

Ready... Set ... Grow!

Basic Seed Saving

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BE BOLD. Shape the Future.

“Growing vegetables is like babysitting, growing seeds is like having children.” unknown



What is a seed?

- Living time capsule
- Protective package
- Food energy storage
- Unlimited Potential



Seeds a genetic Legacy

- Seeds tell the story of hundreds and thousands of years of careful selection, collection, planting, and sharing



Seeds are Resilient

32,000 year old seeds

- Found in Siberian tundra
- Buried by ice age squirrels
- Germinated successfully

Silene stenophylla



National Geographic

Why should you save seeds?

- Reproduce varieties that do well
- Ensure long-term survival of excellent varieties
- Food & genetic diversity
- Saves money
- **No shortages**



Keys to Success

- Scientific Name & families
- Plant Life Cycle
- Flower Biology
- Pollination
- Harvesting
- Storage



Scientific Name

- Many plants have different common names - confusing
- Plant Family grouped by common characteristics
- Latin
- One scientific name per plant



Why is this important?

- Crossing is rare between different species
- Vegetable rotations between families of plants
 - Pea – peas & beans
 - Gourd Family – Cucumber, squashes, melons
 - Night shade Family - tomato, peppers, potato, eggplant
 - Brassica - broccoli, cabbage, kale, radishes
 - Aster – lettuce, sunflower

NuMex Garnet Chile

- Family: Solanaceae
- Genus: Capsicum
- Species: annuum
- Cultivar: 'NuMex Garnet'

Capsicum annuum L.
'NuMex Garnet'



Stephanie Walker

Life Cycle - Annual Plants

- Complete the life cycle – seed to seed - in one growing season
- **Easy to save**
- Lettuce, tomatoes, chile, beans, peas most herbs and many flowers



Life Cycle – Biennial Plants

- Crops that typically produce seed in the **second year**
 - onions
 - carrots
 - Brassica family
 - kale, collards, cabbage, broccoli, radishes...
- Advanced seed saving**



Life Cycle - Perennials

- Live longer than 2 years
- Produce seed every year
- Grapes, fruit and nut trees, shrubs, asparagus,



