

Glossary of Seed Saving terms:

Achene: A hard, dry, one-chambered, one-seeded indehiscent fruit. The fruit wall is not joined with the seed coat. Example: spinach and sunflower.

Angiosperm: A plant whose seeds are formed within a fruit. Angiosperms, or flowering plants, are the dominant plants in the world today. Virtually all crop plants are of this plant class.

Annual: A plant that completes its full life cycle—including germination, reproduction, and death—in one growing season.

Anther: The pollen-producing part of a stamen.

Biennial: A plant that requires vernalization and usually completes its life cycle in two growing seasons, growing vegetatively during the first season, undergoing vernalization, and producing flowers and seeds and dying during the second season.

Bi-sexual flower: Each flower has both types of reproductive organs in the same flower. Also known as perfect flower.

Bolt: To elongate rapidly (as a stem) prior to flowering.

Carpel: A floral leaf bearing ovules along the margins.

Chaff: Leftover bits of dried seed capsules, leaves and branches.

Cross-pollination: The transfer of pollen from one plant onto the stigma or flower of another plant.

Cultivar: A plant or group of plants that have been bred or selected to have distinguishable, desirable traits; commonly called a variety.

Dehiscent: A seed capsule that splits at maturity. Seed collecting must take place before this happens or seeds will be lost.

Determinate: Primarily used in reference to tomato categories. Determinate refers to the growing habit of plants that are bushy, grow to a specific point, set fruit all at once, ripen over a short, two-to-four-week period, and are done.

Dioecious: Half of plant will have only staminate flowers and half will have pistillate flowers. Example, spinach and asparagus.

F1 hybrid: The first-generation offspring produced from a cross between two different populations or varieties; an abbreviation of “first filial generation”.

Fermentation: A process that mimics natural chemical reaction by allowing seed to break down organic barriers and prepare seeds for germination. The fermentation process breaks down germination inhibitors, protects against certain diseases, and adds years of viability to saved seeds.

Fertilization: Process in which sperm cell travels through pollen tube to ovary. Process complete when sperm fuses with an ovule and leads to formation of a seed.

Filament: The hairlike stalk of a stamen that has a pollen-bearing anther at its tip.

Flower: The reproductive structure of an angiosperm.

Genetic Diversity- The palette of genetic differences generated by plants of the same species.

Genetically modified organism (GMO): An organism that has had its genetic composition altered by way of molecular breeding techniques.

Germ: In botanical terms, the germ is the earliest form of an organism; a seed, bud, or spore. That is, it is the reproductive part of a seed -the embryo -that grows into a plant.

Germination: The process by which a seed absorbs water and swells, causing the radicle to break through the seed coat; the emergence of a young plant from a seed.

Harden off (hardening): The straightforward process of gradually acclimating a tender seedling, germinated, and nurtured under artificial conditions, for life in the weather exposure of the garden. For most tender plants (tomatoes, peppers, etc.), hardening off for two weeks is desirable.

Heirloom variety: An open-pollinated cultivar that has been grown and shared from generation to generation within a family or community.

Hybrid: A plant or variety created by crossing two stable, genetically distinct parental populations; of or related to such a plant or variety; also called an F1 hybrid.

Imperfect Flower (unisexual): A flower that contain a pistil or stamens, but not both.

Inbreeding: When a sperm of an individual plant fertilizes the ovule of the same plant. Also known as self-fertilization.

Inbreeding Depression: A loss of vigor because of inbreeding. Inbreeding is the result of self-pollination or pollination between close relatives due to insufficient population. Sometimes also referred to as “bottle necking.”

Indeterminate: Primarily used in reference to tomato categories on our web site. Indeterminate tomatoes continue to grow, set fruit, and ripen continuously until death, usually due to disease or frost conditions. Also known as vining types, they require staking or other support.

Isolation: The physical separation of one plant or group of plants from another to prevent cross-pollination. Here are a few types of isolation:

Distance - depends on how the plant cross pollinates. Check this [Seed Matters-Seed Saving Chart](#) to see what distance is ideal for different species.

Timed Isolation - for this method you would want to use a type of plant that has a quick turnaround in our neck of the woods. The idea behind it is to plant different varieties within the species at different times so that neither of them are flowering at the same time.

Bagging/Hand Pollination - plants like squash that have large colorful flowers that attract a lot of insects you will want to use this method. You want to put a fine mesh bag (very small holes so no insects can get in) over a female blossom that is almost ready to bloom in the evening and the next

morning after the dew has dried, you will take at least 3 male flowers from the same variety, but different plants and exchange pollen from the male flower to the female flower.

Alternate Day Caging - using this method you would want to make a structure with fine mesh walls that you would put over a certain number of each variety every other day. When you have the cage over one variety you let the other go un-caged so that insects can do their job of pollinating.

Monoecious: Each plant has both sexes of flowers. Example-corn, cucumbers, squash.

