

## **GLOSSARY OF PEST CONTROL TERMS**

**abrasive** - something that grinds down or wears away an object, e.g. wettable powders are abrasive to pumps and nozzles.

**absorption** - movement of a pesticide from the surface into a body.

**acaricide** - a compound used to control mites and ticks, e.g. a miticide

**acetylcholine** -a chemical conductor of a nervous impulse formed at the ends of nerves, to conduct the impulse over the microscopic gap between nerves or between nerve and muscle or gland. As soon as the response is given it is destroyed by an enzyme:cholinesterase

**activated charcoal** -a finely ground form of charcoal which absorbs most pesticide liquids and vapours.

**active ingredient (a.i.)** -the portion of a pesticide formulation which is the actual toxicant.

**acute toxic effect** -an adverse effect, on a human or animal body which develops rapidly and quickly reaches a conclusion.

**acute toxicity** -the potential for an ingredient to cause ill health or death within a few hours to a few days after a single dose or exposure.

**adjuvant** -a substance added to a pesticide to improve the pesticide's physical qualities, hence its effectiveness, e.g. wetting or spreading agents, stickers, penetrants, emulsifiers, and synergists.

**adsorption** - the adherence of a pesticide to the surface of a plant or soil particle.

**adult** -a fully grown, sexually mature, insect, mite, nematode or other animal. The adult stage is often related to dispersal and the beginning of a new colony or infestation.

**aerosol (pressurized can)** -a small amount of pesticide or combination of pesticides that is driven through a fine opening (orifice) by an inactive gas under pressure (propellant) when the nozzle is triggered, producing an extremely fine dispersion, spray, mist or fog of very tiny solid particles or droplets suspended in the air.

**agitate** - the movement of a liquid pesticide to keep the chemical contents mixed so as to prevent them from separating or settling in the spray tank.

**air blast sprayer** -a machine which can deliver high and low volumes of spray, propelled by air and used for orchards, shade trees, vegetables, and fly control.

**air gap** - the physical separation of a drinking water system from a contaminated system by a vertical air space.

**algae** - one celled or multicelled photosynthetic nonvascular plants (without true roots, stems or leaves.

**algicide** -a pesticide used to control algae.

**annual** -a plant that germinates from seed, produces seed, and dies in one year.

**antidote** -a substance used to counteract the effect of a poison.

**apiary** -collection of beehives kept for honey production and/or pollination.

**application rate** - the amount of pesticide product or active ingredient applied to a unit area.

**aquatic weed** - an aquatic plant growing where it is not wanted.

**attract** - a chemical that lures pests to a selected location where they may be destroyed, sterilized or trapped.

**avicides** - a pesticide or mixture of pesticides intended for bird control.

**back siphonage** - reversal of normal flow in a water supply system caused by negative pressure in the supply piping.

**bacteria** -one-celled microorganisms, some of which cause diseases in plants or animals. They can be seen with a microscope.

**bait** -a food or other material which will attract a pest to a pesticide or to a trap where it may be killed or trapped.

**band or row application** -an application to separate bands such as to crop rows or between crop rows, rather than broadcast over the entire field area.

**beneficial** -useful or helpful to people (as in a beneficial insect", e.g. an insect which feeds on aphids).

**biennial** -a plant that completes its life cycle in two years. The first year the seed germinates and the plant produces leaves and roots and stores food. The second year it produces flowers, fruit and seed, e.g. wild carrot, common mullein, bull thistle and burdock.

**biological control**. the use of living things such as predators, parasites, or disease organisms to control pests.

**bird repellent** -a pesticide which repels birds, or discourages them from roosting or feeding.

**blight** -a general term used to describe symptoms of plant disease which may include spotting, sudden wilting or death of leaves, flowers, stems or the entire plant.

**boom**. a section of pipe (or tubing) which connects several nozzles so that a pesticide can be applied over a wider area.

**botanical pesticide** -naturally-occurring compounds which are derived from plant parts and are toxic to pests, e.g. pyrethrum. Synthetic botanical pesticides are man-made pesticides which are similar to those found in nature, e.g. allethrin.

**broadcast application** -an application of chemical over an entire area or field rather than only on rows, beds or individual plants.

**broadleaved plants** -most herbs, shrubs and trees having wide leaves. Not grasses or grasslike, nor coniferous plants.

**broad spectrum pesticide** -a pesticide that controls or is toxic to a wide range of pests when applied correctly. Same as non-selective.

