

Glossary

Appendix III. Home and Garden Pest Management Guide

Abiotic disorder– problems caused by non-living agents such as drought, frost and nutrient deficiencies.

Abscission – the dropping of leaves, flowers or fruit by a plant.

Active ingredient – that part of a pesticide formulation that is toxic to the pest, usually expressed in percent for dry formulations and in grams/litre for liquids.

Aerosol pesticide – a pesticide formulated with an inert gas in a small, pressurized can. It is released as a fine mist when the nozzle is opened.

Alkaloids – naturally occurring nitrogenous compounds found in plants that often have effects on animals that consume them, for example, caffeine, codeine, colchicine, morphine, nicotine, solanine.

Alien Pest – non-native or exotic pest species (e.g. insect, plant disease, weed, nematode or animal) that has been introduced to a new area outside of its natural habitat.

Anther – the pollen-bearing, enlarged portion at the top of the stamen in the flowers of higher plants.

Annual – a plant that grows from seed, produces seed and dies within one year.

Anticoagulant – an ingredient of rodenticides which causes death by internal bleeding.

Attractant – a chemical released into the atmosphere by one organism that attracts another organism. For example, members of the cabbage family attract cabbage insects; female codling moths attract male codling moths.

Auricle – an appendage near the lower part of a leaf blade or petal; it may be pointed, or rounded and shaped like an ear lobe.

Axil – the area on the stem of a plant where a leaf is attached. An axillary bud that can give rise to a new shoot is often present in the axil. It may remain dormant until the apical bud or shoot is damaged or removed.

Bacterium (plural:bacteria) – a one celled microorganism, larger than a virus but smaller than a fungus, some species of which cause disease in plants and animals.

Biennial – a flowering plant that takes two years to complete its lifecycle; it flowers, produces seed and dies in the second year.

Biological control – the use of living organisms such as predatory and parasitic insects, bacteria, fungi, nematodes and birds to manage pest populations.

Biological Pesticide – a biological control agent, normally a pathogen or micro-organism, formulated and applied in a way similar to a chemical pesticide, and used for the management of a pest population.

Biotic – in the context of plant disease, problems caused by living agents such as bacteria and fungi.

Broad spectrum pesticide – a pesticide capable of killing or affecting a wide range of pests as well as beneficial organisms.

Broadcast application – an application over an entire area.

Brood – a nest of wasps, hornets, ants or termites containing eggs and developing young. Insects with more than one generation per year are said to have more than one brood.

Bulb – a short underground stem, with many fleshy scale leaves filled with food that enable the plant to overwinter and re-emerge the following year.

Callus – plant tissue of cambial origin that forms in response to injury or infection by pathogens.

Cambium – the layer of cells in a plant stem which gives rise to the photosynthate conducting tissue (phloem) and the water and nutrient conducting tissue (xylem).

Canker – a raised or sunken damaged area on woody tissue that may contain fruiting bodies if it was caused by a fungus.

Caterpillar – the larval stage of moths, butterflies and sawflies.

Chlorophyll – the green pigment in plant leaves that traps light energy from the sun.

Chlorosis – yellowing of plant tissue that is normally green; lacking in chlorophyll; may indicate a nutrient deficiency.

Conifer – a tree or shrub that has cones and needles; most are evergreen.

Contact insecticide – an insecticide that kills on contact and does not need to be eaten or inhaled.

Corm – the fleshy, underground stem of a gladiolus or crocus that serves as the overwintering storage organ; similar to a bulb.

Cortex – the layer of cells between the epidermis and the vascular tissue in the stem of a plant.

Cotyledon – the seed leaf of a plant which opens after seed germination but before the first true leaves develop. Broadleaved plants have two and are called “dicots”; grass-like plants have only one and are called “monocots”.

Crawler – immature, mobile stage of a scale insect.

Crown – junction of stem and root of a plant, usually at the soil line, sometimes called the “collar”; may also mean the top of a tree.

Days to harvest – the number of days which must pass after a pesticide has been applied to a food crop before the crop can be safely harvested for use, also known as pre-harvest interval.

Cuticle – the relatively impermeable surface layer on the epidermis of plants and fruits; may be damaged by excessive rates of solvent-containing surfactants or pesticides leading to desiccation.

Deciduous plants – woody plants that lose their leaves in fall and have bare branches over winter; most are broadleaved, an exception being larch, a conifer.