Natural selection: the multigenerational process by which heritable traits in a population become common as a result of how efficiently those traits help individuals survive and reproduce.

Open-pollinated variety: A variety that, when allowed to cross-pollinate only with other members of the same population, produces offspring that display the characteristic traits of the variety.

Outbreeding: When sperm of one plant fertilizes ovule of a different plant in the same species. Also called cross-pollination.

Ovary: The female part of a flower that contains the ovules.

Perennial: A plant that can live for more than two years, usually producing flowers and seeds for many years.

Perfect Flower: A flower that contains both stamen and pistil.

Pistil: The female reproductive organ at the center of a flower, usually composed of an ovary, style, and stigma.

Pollen: Typically dust-like structures, produced by anthers that carry male reproductive cells in flowering plants.

Pollen Tube: A conduit that transports sperm to ovules.

Pollination: Process which transfers pollen from staminate to pistillate flowers in plants. Resulting in fertilization and reproduction.

Pollinator: An animal, often an insect that moves pollen from an anther to a stigma

Population: The total number of plants of a variety that contribute their genetic material to the seeds being collected; a group of interfertile plants growing together that have the potential to interbreed

Row cover: Spun synthetic fabric used to protect crops from pests and frost

Scarify (scarification): In plant types that have hard seed coats, germination can take months to years to naturally occur. Scarification is the manual scratching or nicking of a hard seed coat as a means of simulating the natural weathering process to promote faster germination.

Seed: A mature plant ovule composed of an embryo, an endosperm, and a seed coat

Seedborne: Being carried in or on a seed; often refers to pathogens or disease

Self-Incompatible: Some perfect flowers have a genetic mechanism that prevents self-fertilization.

Self-pollination: The transfer of pollen from an anther to a stigma of the same plant

Sport: A phenomenon whereby a spontaneous mutation occurs within an otherwise stable plant variety. It is caused by a genetic mutation and not as a result of cross pollination.

Stamen: Male reproductive part of a flower. Consists of anther, which produces pollen containing the plants sperm and the filament that supports the anther.

Stratification: The process of pre-treating seeds to simulate a natural winter cycle that a seed must endure before germinating. Many seed species undergo an embryonic dormancy phase, and generally will not sprout until this dormancy is broken. The time taken to stratify seeds depends on species and conditions.

Stigma: The pistil's sticky tip, which receives pollen

Strong Inbreeders: Plants that rely almost completely on self-fertilization to reproduce. Cross breeding with another plant from same family can still occur but is rare. Pollination occurs by some type of external movement like the wind or an insect visit. Examples, tomatoes, peas, common beans and lettuce.

Strong Outbreeders: Rely completely or almost completely on cross fertilization to reproduce. Pollination relies on sufficiently large enough population of crop flowering at the same time, adequate insects or adequate wind/airflow and environmental conditions that allow for pollen to remain viable to transfer to another flower. Examples-beets, spinach, and broccoli.

Style: Connects stigma to the ovary.

Sucker: The unwanted shoots from the stem or roots that draw nutrients and sap the plants fruiting and flowering ability.

Sunlight Requirement Definitions

Full Sun: This term refers to a location that receives at least six or more cumulative hours of direct sunlight per day. That is, the period does not need to be continuous, but it does need to be direct, full sun. For example, a portion of your yard might receive four hours of full sun in the morning, but the house next door shades the garden for several hours with the full intensity of the sunlight returning to the spot for four more hours in the afternoon. In this example, that location is said to receive eight hours of direct full sun per day.

Partial Sun: Although you might think that this refers to a shady location, this is not the case. Locations that receive four to six hours of direct sunlight is said to be partially sunny locations. The rest of the day these areas are not in the dark but instead may receive filtered or indirect light.

Partial Shade: Like "partial sun," partial shade means that the amount of sun is more shaded receiving only two to four hours of direct sunlight per day. The north side of your house, under trees, or north facing hill slopes are examples of these areas.

Shade: By simple definition, shady areas are those that completely lack direct sunlight. In gardening terms this means, any location receiving less than two hours of direct sunlight in a day is shady.

Threshing: The physical process of separating seeds from the chaff.

Trait: A specific genetic feature expected of a plant.

True-to-type: Conforming to the known characteristics of a known plant variety

Unisexual flower: Only one productive organ per flower. Also known as imperfect flower.

Variety: A phenotypically distinct, naturally occurring population of plants within a species: commonly used as a synonym for “cultivar”

Vegetative Reproduction: Reproduction without seeds. Also known as Clone Reproduction.

Vernalization: the exposure of a plant to low temperatures, enabling the plant to flower.

Viability: Refers to the length of time that a seed will successfully germinate to produce a vigorous plant.

Winnowing: The act of pouring seeds from one container to another with use of the wind or a fan to separate chaff from seeds.