**brush control** -control of woody plants.

**buffer zones** -see pesticide buffer zones.

**buildup** -accumulation of a pesticide in soil, animals or in the food chain.

**calibrate** - (1) to determine the amount of pesticide being applied through a nozzle of a sprayer, duster, granular applicator, over a given area; (2) to mark a container or tank to indicate the volume at certain levels.

**canister** -a metal or plastic container filled with absorbent materials which filter fumes ,and vapours' from the air before they are breathed in by an applicator.

**carbamates** -organic pesticides, esters of carbamic acids.

**Carcinogenic** -capable of producing cancer.

**carrier** -an inert material mixed with active chronic ingredients to make a pesticide formulation, e.g. finely ground clay, talc, volcanic ashes, water, oil, solvent, air and gas propellants.

**cartridge** - the part of the respirator which absorbs fumes and vapours from the air before the applicator breathes them in.

**caterpillar** -generally the larval (3rd) stage of moths and butterflies (Lepidoptera), also the larvae of some sawflies (Hymenoptera).

**certified pesticide applicator** -an individual who is certified by the Pesticides Control Section through examination to use or supervise the use of pesticides in a specific category of pest control.

**certified pesticide vendor** -an individual who is certified by the Pesticides Control Section through examination to sell pesticides.

**chemosterilant** -a chemical that controls pests by destroying their ability to reproduce.

**chlorinated hydrocarbon** -see organochlorines.

**chlorophyll** -the green compound found in leaves and other green plant parts. It is the means by which the plant converts carbon dioxide in air and water into food through the energy of sunlight in a process called photosynthesis.

**chlorosis** -the yellowing of a plant's green tissue due to a breakdown of the chlorophyll or its failure to develop.

**cholinesterase** -a body enzyme (chemical catalyst) found in animals and humans that destroys acetylcholine after conducting a nerve impulse. Cholinesterase is necessary for the proper functioning of the nervous system. Organophosphorus compounds or carbamates, which enter the body by any path or in any fashion, are cholinesterase inhibitors. See acetylcholine.

**chronic exposure** - more than a brief (or one-time) contact with a pesticide or its residue.

**chronic toxic effect** -an adverse effect on a human or animal body which develops slowly or occurs a long time after exposure and lasts for a long time, i.e. years.

**chronic toxicity** - the potential for an ingredient to cause adverse effects which develop slowly or occur a long time after exposure and last for a long time, i.e. years.

**compatible** -materials in a spray or dust mixture are compatible if one does not reduce the effectiveness the other and if crop injury does not result from the use of the combination.

**complete metamorphosis** -the process of insect development which includes the egg, larva, pupa and adult stages.

**concentrate** -opposite of dilute. Concentrated formulations are diluted with water or oil before use.

**concentration** -refers to the weight of active ingredient in a given weight or volume of a formulation.

**contact herbicide** -a herbicide that kills plant tissue by direct contact rather than as a result of translocation.

**contact insecticide** -a compound that causes the death of an insect when it touches its external parts, it need not be swallowed to be effective.

**contaminate** -to alter or to render a material or food unfit for a specified use by the introduction of a chemical.

**corrosive poison** -a pesticide that contains a strong acid or base which will severely burn the skin, mouth, stomach, etc.

**coverage** -the degree of uniformity of a pesticide application over a surface.

**crop** -useful plants growing where desired

**crop tolerance** the ability of a crop to be treated by a pesticide but not be injured.

**crown** -the point where stem and root join in a seed plant.

**crucifers (Cruciferae)** -belonging to the mustard family, including cabbage, turnips, radish and broccoli.

**curcubits (Curcubitaceae)** - the plant family that includes cucumbers, melons, marrows and squash.

**cumulative effect** -the result of some pesticides which build up or are stored in the body so that small amounts eaten or contracted over a period of time can sicken or kill an animal or person, e.g. anticoagulant rodenticides, mercury compounds, thallium sulphate and DDT.

**days to harvest** -the minimum number of days, established by law, between the final pesticide application and the harvest date, also called pre-harvest interval.

**defoliant** -a pesticide that causes plant leaves to drop off, the action may be herbicidal. some defoliants are also used to assist in harvesting.

**degradation** -the process by which a complex chemical is reduced into a less complex form. This process can be the result of the action of microbes, water, air, sunlight or other agents.