Deficiency – suffering from less than optimum growth due to inability to take up an essential element from the rooting medium.

Desiccation – the process of drying.

Diatomaceous earth – natural insecticide composed of silicon dioxide from the decomposed shells of diatoms.

Dormancy – the period when the plant is alive but not growing due to low temperature or lack of water.

Edema – see oedema.

Emulsifiable concentrate – a liquid pesticide formulation which mixes with water for application.

Eradicate – to remove or destroy completely; eradication is sometimes a strategy for eliminating a newly introduced exotic pest.

Evergreen – a woody plant that maintains its leaves over the winter; may be a conifer, such as spruce or a broadleaved plant, such as arbutus.

Excluded pesticide – pesticides the BC Ministry of Environment lists in Schedule 2 of the BC IPM Act

Regulations. A license or certificate is not required to use excluded pesticides listed in Schedule 2.

Foliage – the leaves of a plant.

Formulation – The pesticide product containing the active ingredient, the carrier, and other additives required to make it ready for sale; the mixture of ingredients in a pesticide container.

Frass – excrement (faeces) of an insect.

Fruiting body – a fungal structure, such as a mushroom, that contains one or more types of spores for reproduction.

Fungus (plural:fungi) – an organism that is larger and more highly evolved than a bacterium but lacking in the chlorophyll of higher plants, some species cause disease in plants and animals.

Fungicide – a pesticide designed to control fungi.

Gall – an abnormal swelling on a plant often caused by a disease or insect invasion.

Girdle – damage to the epidermis and underlying tissues all the way around the stem by various agents. For example: weevils, damping-off fungi, fertilizer burn, string trimmer injury.

Grub – the larval stage of a beetle, usually shorter and C-shaped in comparison to a caterpillar.

Herbaceous – a plant having no woody tissue that would allow it to form a hard skeleton above-ground.

Herbicide – a pesticide designed to control plants, usually weeds.

Hibernaculum – in zoological terms, a place where an animal hibernates for the winter. For example, the covered egg mass of the cherry ermine moth.

Honeydew – sweet substance secreted by aphids and certain other insects that may accumulate on leaves and drip to the ground; may be colonized by sooty-mould fungi.

Host – the plant, insect or other organism on which a parasite or predator depends for growth and survival.

Hot-shot wire – in a multi-strand wire fence designed to exclude wildlife, a single wire which carries an electric current.

Humus – the highly organic component of soil composed largely of decayed vegetation. It aids plant growth by holding moisture in the soil and slowly releasing nutrients.

Hypocotyl – the portion of a plant between the cotyledons and the root. It is most apparent in bean plants.

Infected - a plant or animal that has been penetrated by a fungus or other organism that may have a detrimental effect on it.

Infested – a plant, animal or geographical area that has been populated by insects or other organisms that may have a detrimental effect on it.

Insect – an organism characterized by various life stages in which the adult has three body segments and three pairs of legs.

Insecticide – a pesticide designed to control insects.

Integrated pest management (IPM) – managing pest populations using a combination of techniques including prevention, identification, monitoring, injury thresholds, physical control, mechanical control, biological control, chemical control and post-treatment evaluation.

Internode – the space between nodes on a plant stem (see “node”).

Invasive alien pest – non-native or exotic pest species (e.g. insect, plant disease, weed, nematode or animal) that has been introduced to a new area outside of its natural habitat, and has the potential to spread and cause damage.

Larva (plural:larvae) – the second life stage of an insect which hatches from an egg and often causes damage to plants.

Leach – in gardening terms, to remove salts from the growing medium by flooding with water that is low in salts. For example, nitrogen salts are leached out of well-drained soils during winter rains.

Leader – the uppermost shoot of a plant which can be pruned or trained to influence future form and size. In the event of loss, a lower shoot can be trained to take over the role of leader.

Lenticel – a tiny pore in the stem, root or fruit of a plant which allows for gas exchange similar to the stomate of a leaf.

Lesion – a visible injury which may be of minor importance or an indication of disease or insect activity.

Maggot – the leg-less larva of a fly.

Metamorphosis – the change in form that takes place as an insect grows from the immature to the adult stage.

Microorganism – a small organism such as a bacterium that is invisible to the naked eye; also called, “microbe”.

Mines – serpentine or blotchy tunnels in leaves caused by leaf mining insects.

