

**SEEDS**

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spread of transgenic (GMO) seeds and pollen. Seed growing never ceases to pose unusual challenges to the grower with many new factors that one doesn't encounter with market gardening. Seed growing will enlighten you to new disease issues, biennial peculiarities, an increased reliance on pollinators, migratory birds feasting on your crop, seed harvesting and processing wisdom, encouraging your crop to ferment in order to release its seed and many other wild and wooly tales from the brink of domestication.

*Don Tipping lives at Seven Seeds Farm in Williams, which is also the home of Siskiyou Seeds (www.siskiyouseeds.com). Don will be teaching a class in seed saving on Saturday, April 17, 1-4 pm at their farm in Williams. Soulfood72@gmail.com, 541-846-923*

**SEEDS - BASIC CONCEPTS**

**Basic Botany**

Nomenclature (Family->Genus->Species->Variety)

Example: Carrots:

Apiacea ->Daucus ->carrota ->"Scarlet Nantes"

- Plants cross within a species (i.e. Zucchini (Cucurita pepo) will cross with pumpkins (C.pepo), but not with buttercup squash (C.maxima) however rarely across species barriers (think mules)
- Flower parts (Pistil/ Stamen/ Anther/ Style/ petals /sepals / ovary)
- Annual vs. biennial seed producers
- Biennials include carrots, beets, parsley, cabbage family, kale, onions, leeks, Swiss chard
- Monecious vs. Dioecious (i.e. spinach)

**Pollination**

- Insect Pollinated – cucurbits, Brassicas, onions, leeks, carrots, parsley
- Wind Pollinated – grasses (corn), beets, chard, spinach, oaks
- Self-Pollinated – Tomatoes, peppers, eggplant,

- lettuce, beans, peas
- Extra-floral nectarines – plants entice pollinators with the sweet stuff!

**Cross Pollinated Crops** – need isolation from one another (usually a minimum of ½ mile).

**Self Pollinated Crops** – less or no isolation requirements.

**Timed Isolation** – planting times are staggered to avoid overlapping flowering (work well with corn).

**Inbreeding Depression** – minimum population sizes are needed with the cross-pollinated crops to avoid "bottlenecking" the genetic diversity of the population.

Generally 120 plants are required; an exception is the cucurbits, where you need only ten plants. Inbreeding depression is the result of too small of a population means reduced vigor, smaller yields, more susceptible to pests and disease.

**Hybrid** – a crossing of two separate varieties. An F1 hybrid is generally when two uniform inbred lines are crossed. The resulting generation is the F1 (for first filial), and then next season would be the F2 and so forth.

**Heterosis** – is the term to describe hybrid vigor which results from broadening the genetic base (the opposite of inbreeding depression).

**Grex** - a hybrid with many parents.

**Strain cross** – crossing two strains of the same variety. **Advantages to saving your own seed** – save money, seed security, possible to select for adaptation to disease, pests, climate and soils; provide nectar source for pollinators and beneficial insects. Fun, learning and seed to share!

**Wet-Processed vs Dry-Processed seeds** – Wet-processed include tomatoes, melons, eggplant, squash, cucumbers, peppers. Most all others are harvested when seedpods are dry.

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*Editor's note: An excellent book on seed saving is Seed to Seed by Suzanne Ashworth.*

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Vegetable (Genus species)	Cycle	Pollination	Pollinator	Isolation	Seed Life	Notes
<b>Beans</b> (Phaseolus vulgaris)	A	Self		100'	3-5 yrs	Losses Vigor in time. Let dry in field,
<b>Beet/Chard</b> (Beta vulgaris)	Bi	Cross	Wind	1 mile	3-5 yrs	Beets cross w/ Chard
<b>Broc.,Kale,Cabbage Collard, Caulifi.</b> (Brassica oleracea)	Bi	Cross	Insect	1/2mile	3-5 yrs	Many types of Brassica exist within the same species. Consult a book
<b>Carrot</b> (Dacus carrota)	Bi	Cross	Insects	½ mile	2-3 yrs	Crosses w/ wild carrot
<b>Celery</b> (Apium graveolens)	Bi	Cross	Insects	½ mile	2-3 yrs	Attracts beneficial insects, gophers love to eat roots!
<b>Corn</b> (Zea mays)	A	Cross	Wind	½ mile	4-5 yrs	Minimum 200 plants. Let dry on stalk.
<b>Cucumber</b> (Cucumis sativus)	A	Cross	Insects	¼ mile	5-10 yrs	Mature to big & yellow. Ferment pulp water process.
<b>Eggplant</b> (Solanum melonega)	A	Self		150'	3-4 yrs	Let mature to yellow. Water process
<b>Onion &amp; Leeks</b> (Allium cepa & Allium porrum)	Bi	Cross	Insects	¼ mile	1-2 yrs	Pull onions & replant in fall in mild winters or early spring. Leave leeks.
<b>Lettuce</b> (Latuca sativa)	A	Self		50'	2-3 yrs	Needs long season, otherwise easy
<b>Melon</b> (Cucumis melo)	A	Cross	Insects	¼ mile	5-10 yrs	Won't cross w/ water-melon. Seed ripe when fruit's ripe. Water process
<b>Mustard</b> (Brassica rapa & Brassica juncea)	A	Cross	Insects	½ mile	3-5 yrs	2 species B. rapa & B.juncea (spicy types) won't cross
<b>Peas</b> (Pisum sativum)	A	Self		50'	2-3 yrs	Weevils a problem
<b>Pepper</b> (Capsicum annum)	A	Both	Insects	500'	3-5 yrs	More isolation between hots and sweets is necessary
<b>Radish</b> (Raphanus sativus)	A	Cross	Insects	¼ mile	3-5 yrs	Beware of wild species Plant early
<b>Spinach</b> (Spinacia oleracea)	A	Cross	Wind	½ mile	2-3 yrs	Males make no seed
<b>Squash/Pumpkin</b> (Cucurbita pepo, C. maxima, C. moschata) r	A	Cross	Insects	¼ mile	2-5 yrs	3 species won't cross with each othe
<b>Tomato</b> (Lycopersicon esculentum)	A	Self		25-100'	5-10 yrs	Potato leaf types tend to cross more readily

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