**dermal toxicity** -the degree of toxicity of a compound when it is absorbed through the skin of mammals.

**desiccant** -a chemical that hastens the drying of plant or animal tissues, i.e. plant desiccants used to make harvesting easier by causing defoliation, also insect desiccants which kill insects by dehydration

**desiccation** -drying up of tissue, induced chemically or caused by natural phenomena.

**detergent** -any liquid normally used as a cleansing substance. Some may also be used as wetting agents due to their ability to reduce the surface tension of water droplets.

**diluent** -any liquid or solid material used to weaken (dilute) or carry an active ingredient.

**dilute** -to make a pesticide concentration thinner or weaker by adding water, oil or solids (dusts).

**directed application** -of a spray or dust to a restricted area such as rows or beds or the base of plants and spot spraying. Such an application is useful where weeds can be contacted without getting the spray or dust onto the crop plant.

**disease** -an abnormal condition of an organism resulting from an infectious (Parasitic) or noninfectious (nonparasitic) agent.

**dispersing agent** -a substance that reduces the attraction between like particles: to break up.

**dissolve** -usually refers to getting solids into solutions.

**dormancy** -associated with the temporary suspension of visible plant growth, usually during the winter. Dormancy may be triggered by cold temperatures and/or short daylight hours.

**dormant spray** -a pesticide spray applied when plants are inactive, during the winter and early spring.

**dose** -the amount of active ingredient (not formulated product) which is applied to an area or other target.

**drift** -the movement of pesticide droplets or dust, by wind or air currents, away from the target area onto areas not being treated. Drift constitutes one of the major hazards of pesticide application.

**dust** -a finely divided carrier (diluent) containing an active ingredient, usually of low concentration, to be used without dilution. **ecology** -the science that deals with the relationships of organisms with each other and their environment.

**ectoparasite** -an external parasite, e.g. bedbug, flea.

**ecosystem** -a community of organisms interacting with one another and the specific habitat (environment) in which they live.

**efficacy** -a term used in pest control to mean the degree to which a pesticide or procedure will control a specified target pest.

**emergence** - the action of a young plant breaking through the surface of the ground or of an insect coming out of an egg or pupa.

**emulsifiable concentrate** - a liquid pesticide consisting of an active ingredient, a solvent, and an emulsifier that mixes with water to form an emulsion.

**emulsifying agent** -a material which helps to suspend one liquid in another, such as oil in water.

**emulsion** -a mixture of two or more immiscible liquids, such as oil and water, where one is suspended or dispersed in the other in the form of very minute droplets and remains suspended or dispersed for a period of time through the use (addition) of an emulsifier.

**endemic** a disease or organism which is always present but never increasing.

**entomology** -the science of the study of insects.

**Environmental Protection Act** -a Provincial Act, which is administered by the Department of Environment, Pesticides Control Section. The Act and Regulation provide for the certification of pesticide applicators, as well as the licensing of pest control services and pesticide vendors in the Province of Newfoundland and Labrador.

**environment** -the surroundings, including water, air, soil, plants and animals

**enzyme** -an organic substance that regulates the rate of a reaction but which itself remains chemically unchanged.

**epidemic** -a sudden widespread increase in the incidence of a disease or organism, opposite of endemic.

**epidermis** -the outer cellular tissue of a plant or animal.

**epinasty** -twisting or curling of leaves and stems caused by uneven growth of cells. This reaction results from treatment with 2,4-D and other plant-growth regulators.

**eradication** -complete elimination of a living organism from a specific area.

**ester** -a hydrocarbon substance derived from the action of an alcohol and an acid; usually a liquid with a pleasant odour.

**evaporation** -the process of a solid or liquid turning to a gas and disappearing into the air.

**exoskeleton** -the segmented exterior skeleton of an insect; the insect's skin.

**exposure** -when contact occurs with a pesticide orally, dermally, or through inhalation.

**face shield** -a transparent piece of protective covering equipment used by a pesticide applicator to protect the face from exposure

**flowable or sprayable suspension** - pesticide formulation which consists of a thick suspension of finely ground particles. The formulation is diluted with water and the spray mix should be kept well agitated.

**foaming agent** - a material which causes the pesticide mixture to form a thick foam, it is used to reduce drift.

**fogger** -an aerosol generator; pesticide applicator that breaks special pesticides into very fine droplets, and blows or allows the resulting fog to drift onto the target area.