Gardeningknowhow.com

Flower Biology



© Paula L. Jensen

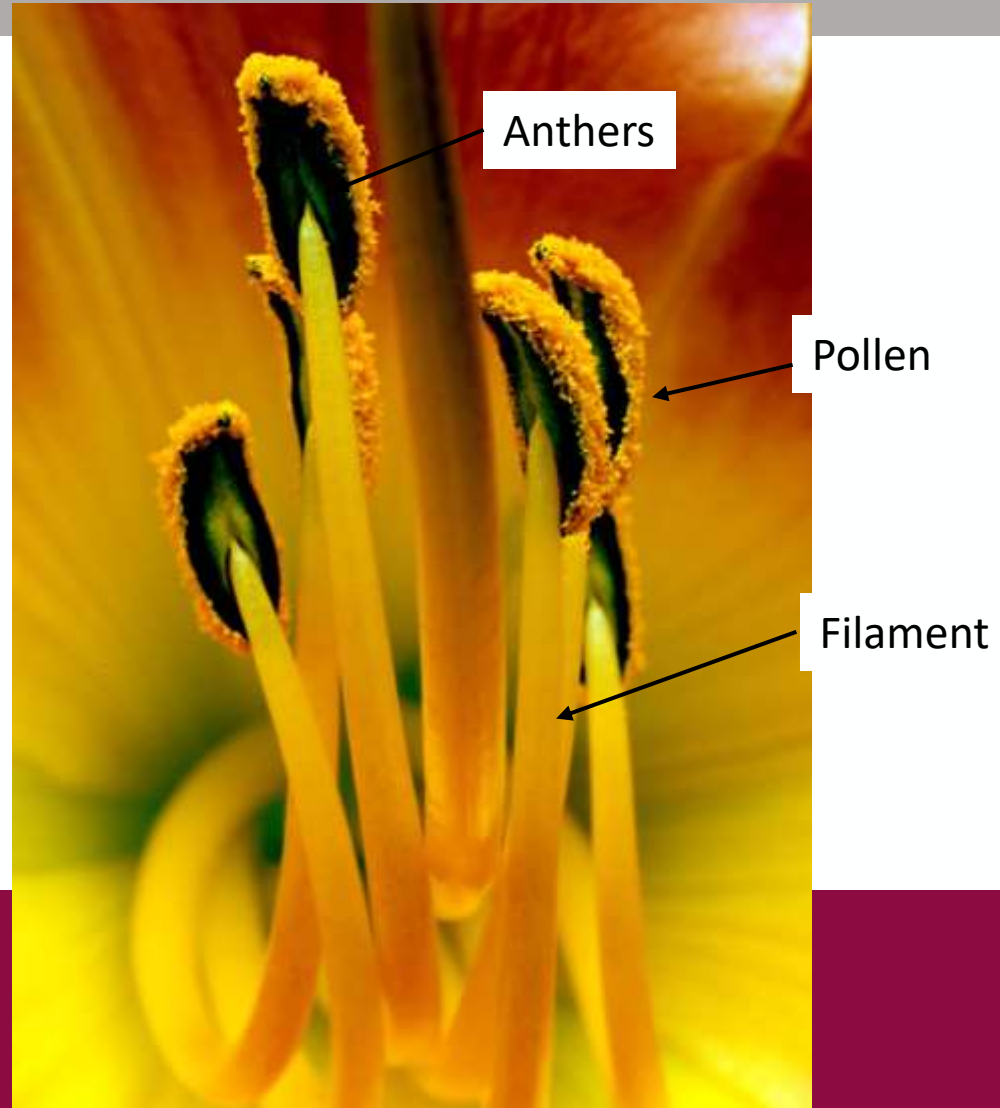
Types of flowers

- *Imperfect flowers*: have **either** male or female parts
- *Perfect flowers*: have **both** male (stamen) and female (pistil) parts



Stamens = anthers + filament

- Pollen producing



Pistil = stigma + style

- Pollen receiving
- Site of fertilization
- Fruit (seeds) produced at base of pistil in ovary



Perfect Flower



Imperfect Squash Flowers

Male Flower



Female Flower



Types of Plants

- ***Monoecious*** (one house) plants have separate male and female flowers on the **same plant**
- Examples: most Melons, Squash, Cucumbers, Corn, Gourds



Male - tassels



Male

female



Female - silk

Types of Plants

- ***Dioecious*** (two houses):
male (produce pollen) and
female (produce seed) flowers
on **different** plants

Examples: Spinach, Asparagus,
Mulberry

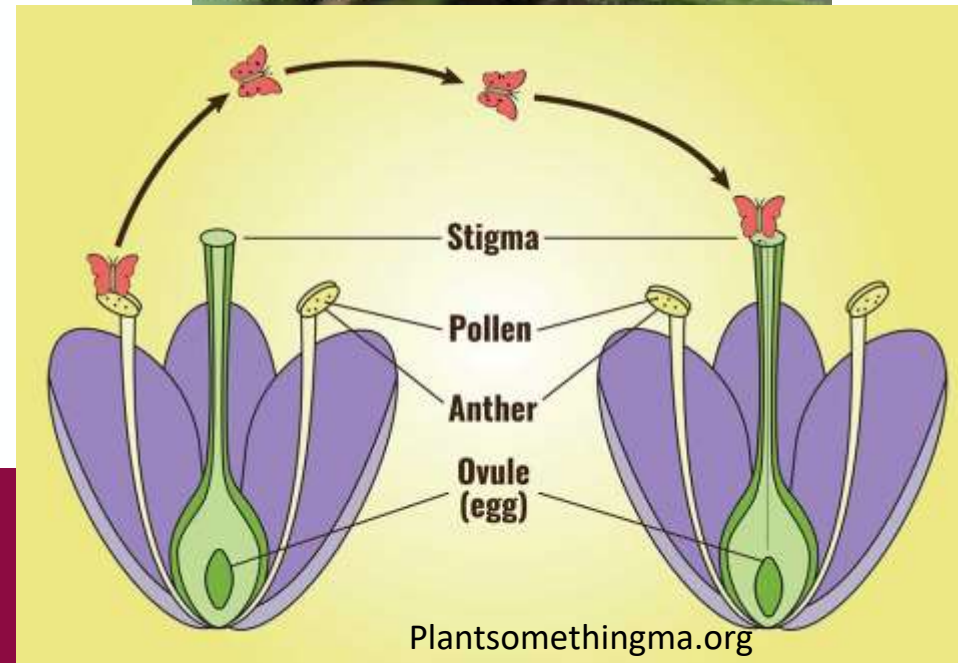


Pollination

- Pollen transfer from the male (anthers) to the female parts of a flower (pistil) to produce viable seed
- Usually same species



Watermelon



Pollinators



Hybrids

- Hybrids are specifically cross pollinated mechanically or by hand



Open Pollinated Seeds

- Random pollination – wind, self, insects, animals, water...
- “Heirloom” many generations of seed saving
- “Crossers”

Open-Pollinated: Plants produced by pollination between two or more genetically similar parents of the same species and variety.

