Conservation Education Series
Presented by
The Garden Project of Southwest Colorado
& La Plata Conservation District

Seed Saving Basics

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Why do we save seeds?

- GMO and industrial factors
- Bio-cultural connections
- microclimate food resilience
- nutrition and empowerment
- saves money

How do I foster healthy and diverse seed?

- Use seasoned pesticide-free compost, particularly with heavy feeders (corn); ideally cater to the crop's desired conditions and your region's natural cycles
- Balance relationship of weeds and wild cultivars for soil structure, biodiversity, and companionship
- Water heaviest in the evening to conserve moisture, or appropriately stress plant before flowering phase for more resilient seed; some plants, such as Solanaceaes, are more vulnerable to disease when leaves are dampened from watering
- Pull diseased plants before they seed; also check for any plants showing resistance for possible isolation and seed saving

- **Viability**—what percentage of a batch of seeds will germinate?
- **Vigor**—how vigorous are the seedlings produced?
- **Size**—are the seeds large and fully formed?
- **Maturity**—did the seeds have what they needed to mature fully?

What seed types are on the market?

- Open Pollinated: plants are self-pollinated or pollinated by a similar variety through natural means.
- Heirloom: a variety mostly "true to type" passed down through generations.
- Hybrid (F1): two varieties or plants are crossed by human activity and the resulting next generation will not grow "true to type" from the seeds.

How are plants isolated for seed purity?

- Isolation Distances: distances dependent on variety; determine the wind's direction; spicy and sweets do not mix; check what your neighbor is growing
- Time Isolation: stagger varietal plantings for different flowering phases such as Spring and Fall; check for long and short maturation varieties
- Manual Isolation: cloth bags or cages can cover the flowers or flowers tied shut, typically with squash; hand pollination is possible with Cucurbitas and corn most commonly

How do I clean and save seeds?

- Dry Methods: the seed pods are dried and cracked; winnowing with screens to remove husks; includes Legumes, Brassicas, Grains, and more.
- Wet Methods: seeds are washed to remove pulp and in some cases fermented for a few days to remove germination-inhibiting substances or diseases; they are afterward drained and left to dry before storage.

How to Ferment Seeds - *The Seed Saving Handbook at www.howtosaveseeds.com*

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 HYPERLINK "http://howtosaveseeds.com/seedprep.php#wet"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.

How do I safely store seeds?

- Temperatures: colder temperatures such as a cool cabinet, root cellar, freezer, or fridge is ideal for most common seed types; minimize fluctuations for best germination
- Time: Germination rates decrease as seed stores of fats and starches naturally break down; most common seed types will last for years in cool storage
- Containers: glass jars work well, but check for sweating inside if seeds are not fully dry; sealed packets can be frozen or stored cooler; food grade buckets are great for multiple packets, grains or bulk legumes regularly rotated out in field

Resources: *Seed to Seed* by Suzanne Ashworth; *The Seed Garden* by Seed Savers Exchange; *Vegetable Seed Saving Handbook* at www.howtosaveseeds.com