**foliage** - the leaves, needles and blades of plants and grasses.

**foliar application** -spraying a pesticide onto the leaves, needles and blades of grasses, plants, shrubs or trees.

**Food and Drugs Act** -a Federal Act which ensures that food sold in Canada does not contain a harmful amount of any contaminant, pesticidal or otherwise.

**formulation** -a mixture of active ingredient with carriers, diluents or other materials, to make it safe and easy to store, transport, dilute and/or apply.

**formulator** - one who combines active ingredient with solvents, diluents, or other suitable substances to produce pesticides packaged, labelled, and ready for use or further dilution prior to application.

**fume** -a smoke, gas or vapour.

**fumigant** -chemicals used in the form of volatile liquids or gases to kill insects, nematodes, fungi, bacteria, seeds, roots, rhizomes or entire plants. Usually applied in an enclosure of some kind or restricted to a zone below the soil surface by covering with a tarp or plastic sheet, or layer of water.

**fumigation** - the use of chemicals in gaseous form to destroy pests. Fumigation may be carried out in combined storage areas, under tents in the field, or by direct application to the soil and covering with a tarpaulin,

**fungi** -groups of small, often microscopic, plant organisms which cause rots, moulds and plant diseases; they lack chlorophyll (green coloring). Fungi grows from microscopic-size spores and produce tiny threadlike growths. Some fungi can cause the deterioration of structures (singular: fungus).

**fungicide** -a pesticide used to control fungi and other parasitic plant diseases.

**gas mask** -a type of respirator which covers the some entire face and protects the eyes as well as the nose and mouth. It filters and cleans the air between the cartridge respirators, and is less likely to leak around the edges. A gas mask is effective against air which contains concentrations of sprays, dusts or gases not immediately dangerous to human health.

**germination** -the beginning of vegetative growth, usually refers to the beginning of growth from seed.

**granular** -a pesticide formulation in the form of relatively coarse particles which are applied dry with a spreader, seeder or special applicator.

**growth regulator** -a chemical which when applied in small amounts to plant leaves, stems, roots, or to an insect, alters the growth and behaviour of the plant or insect.

**grub** -the larval stage of some beetles.

**habitat** -a particular environment in which organisms live.

**herbaceous** - a plant that remains soft or succulent and does not develop woody tissue.

**herbicide** -a pesticide used to control or manage weeds.

**hormone** - a growth regulating substance occurring naturally in plants or animals. Also used with reference to certain man-made or synthetic chemicals which regulate growth activity.

**host** -the living plant or animal a pest depends on for survival.

**humidity** -refers to moisture or dampness in the air. Herbicides are often comparatively more effective under moderately warm, humid conditions. In areas or at times when humidity is very low, high herbicidal rates or high volumes of diluent may be required because sprays dry more quickly and, absorption is poor.

**hydraulic agitator** - a device which keeps the pesticide formulation in the tank well mixed by returning some of the spray from the pump back to the spray tank.

**hydraulic sprayer** - a machine which delivers high volumes of pesticide spray in a range of pressures to the target. Used for crops, fruit trees, shade trees and ornamentals.

**hydrocarbon** a chemical compound composed of carbon and hydrogen.

**incompatible** - cannot be mixed or used together. When two or more pesticides that are not compatible are mixed together, one or more may precipitate from the mixture, or the effectiveness of one or more may be reduced, or injury to plants or animals may result.

**inert ingredient** - any ingredient in a formulation which does not produce a toxic effect when pesticide is applied.



**infection** - the establishment and development of a pathogen (e.g. a bacterium) in its host, which will or produce a parasitic or infectious disease.

**infestation** -pests that are found in an area or location where they are not wanted.

**ingestion** -to swallow into the digestive system.

**inhalation** -to breathe air into the lungs. period of

**inhibit** -to hold in check or stop, e.g. to inhibit or check seed germination or plant growth with herbicides.

**inorganic chemical** -a chemical that does not contain carbon.

**insect** -adults are characterized by having the body divided into three regions; head, thorax and abdomen; and the thorax divided into three segments, each bearing a pair of segmented legs.

**insecticide** -a pesticide used to control or manage insects.

**instar** -one step or stage in the development of nymphal or larval insects.

**integrated control** -the use of more than one approach to or method of pest control, including cultural practices, natural enemies and selective pesticides.

**invertebrate** -any animal without a bony spinal column, e.g, insects, molluscs.

**invert emulsion** -one in which the water is dispersed in oil rather than oil in water. Oil forms the continuous phase with the water dispersed therein, usually a thick mayonnaise-like mixture results.