Mite – an organism smaller than an insect which has eight legs, closely related to spiders.

Miticide – a pesticide designed to control mites, also referred to as an acaricide.

Mollusc – a soft-bodied animal such as a clam, oyster, slug or snail.

Molluscicide – a pesticide designed to control slugs and snails.

Mulch – a covering on the soil surface to conserve moisture and discourage weeds.

Mycelium – a plural term for the network of strands making up the vegetative tissue of a fungus. A single strand is called a hypha.

Necrosis – dead or dying tissue; may appear as grey or black areas on leaves.

Nematode – elongated, cylindrical worm, often microscopic, that lives in soil or water and may parasitize plants or animals.

Nematicide – a pesticide designed to control nematodes; not generally used in home gardens.

Node – the normal swelling which occurs at regular spacing on a plant stem and can give rise to new leaves and shoots.

Non-selective Herbicide – a herbicide capable of killing or affecting all plants.

Nutrient – an essential element for plant growth. Both major and minor elements are required for optimum growth. The major elements which are needed in largest amounts for plant growth are nitrogen, phosphorus, potassium, calcium and magnesium. The minor elements include boron, iron, manganese, molybdenum, sulphur, zinc and copper.

Oedema – puffy ruptures in the epidermis due to accumulation of liquid in the underlying leaf tissue; usually related to day/night temperature fluctuations; a common problem with cabbages in the fall.

Parasite – an organism that lives in or on another organism, called a host, and derives nourishment from it. The host may or may not be killed by the parasite.

Parasitoid – a parasitic insect that lives in the body of the host and emerges as an adult after the host dies.

Pasteurized – in referring to soil or rooting medium, heating to kill pathogens; 50°C to 80°C for 30 minutes is usually recommended depending on the organisms present in the soil.

Pathogen – an organism that can cause disease in another organism.

Pedicel – stalk of a single flower in a cluster.

Peduncle – stalk of a flower cluster.

Perennial – A plant that lives for many years. In cold climates, herbaceous perennials die back to the soil line in the winter and re-emerge in the spring.

Pest – an organism, such as an insect, bacterium, fungus, weed or rodent that causes damage or irritation to plants or animals.

Petiole – stalk of a leaf.

pH – a measure of soil acidity or alkalinity ranging from 1 to 14, most plants grow in the range of pH 5 (acidic) to 7.5 (alkaline).

Pheromone – a chemical produced by an animal to attract other animals of the same species

PHI (pre-harvest interval) - the minimum number of days to wait before harvesting a crop after a pesticide application; PHI's are on pesticide labels.

Phloem – photosynthate-conducting tissue of higher plants.

Photosynthate – Sugar or starch created in plant leaves through the action of sunlight on carbon dioxide and water.

Phytoplasma – microscopic, bacteria-like organism that lacks a cell wall and is found in the phloem of a host plant. Aster yellows is an example of a disease caused by a phytoplasma.

Phytotoxic – injurious to plants.

Pollinator – an insect, such as a honeybee, that carries pollen from flower to flower while collecting nectar.

Pollinizer – in tree fruits, a variety which provides compatible pollen at the correct time to permit

pollination of a nearby tree of another variety of the same species.

Post-emergence – after a plant has emerged from the soil; in the case of herbicide application, applied after the crop or weed has emerged aboveground.

Predator – an animal that kills other animals and feeds on them.

Pre-emergence – before a plant has emerged from the soil; in the case of herbicide application, applied before the crop or weed has emerged aboveground.

Pre-harvest interval – see PHI

Pupa (plural:pupae) – a non-feeding stage present in some insects which permits the metamorphosis from larva to adult. For example, the change from caterpillar to butterfly.

Quarantine pest – A regulated pest of potential economic importance for a specific area, either not occurring in that area, or of restricted distribution, and the target of a formal control or eradication programs.

Ready-to-use pesticide (RTU) – a pesticide that is ready to use when purchased; it requires no mixing or special application equipment.

Repellent – in the context of pesticides, a compound that drives pests away without killing them.

Residential Applicator Certificate (RAC) – a certificate that can be obtained by landowners in B.C. from the Ministry of Environment to enable them to apply certain Domestic class pesticides to landscaped areas of their land.

