

# Glossary

**Abiotic damage**

Damage to plants caused by non-living agents such as heat, frost, or fertilizers.

**Amendment, soil**

Any substance added to soil to alter its physical or chemical properties and thereby make it more useful for plant production.

**Asexual spore**

A spore produced by mitosis; in contrast to a sexual spore produced by meiosis.

**Attractant, insect**

A substance that lures insects to traps or poison-bait stations. Different types are usually classified as food, oviposition, and sex attractants.

**Biological control**

The use of parasites, predators, or other living organisms to suppress pest populations or prevent pest damage.

**Blight**

Common name for a number of different diseases on plants, especially when plant tissue injury occurs suddenly; for example, needle blight, blossom blight, and shoot blight.

**Bulk density**

*The weight per unit* volume of a soil, including both solid particles and air spaces.

**Calcareous**

Soils with a high calcium content. Calcareous soils often have a high pH.

**Cambium**

In woody plants, the thin layer of cells between the xylem and phloem that gives rise to new cells.

**Canker**

A killed area on the stem or branch of a plant, usually shrunken and oval or circular in shape.

**Cation exchange capacity**

A measure of the ease with which cations (positively charged ions such as  $\text{Ca}^{2+}$  or  $\text{K}^{+}$ ) are held on negatively charged sites on clay or humus particles.

**Causal organism**

The pathogen that causes a given disease.

**Chlamydospores**

Thick-walled fungus spores produced asexually. Often important for survival of the fungus during unfavorable conditions.

**Chlorosis**

Yellowing of foliage from loss of chlorophyll. Can be caused by a variety of biotic and abiotic factors.

**Conidia**

Asexual reproductive spores of fungi, often produced in great numbers. Also called conidiospores.

**Cortex**

Tissues of a young seedling stem or root lying between the vascular tissues and the epidermis.

**Cotyledons**

The seed leaves of a plant. In conifers, the cotyledons are first to

emerge and carry the seed out of the soil.

**Cover crops**

Crops grown principally to control various forms of erosion but also incorporated into the soil to increase organic matter. Grown in rotation with seedlings.

**Crozier**

A shepherd's crook; refers to crook in seedling stem.

**Cull**

A seedling that is not acceptable because it does not meet certain size and quality standards. Culls are thought to have low outplanting survival and growth potential.

**Cultural control**

The use of certain nursery practices (for example, controlling weeds, improving drainage, or adding soil amendments) to make the habitat less favorable for pests or to prevent, suppress, or remove them.

**Cuticle**

Waxy layer on the outside of a leaf.

**Ectoparasite**

A parasite that feeds on the host from outside the plant.

**Epidermis**

The layer of cells just beneath the cuticle on a stem or leaf.

**Fallow**

To allow cultivated land to remain idle during most or all of the

growing season, usually as a crop rotation technique between seedling crops.

### **Fertilizer burn**

Chlorosis or necrosis of seedling tissue resulting from excessive or misapplied fertilizer.

### **Fibrous root system**

A desirable root form that contains a mass of fine roots.

### **Fumigant**

A soil-applied chemical that volatilizes to a gas and is used to kill insects, fungi, nematodes, or bacteria, as well as seeds, roots, rhizomes, or entire plants.

### **Fungicide**

A chemical used to kill or inhibit fungi.

### **Germ tubes**

The hyphae that first emerge from spores.

### **Holdfast**

Specialized fungus cell that attaches to the surface of the host.

### **Host**

The organism that is attacked, infected, or otherwise damaged by a pest.

### **Hibernaculum**

Chamber made from "silken" web in which insect larvae hibernate.

### **Hyphae**

A single vegetative filament of a fungus.

### **Hypo cotyl**

The portion of a seedling between the cotyledons and the root.

### **Inoculation**

The transfer of a pathogen onto a host.

### **Inoculum**

That part of a pathogen that causes initial infection of a host; a spore, for example.

### **Insecticide**

A chemical used to kill or inhibit insects.

### **Instar**

The stage of development that occurs between molts of the larvae of an insect.

### **Integument**

The inner layer of the seed coat.

### **Lateral branch**

Side branch of a seedling.