**larva** -the growing, wormlike stage of insects which go through complete metamorphosis. Many insects cause most or all of their damage as larvae (plural of larva), e.g. caterpillars.

**larvicide** - a pesticide used to kill the larval stage of an insect.

**lateral movement** -chemical movement in a plant or soil to the side, or horizontal movement in the roots soil layers.

**LC<sub>50</sub>** (lethal concentration to 50 % of a population, median lethal concentration) -a statistic used to indicate degree of toxicity. It is normally expressed in weight per volume as the ppm (parts per million) of a pesticide in the air or water sufficient to kill half of the test animals exposed for a predetermined time, usually 96 hours. The lower the LC<sub>50</sub> value, the more toxic is the pesticide.

**LD<sub>50</sub>** (lethal dose to 50 %) -a statistic used to indicate degree of toxicity. It is expressed as the number of milligrams of a toxicant per kilogram or body weight of an animal, sufficient to kill 50 per cent of such animals.

**leaching** - refers to the movement of chemicals through a soil by water.

**lethal** - fatal or deadly.

**life-cycle** - the progression of stages in the life development of an organism.

**looper** -larval (3rd) stage of some Lepidoptera, usually Geometrids, which have some of their abdominal legs missing causing the back to arch in a loop when moving. Loopers are further characterized by fast backward movement when touched.

**low volume air sprayer** - a machine similar to an air blast sprayer, but with somewhat lower water volume and higher air velocity, which produces extremely fine droplets. Same as a mist blower.

**maggot** - larval stage of many flies and midges (Diptera) , 3rd stage of complete metamorphosis. Maggots are legless.

**mammals** - warm-blooded animals that nourish their young with milk; their skin is more or less covered with hair.

**maximum dosage** -the largest amount of a pesticide that can be used safely, without excess residues or damage occurring to the host organism to be protected or cured.

**maximum residue limit (MRL)** - the maximum amount of pesticide residue that may lawfully be present in or on a food product offered for sale. It is expressed in parts per million. Limits are established by the Federal government

**mechanical agitation** -the stirring, paddling, or swirling action of a device which keeps a pesticide and any additives thoroughly mixed in a spray tank.

**metamorphosis**. any change in form or structure of an insect during the growing period. Complete metamorphosis; four stage development of an insect consisting of an egg, larva, pupa, and adult.

**microbe** -an organism of extremely small size, e.g. bacteria, fungi, and viruses.

**microbial pesticide** -a pesticide whose "active ingredient" is a bacteria, virus, or other microscopic plant or animal, e.g. *Bacillus thuringiensis* (a bacterium).

**mites**. small to minute animals having eight legs in the adult stage. There are harmful and beneficial species. Closely related to spiders.

**miticide** - a pesticide used to control or manage mites.

**mode of action** -the ways in which a pesticide affects a living organism, e.g. disrupts the nervous system, inhibits cell division, etc.

**mould** -a fungus-caused growth, often found in damp or decaying areas or on living things.

**molecule**. the smallest unit of matter that has the chemical characteristics of the mass.

**molluscicide** .a pesticide used to control snails and slugs (molluscs).

**mutagenic** - capable of inducing genetic changes which produce offspring that have different characteristics from their parents.

**mycoplasmas** -organism recently discovered to be the cause of many plant diseases formerly attributed to viruses; organism smaller than bacteria and larger than viruses, e.g. aster yellows.

**narrow-leaved plants** -those plants having narrow leaves and parallel veins.

**natural enemies** - the predators and parasites in the environment which attach pest species.

**necrosis** - death of plant tissue.

**nematicide**. a pesticide used to control nematodes.

**non-parasitic plant disease** -plant disease which is not caused by a parasite. May be caused by nutrient deficiencies, lack of water, poor climate, etc. Subsequent parasitic plant disease and insect attack often results. Synonymous; noninfectious plant disease.

**non-persistent pesticide** -a pesticide that breaks down almost immediately, or only lasts for a few weeks or less, and turns into nontoxic breakdown and products.

**non-selective pesticide** -a pesticide that is toxic to a wide range of pests, or toxic to more than one plant or animal, e.g. a non-selective herbicide is one which kills all plant species.

