

Chapter 10. Glossary of Terms

Adventitious buds: Adventitious buds are the buds that arise at sites other than the terminal or axillary position. They may develop from roots, a stem internode, the edge of a leaf blade, or callus tissue at the cut end of a stem or a root. Adventitious buds allow stem, leaf, and root cuttings to develop into entirely new plants.

Alternate year bearing: The tendency to bear heavy fruit crops in one season and a light crop or no crop in the following season.

Anther: The pollen-bearing part of a stamen, which is the male part of a flower.

Aphids: Aphids, or plant lice, are small, soft-bodied insects which are common pests of nearly all indoor and outdoor ornamental plants, as well as vegetables, field crops, and fruit trees.

Apothecia: Cup- or globe-shaped structures, formed by mummies, that produce spores that infect young tissue and cause rapid wilting.

Bacteria: A large group of single-cell microorganisms. Some cause infections and disease in animals, humans, and plants.

Banding: Spreading and scattering fertilizer in a uniform strip or band along plant rows.

Bare-rooted plants: Plants that are sold or shipped with roots exposed, rather than in soil.

Biennial: A plant or plant parts, such as bramble canes, that complete their life cycle within a two-year period.

Bilateral high cordon system: This is a form of training system for grapevines where cordons, or the “permanent” arms of the grapevines, extend along the top wire of the trellis in both directions, instead of the bottom wire as in Low Cordon system. The cordons on a High Cordon then remain as semi-permanent extensions of the trunk, though they may need replacement every few years.

Bletting: The process in which fruit must be ripened after picking before it is edible.

Button berry: Term for damage to strawberries caused by tarnished plant bug.

Calyx: The ring of green, leaf-like structures enclosing a flower bud, immediately beneath the petals in an open flower; the blossom end of the fruit.

Canker: A necrotic, localized disease area with a sharp line of demarcation between healthy and disease tissue. Usually on trunks or stems.

Catfacing: Distortion of fruit caused by insect or mechanical injuries.

Central leader system: A system for training fruit trees to grow with a central trunk around which side branches of the desired number and spacing are developed and arranged.

Chlorophyll: The pigment responsible for the dark green color in leaves and for photosynthesis.

Chlorosis: Abnormal yellowing of foliage, often due to a deficiency of one or more nutrients or a lack of sufficient sunlight.

Cold hardiness: The capacity of plants to tolerate low winter temperature.

Conidia: Fungal spores that develop on the surface of rotted fruits during warm, moist conditions.

Cornicles: Tail-pipe type appendages on the back of aphids.

Cross pollination: The transfer of pollen from the anthers of one cultivar to the stigma of another cultivar; necessary for fertilization, fruit growth, and fruit development when a cultivar is not self-fruitful.

Crown: A short stem between the roots and leaves of a strawberry plant.

Cultivar: A variety of a plant that has been created and maintained through cultivation. Cultivars may differ in growth habit, season of maturity, fruit color, fruit shape, etc. Examples are Liberty apples, Earliglow strawberries, and Bartlett pears.

Deciduous: Woody plants that lose their leaves at the end of each growing season.

Degree days: Degree-days are the accumulated product of time and temperature between the developmental thresholds for each day. One degree-day is one day (24 hours) with the temperature above the lower developmental threshold by one degree.

Dormancy: The period during which plants cease visible growth due to unfavorable environmental conditions.

Dripline: The imaginary line at the edge of tree canopy.

Ellagic acid: A natural substance contained in strawberries that is an anti-carcinogenic (cancer-preventing) compound.

Espalier: Training plants to grow on a flat surface such as a trellis and pruning to confine growth in one plane. Plants so trained are called espalier.

Everbearing: Bearing two or more distinct crops of fruit in a single growing season.

Fertilizer analysis: Fertilizer analysis represents the percentages of nitrogen, phosphorus, and potassium that are available from the bag of fertilizer by weight. Using the fertilizer 5-10-15 as an example, the bag with this analysis will contain 5% nitrogen, 10% phosphorus, and 15% potassium.

Fire blight: Caused by the bacterium *Erwinia amylovora*, fire blight affects more than 130 plant species in the rose family. Fire blight is quite often seen on apple, crabapple, pear, mountain ash, and cotoneaster.

Floricanes: Canes on which flowers and fruit are produced during the second growing season.

Frass: Mass of chewed material, or excrement, produced by insects.

Fruit set: Development of the parts of the ovary after fertilization of the egg(s) and swelling of the ovary is noticeable.

Fungus: Any of a kingdom (Fungi) of saprophytic and parasitic spore-producing eukaryotic typically filamentous organisms formerly classified as plants that lack chlorophyll and include molds, rusts, mildews, smuts, mushrooms, and

yeasts. Many infectious diseases in plants are caused by fungi.

Graft union: The part of the lower stem of a woody plant, usually enlarged, where the scion (cultivar) was joined to the rootstock.

Ground color: The color of the skin of developing fruit, which may be blushed, striped, or washed with a different color.

Growing season: Number of frost-free days.

Hardiness: The ability of fruiting plants to withstand low temperature injury to woody tissue; may also refer to the ability of fruit buds to survive cold injury.

Heading back: Pinching off the tips of a plant.

Heading back cut: Cutting a woody branch to a lateral or a bud.

Heaving: Forcing of plant roots upward out of the soil as a result of alternate freezing and thawing of the soil in autumn, winter, and spring; occurs on small fruit plants such as strawberry.

Hedge row: A dense, closely spaced planting, creating a wall of foliage or hedge effect.

