this seed/pulp mixture in a warm place (75 to 85° F) for 1½ to 5 days (depending on the seed type and whether conditions are warmer or cooler).

**Fermentation will be evidenced by bubbling and/or by the formation of a white mold on the surface of the mixture.** As soon as the bubbling or mold have been evident for a day or so, pour the mix into a bowl and clean according to the directions given earlier in the section [Cleaning Wet Seeds](#).

**Watch closely, as seeds left fermenting too long (especially above 80° F or so) may germinate, ruining their chances for storage. Once the seeds start to 'imbibe' or swell due to taking on water, they will have begun their internal process of germination... by the time their tiny roots have begun to emerge, it is far too late to try and dry them for storage.** Sprouted seeds can be planted immediately and grown out (depending on season), but **they will die if they are dried out for storage once they have begun to germinate.**

**Experience will tell you how long you can ferment seeds under your conditions before they begin to sprout.** Eggplant and squash seeds germinate more readily than tomatoes, so they should only be fermented for a couple days or so. Squash seeds, particularly, are quick to germinate, sometimes even sprouting in well-ripened squashes while they are still on the vine!

**It's not required to ferment squash or eggplant seeds, though it increases their germination rates and kills some seed-borne diseases.** In general, when temperatures are kept between 75 and 80° F or so, fermenting is safe and beneficial and will be safely completed before seeds begin the process of germination.