Resistant – able to withstand conditions that would damage other closely related members of the species. For example, some varieties of plants are resistant to certain plant diseases; and some pests may develop resistance to certain pesticides.

Rhizomorph – a thick-walled aggregation of mycelium, resembling a root, or in the case of the fungus causing Armillaria root rot of plants, a boot lace, which grows outward through the soil from an infected host plant.

Rodenticide – a pesticide designed to control rodents.

Roguing – removing off-type or diseased plants, taking care not to contaminate the healthy plants in the process. In some cases, the rogued plants should be removed from the garden to a sanitary landfill or effective composting facility.

Root crop – a commonly used term to describe vegetables grown for their edible roots, for example, carrots, rutabagas, parsnips.

Run-off – spray to run-off is when the plant leaves are wet and spray has just begun to drip off the leaves.

Saprophyte – an organism that derives nourishment from non-living materials.

Selective pesticide – a pesticide which can control one or more pests without harming others, in contrast to “broad-spectrum” pesticides.

Skeletonize – results of the feeding of certain insects in which the interveinal areas of the leaves are consumed leaving only the veins.

Solanine – an alkaloid found in members of the Solanaceae family including potato, tomato and nightshade. It is present in toxic quantities in the foliage so large amounts of potato or tomato leaves should not be fed to livestock. Under some conditions, such as greening caused by exposure to sunlight, potato tubers may contain toxic levels. Green or bitter-tasting potatoes should be discarded as they may cause an upset stomach if consumed.

Solarization – the practice of heating the soil to kill pests through the application of clear plastic to the soil surface for several weeks during the heat of the summer.

Sooty mould – a dark-coloured superficial, saprophytic fungus that forms colonies on plant parts; especially on leaves having honeydew deposits from insects.

Spore – reproductive unit of a fungus or lower plant which serves the same purpose as the seed of higher plants.

Spot treatment – a treatment directed at specific plants or areas rather than a general application.

Sticky trap – any kind of trap that uses non-drying glue to capture pests. They may be coloured to attract flying insects or simply laid across the pathway of tree-climbing insects or rodents.

Stigma – the sticky upper portion of the pistil of a flower. Pollination occurs when compatible pollen grains land on the stigma.

Stomate (plural:stomata) – opening in leaf surface that allows for gas exchange, opened and closed by the action of guard cells.

Sucker – a vigorous shoot that grows upright from the roots or main branches of a tree, summer pruning reduces sucker growth while dormant pruning increases it.

Surfactant – a compound that can be added to a spray mixture to improve it’s ability to stick to plant leaves.

Susceptible – sensitive to or easily affected by.

Symptom – visible reaction of a plant to stress caused by a living or non-living damaging factor.

Systemic pesticide – a pesticides which is absorbed by plants and moves or translocates to untreated tissues.

Tolerant – able to withstand the action of a significant pest population while showing relatively little damage.

Toxicity – the quality of being poisonous or harmful to animals or plants. The toxicity of any compound is related to the dose, and can be

measured by an LD₅₀, which is the amount of active ingredient that killed 50% of the animals in a test. The lower the LD₅₀, the more toxic the compound.

Transpiration –the process by which moisture is carried through plants from roots to small pores (stomata) on leaves, where it changes to vapour and is released into the atmosphere.

Tubercle – a small swelling on a plant caused by an insect or other organism that is able to stimulate the development of plant cells into a protective covering, for example, the maple bladder gall mite.

Turgor – water pressure within plant cells that keeps them firm.

Vascular system – in higher plants consists of the phloem for downward movement of photosynthate away from the leaves and the xylem for movement of water and nutrients from the roots up to the leaves.

Vector – a transmitter or carrier of disease; for example, aphids are vectors of several plant viruses.

Virus – a submicroscopic parasite which cannot live outside the cells of its host. Symptoms of virus infection in plants include dwarfing, leaf distortion and chlorosis.

Wettable powder – a dry pesticide formulation which mixes readily with water to form a suspension for spray application.

Wilt – lack of turgor and drooping of leaves due to insufficient water uptake; may be due to dry soil or to a pathogen, such as Verticillium, blocking the water conducting tissue of the plant.

Witches' broom – a mass of buds or shoots growing out of a small area, usually indicates a parasitic infection.

Xeriscape - a style of landscape design requiring little or no irrigation or other maintenance, used in arid regions.

Xylem – water and nutrient conducting tissue of higher plant