Heeling in: Preventing roots of nursery stock from drying out prior to planting by placing roots in a shallow V-shaped trench and covering them with moist soil, peat moss, and sawdust. Heeling in means temporarily planting the plants in a hill or row of soil until they can be planted permanently.

Hill planting: Planting fruit plants with enough space between plants to permit cultivation in two different directions.

Integrated pest management (IPM): Pest control that relies on using a variety of control measures.

Interstem: Part of a plant, usually a short piece of stem tissue, grafted between the rootstock and a desired cultivar.

June bearing: Strawberries bearing one crop of fruit per growing season, usually in late spring or early summer.

King apple: The largest apple in a cluster of apples; the smaller fruits are removed, leaving only the king apple.

Maturity: A stage of development in fruit when eating or processing quality is at its peak.

Micronutrients: Micronutrients are seven essential elements: boron, chlorine, copper, iron, manganese, molybdenum, and zinc. Plants need them in order to grow normally or complete their life cycle, but in much smaller amounts than macronutrients, such as nitrogen, phosphorus, and potassium.

Modified central leader system: A system for training fruit trees in which a tree is cut back each winter, and a new central leader shoot is selected each spring.

Mulch: A material applied to the soil surface to conserve soil moisture, maintain a more even soil temperature, and/or aid in weed control.

Mutation: A genetic change within a plant structure that changes its characteristics.

Mycoplasmas: Mycoplasma are small parasitic organisms that have long been known to cause disease in plants, animals, and man. The organisms produce spherical- to ellipsoid-shaped bodies that are smaller than bacteria but larger than most virus particles.

Nematodes: Nematodes belong to many families of long, legless, worm-shaped animals including tens of thousands of species worldwide. Some species are aquatic, in freshwater or the sea. Some species are parasites of birds, mammals, or other vertebrate animals. Some species are parasitoids of insects. Others feed on plant roots.

Not self-fruitful: Pollen from a plant's own flower or from the flower of another tree of the same cultivar is incapable of producing fertilization.

Oomyceet: A fungus-like pathogen.

Open center or open vase system: Open center system is a common training system for stone fruit, such as peach or nectarine, where the main stem in the center is removed. The shape of the tree looks like a bowl or a vase.

Pathogen: A disease-causing organism.

Pedicle: Fruit stem; the part of a plant that connects the fruit to the cane.

Perennial: A plant with a life span of more than two years; such plants flower and produce a crop each year. Examples: grapes, cherry trees.

Perithecium: Fungal fruiting structures.

pH: A scale used to indicate the degree of soil acidity and alkalinity.

Photosynthesis: The conversion of carbon dioxide to carbohydrates.

Pistil: The female part of the flower.

Pollination: The transfer of pollen from the anther to the stigma.

Primocanes: First-year canes that are vegetative only for most bramble cultivars. There are exceptions in which some do flower and produce fruit in the fall.

Pruning: The proper and judicious removal of such plant parts as leaves, twigs, shoots, buds, branches, or roots of a plant to increase its usefulness.

Pycnidia: Small, black, fungal fruiting bodies that contain thousands of summer spores or conidia.

Renovation (renewal): Cutting back or narrowing of plant rows to promote new plant development.

Rest period: A period of non-visible growth, controlled by internal factors; growth will not occur during this period, even when environmental conditions are favorable.

Rootstock: Root material to which other cultivars are united by grafting or budding.

Scaffold branch: A main branch of a woody plant structure.

Scion: Part of a plant, usually the desired cultivar, grafted or budded to a specific rootstock or interstem.

Self-fruitful: Pollen from the same cultivar will result in successful pollination, fertilization, and fruit formation.

Shuck split: Development stage in stone fruit where the growth of fruit splits the shuck, the sepals that serve as the outer cover of developing fruits.

Sports (bud sports): Strains or mutations of a cultivar having superior growth and fruiting characteristics.

Spur: Short, woody fruit-bearing stem.

Spur type: Having the tendency to produce large numbers of fruiting spurs on individual limbs.

Standard rootstock: The type of rootstock producing a full-sized tree, which may be up to 35 to 40 feet for apple.

Sterile pollen: Apple cultivars such as Jonagold, Mutsu, Stayman, and Winesap have a third set of chromosomes (triploid) and produce pollen that cannot pollinize each other or any other cultivar. A pollinizer must be provided for these cultivars. If an apple cultivar is used for this purpose, a second pollinizer cultivar should be provided for the first cultivar pollinating the cultivar with sterile pollens.

Stomates: Wound or natural openings.

Suckers: A vigorous vegetative shoot, arising from roots or the lower part of a plant stem, that drains nutrients needed for fruit production.

Summer topping: Removal of terminal or tip growth on new shoots to stimulate branching.

Thinning-out cut: Removing a branch to its point of origin on the crown, trunk, or scaffold.

Threshold: A term used in integrated pest management where a number of insects present on plants is set as a limit. This number is called a threshold. Insect densities at or above the threshold should be controlled.

Torus: The white receptacle that connects the fruit to the pedicle and then the cane.

Trace element: Same as micronutrient. It is a mineral required by plants and animals in relatively small quantities.

Training: Orienting a plant in a space by supporting, tying, and/or pruning.

Triploid: A plant with three sets of chromosomes (the genetic materials.) Some apple cultivars such as Jonagold, Mutsu, Stayman, and Winesap are triploids.

Virus: A microorganism smaller than a bacteria, which cannot grow or reproduce apart from a living cell. A virus invades living cells and uses their chemical machinery to keep itself alive and to replicate itself.

Watersprout: A vigorous vegetative shoot that drains nutrients needed for fruit production.

Wet feet: Root asphyxiation caused by soil that drains inadequately.

Whip: A shoot with lateral branches or with lateral branches removed.