

Glossary of Terms

Anti-sporulant: A fungicide that reduces the rate or level of fungal spore development.

Curative fungicide: A fungicide capable of arresting the growth of an existing fungal infection in plants.

Dry flowable (DF): Formulations are similar to wettable powders, but the powders (clay particles) are formed into tiny spheres. They do not readily cake together, so they “flow” easily from the product container. Another name for this type of formulation is Water Dispersible Granule (WDG, WG).

Dusts (D): Are usually made by mixing a chemical toxicant with finely ground talc, clay, or dried plant materials.

Emulsifiable concentrates (EC): Contains a pesticide and an emulsifying agent in a solvent. ECs form suspensions when they are diluted with water for application as sprays. They leave much less visible residue than WP formulations, but they are more likely to injure fruit and foliage.

Eradicative fungicide: A fungicide capable of arresting the growth of an existing fungal infection during the later stages of plant colonization, but before sporulation. Eradicant fungicides may be anti-sporulants.

Field severity: The total amount of disease in a given field. Field severity is the product of Incidence x Severity.

Flowable (F): Formulations are a liquid or viscous concentrate of suspended pesticide in water. They usually cause less injury to fruit and foliage than EC formulations and generally, but not always, are as safe as WP formulations.

Granules (G): Are formed by saturating an inert material such as sand or clay with a pesticide. Particles (granules) range in size from 30 to 60 mesh. Granules are applied as dry material, usually to soil or water.

Incidence: The percentage of infected (at any level) plants in a field.

Infection: Penetration and colonization of the host by a pathogen.

Liquid concentrates (L or LC): Formulations containing toxicants that are water soluble. No emulsifying agents or organic solvents are required. Note: The designations L and LC are sometimes used by formulators on emulsifiable concentrates that are not water soluble.

Locally systemic: Describes a fungicide that moves relatively short distances in a plant following application and subsequent movement into plant tissue.

Mode of action: The specific mechanism by which a fungicide acts against a target fungus. The physiological processes of the fungus that are inhibited by the fungicide.

Preventative treatment: Treatment applied before infection occurs.

Protectant fungicide: A fungicide that forms a barrier to infection and prevents spore germination and/or penetration of the plant surface by the fungus, also referred to as a prophylactic fungicide.

Residue: The amount of fungicide left in or on the plant. Efficacy, persistence, and tolerances are all determined by the residual activity of a fungicide.

Sentinel plot: A small observation area in a crop field that is intensively sampled for the presence of a disease.

Severity: The degree of infection on a given plant. Usually represented as a percentage of the plant area diseased.

Sign: Visible fungal structures, such as a pustule or a spore.

Soluble powders (SP): Powder formulations that dissolve in water. A few pesticides and many fertilizers are prepared as soluble powders.

Strobilurin: A fungicide class that was originally derived from a compound called strobilurin A from the fungus *Strobiluris tenecellus*. All of the synthetic fungicides in this class are active at the same site of activity in the fungus, interrupting energy transfer in the mitochondria.

Symptom: The host's response to the infection by a pathogen, such as leaf chlorosis or lesion with necrosis.

Systemic: A product that, when applied to the outside of the plant, is absorbed and moved within the plant. Most products move only

with the water stream (xylem), essentially from the base to the tip of the leaf.

Translaminar: Diffusion of the fungicide through the leaf from one leaf surface to the other.

Triazole: A large class of synthetic fungicides that are active at a single site in the fungus, inhibiting the production of sterols in the fungus. Sterols are important in cell membrane formation.

Urediniospore: The wind-dispersed infectious spore of rust fungi.

Volume median diameter (VMD): Common term used to describe the droplet spectrum of a nozzle. VMD is the droplet size at which half of the total spray volume coming out of the nozzle is contained in droplets larger and half of the spray volume is contained in droplets smaller. For example, a nozzle with a VMD of 510 μm contains half of its total sprayed volume in droplets with a diameter greater than 510 μm and the other half in droplets smaller than 510 μm . Another way of describing droplet sizes produced by a nozzle is the percentage of spray volume contained in droplets smaller than a specific diameter, usually 150 μm . This method of description directly addresses droplets small enough to be at risk for drift. For instance, a nozzle may be measured to produce 2 percent of its total spray volume in droplets smaller than 150 μm in diameter, which means that only a small portion of the total volume sprayed by this nozzle is contained in droplets at risk for drift.

Wettable powders (WP): Dry formulations of pesticides that are to be mixed with water for application. The toxicant is mixed with specific powders; wetting agents are added to make the mixture blend readily with water. Wettable powders form a suspension that must be kept agitated in the spray tank. Sprays prepared from wettable powders are less likely than other sprays to cause injury to fruit or foliage.