Heirlooms are simply very old open-pollinated varieties.



Butternut + Butternut = Butternut

showmeoz.wordpress.com

Self Pollinating Flowers- selfers



Beans
Peas
Tomatoes
Endive
Lettuce



Hybrid Seeds

- You can save seed from hybrids
- Results may not resemble the original plant



What does this mean for seed saving?

- Seed saved from hybrids **may not be uniform (true to type)** – OK for a home garden
- 3:1 ratio offspring will be similar to the parent

Pumpzini Bill McDormand



Pumpkins, Squash and Gourds

<i>Cucurbita</i> Species	Pumpkins	Summer Squash	Winter Squash	Ornamental squash
<i>C. pepo</i>	Pie, Miniatures	Crookneck, Zucchini	Acorn, Fordhook	Gourds
<i>C. maxima</i>	Jack O Lantern		Hubbard, Banana	Turban
<i>C. moschata</i>	Crookneck pumpkins		Butternut	
<i>C. argyrosperma</i>	Cushaw		Cushaw	

Keeping your seeds pure

- Hand pollinating
- Staggered planting dates (2-4 weeks)
- Grow only one variety of any one species at a time
- Isolation cages
- Bag flowers



Happy Accidents

- Looking for new and unusual plants
- Marking and selecting seeds from those plants
- Saving and growing out the next year



Burpee seed company

Let's go



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Choosing the best seeds

- Characteristics you like
- Healthy plants
- Undamaged seed
- Save seed from as many plants as possible
- Flag your fruits



NMSU Biad's Reserve chile

Harvesting



Dry Seed Method

- Allow seeds to dry on the plant
- Harvest and clean chaff from seeds
- Store
- Beans, flowers, greens, okra, corn, peppers, chard, kale, lettuce, herbs....



Irisindiana.org



Fabaceae – Pea family

Allow pods to dry brown on the plant

Most are selfers.

(6 weeks after eating stage)

- Beans
- Peas
- Redbud
- Yellow Bird of Paradise
- NM Locust Tree
- Spanish Broom



Lamiaceae – Mint Family

Square stem -

- Mint
- Oregano
- Basil
- Marjoram
- Sage
- Rosemary



eudloseedsavinggroup

Asteraceae - Lettuce

- Allow plant to go to seed
- Cut seed head
- Put upside down in a paper sack to harvest



Chile seeds

- Soak in mild chamomile solution for faster germination *

Not science based but
Master Gardener
recommended



thechilifoundry

Flower Seeds



Gardening know how.com



UCANR.edu

Wet Seed Treatment

- Have pulp/wet flesh
- Seeds need to be separated from the pulp
- Soak in water
- Remove floaters
- Rinse seeds in strainer
- Dry & store



seedsavers.org

Solanaceae – Nightshade Family

Selfers:

- Tomato
- Eggplant
- Tomatillo

Chile & peppers – dry method



Tomato

- Plant heirlooms separate from hybrids
- Flag your fruit
- Completely ripen on vine before harvesting
- Seeds can be harvested from green tomatoes if allowed to ripen indoors
- Treatment - wet method (see later)



Cucurbitaceae - Squash, Cucumbers, Melons



Cookingclassy.com

Clean Your Seeds

- Threshing – break up plant material (fruits or pods) by stomping, beating, crushing...
- Winnowing – separate plant material from seed with a fan or light wind leaving only clean seed
- Hand cleaning
- Decanting- add water and float debris to surface, pour off slowly repeat
- Fermentation



Storage

- 3-5 years
- Frozen seeds 10+ years
- Ziploc for freezing only
- Dark, cool, dry place
- Optimal temperature 45-55 degrees with 25% humidity (Refrigerator)



Seed Cheat Sheet

Beginner:

Beans

Lettuce

Peas

Peppers

Tomatoes

Intermediate: x-pollination

Corn

Squash/Pumpkins

Advanced: 2 year cycle

Carrot

Beets/Swiss Chard

Broccoli/Brussels

Sprout/Cauliflower/Cabbage/

Kale

Turnips/Chinese Cabbage

Escarole

Onion

Radicchio/Endive

Resources

- <http://seedalliance.org/> free download manual*
- <https://Rockymountainseeds.org/>
- <http://www.nativeseeds.org/>
- <http://www.seedsavers.org/>
- <http://rodaleinstitute.org/>

Teaching resource:

- <http://www.lifelab.org/2012/08/seed-saving/>

Thanks!

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<https://aces.nmsu.edu/county/>

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