### **Lesion**

A localized area of dead tissue on a root, stem, or leaf.

### **Macroconidia**

The larger of two kinds of asexual spores produced by fungi such as *Fusarium*.

### **Meiosis**

Division of nuclei that reduces the chromosome number by half and rearranges the genes; in contrast to mitosis, in which nuclei are copied exactly without change in chromosome number or arrangement.

### **Microsclerotium**

Small, thick-walled, multi-celled resting structure produced by some fungi.

### **Monoclonal antibody**

A chemical molecule, produced in the immune response of an animal, that "recognizes" a specific protein. Used to detect and identify specific pathogens.

### **Multiseptate**

Having several septations, or crosswalls.

### **Mycelium**

The collective mass of vegetative filaments, or hyphae, of a fungus.

### **Mycorrhizae**

The symbiotic association between plant roots and particular fungi.

### **Necrosis**

Death of plant cells or tissues.

### **Nymphs, insect**

Immature adult insects; their form resembles that of the adult.

### **Oospore**

Sexual spore produced by the water molds. Commonly acts as a resting spore when soil conditions are unfavorable for fungus growth.

### **Oviposit**

To lay eggs.

### **Pathogen**

Specific agent that can cause disease. Usually a fungus, bacterium, virus, or nematode.

### **Pathogenicity**

The capacity of an organism to cause disease.

### **Perfect stage**

That portion of the life cycle of a fungus in which sexual fusion and meiosis take place.

### **Pesticide**

Any substance used to kill or inhibit any pest. Includes fungicides, herbicides, fumigants, insecticides, nematocides, rodenticides, dessicants, defoliants, plant growth regulators, and others.

### **pH**

Numerical measure of the acidity (<7) or alkalinity (>7) in a soil or solution. A pH reading of 7 is neutral.

### **Phloem**

Portion of the vascular system of a seedling that is responsible for the downward transportation of sugars from the needles to the roots. Formed just outside the cambium, the phloem is also called the inner bark.

### **Preemergence**

The time period after sowing and before crop plants emerge.

**Primary inoculum**

Inoculum that causes the first infections in the crop; usually inoculum produced by overwintering structures such as chlamydospores or sclerotia.

**Propagule**

A reproductive unit of the pathogen; spores, hyphae, or microscletia of fungi, for example.

**Pupa**

Insect developmental stage between larvae and adult. Often a resting stage.

**Pycnidia**

Flask-shaped fruiting body of a fungus; produces conidia.

**Sanitation**

Removal of infested or infected plants or plant parts from the growing site to prevent spread of the pest to healthy plants.

**Saprophyte**

An organism that lives on dead organic matter.

**Sclerotium**

Thick-walled, multiple-celled resting structure of a fungus.

**Secondary inoculum**

Inoculum that is produced on the plant as the result of earlier infection.

**Soil texture**

The proportion of coarse and fine particles in a soil.

**Sporangium**

A fungus cell that holds asexual reproductive spores, often zoospores.

**Spore**

A single- to many-celled reproductive body in fungi that can develop into a new fungus colony.

**Sporodochium**

Mound-shaped asexual fruiting body of a fungus.

**Stomate**

Pore in the leaf used for gas exchange in transpiration and photosynthesis.

**Straw dust**

A mulching material made primarily from ground-up grass straw.

**Stylet**

An elongated piercing mouthpart of an insect or nematode.

**Symptom**

The evidence of disease or injury, such as wilting, yellowing, or death of tissues.

**Systemic**

Entering and then acting within the entire organism. Used especially to describe the action of pesticides or diseases within a plant.

**Terminal**

The uppermost shoot or leader of a seedling.

**Witches' broom**

An abnormal proliferation of lateral branches on a stem.

**Xylem**

Portion of the vascular system of a seedling responsible for the upward transportation of water and nutrients from the roots to the stem and leaves. Formed just inside the cambium.

**Zonal pattern**

Pattern of root development where rooting depth is limited by a layer of compacted soil.

**Zoospore**

Asexual reproductive spore that swims in water. Produced by the water molds such as *Pythium* and *Phytophthora*.

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