**non-volatile** -a liquid or solid that does not turn into a gas or vapour.

**nozzles** -devices which control droplet size, application rate and uniformity of a pesticide application. The nozzle type determines the ground pattern of coverage, e.g. tapered flat spray, even flat spray, flooding, off centre, atomizing, broadcast, solid stream, full cone and hollow cone nozzles.

**nutrient (plant)** -chemical element taken into the plant that is essential to its development.

**nymph** - the immature stages of insects such as plant bugs, aphids, and grasshoppers which undergo incomplete metamorphosis.

**oral toxicity** -the degree of toxicity of a compound when it is ingested or swallowed.

**organic chemical** -a chemical compound containing carbon. Many organic compounds occur in nature while others are produced by man through chemical synthesis.

**organochlorines** - organic chemicals containing crop chlorine, e.g. DDT or dieldrin.

**organophosphorous pesticides** -synthetic organic pesticides which contain carbon, hydrogen, and phosphorus. Act by inhibiting a chemical in the body called cholinesterase. As a rule, organophosphorous compounds are less persistent than the organochlorines.

**orifice** - the opening or hole in a nozzle through which a liquid is forced out and broken up into a spray. The size of the orifice controls the volume, while the shape of the orifice controls the spray pattern.

**ornamentals** - plants which are used to beautify homes, gardens and lawns; included are trees, shrubs flowers.

**parasite** -an organism that lives in or on the body of another organism and obtains nourishment from it.

**pathogen** -any disease producing organism.

**perennial** -a plant that continues to live from year to year. The tops may dies back in winter or in severe drought, but the roots or rhizomes persist, e.g. field bindweed, Canada thistle, quack grass and Russian knapweed.

**Pest Control Products Act** -a Federal Act administered by Health Canada. The Act provides that, in order for a pesticide to be registered for sale or use in Canada, it must be accompanied with evidence of effectiveness for the purposed claimed. The pesticide must be accurately labelled as to composition and hazards. The seller must also provide adequate directions for use.

**Pest Control Product Registration Number** - the number which is assigned to a specific pesticide when registration is approved. It must be displayed on every pesticide container label sold or used in Canada.

**pest control service** -a person (company, firm, proprietorship, agency, etc.) who by himself or by the employees provides a service involving the use or application of pesticides. A certified pesticide applicator must be in attendance at each pesticide application.

**pesticide** - any substance or mixture of substances, other than a device, intended for controlling or managing insects, rodents, fungi, weeds and other forms of plant or animal life that are considered to be pests.

**pesticide buffer zones** - a strip of land between a sensitive area and the pesticide treatment area. Pesticides are not applied directly in the buffer zone to prevent entry of pesticides or pesticide residues by drift, runoff, or leachate into the pesticide free zone. The width of the pesticide buffer zone is determined by the Pesticides Control Section, Dept of Environment. Buffer zones are determined by the type of pesticide application equipment, speed of travel, terrain topography, soil conditions and weather conditions.

**pesticide residue** - a deposit that remains in or on a product following the application of a pesticide.

**pH** - an expression of the degree of acidity or alkalinity. The pH scale of numbers 0 to 14 expresses the intensity of acidity or alkalinity. Materials with the pH or 7 are neutral. Those below 7 are acid. Those above 7 are caustic (alkaline).

**phenoxys** - hormone type herbicides belonging to the carboxylic-aromatic compounds, e.g. 2,4-D and mecoprop.

**pheromones** - chemicals produced by insects and other animals to communicate with other members of the same species. Some synthetic pheromones are used to monitor or control insect populations.

**photodegradation** - the degradation of a complex substance such as a pesticide into more simple compounds from the action of sunlight.

**photosynthesis** - the manufacture of simple sugars by green plants utilizing light as the energy source. Also called carbon-assimilation.

**phytotoxic** -poisonous or injurious to plants.

**piscide** -a pesticide used to control fish, e.g. rotenone.

**plant disease** -disease resulting from fungus, bacteria or virus infection of plants, or from deficiencies in essential nutrients. the presence of materials toxic to the plants, genetic abnormalities, or unfavourable environmental factors.

**plant pathology** -the science dealing with diseases of plants.

**Poison Control Centre** -located at all major hospitals in Newfoundland and Labrador. They provide first aid information for poisoning victims. Antidotes and treatment procedures are available to doctors.

**pollination** -fertilization of female parts of flower with pollen.

**post-emergent treatment** -treatments made after crop plants or weeds emerge through soil surfaces.

**pour-on** -a pesticide which is poured along the midline of the backs of livestock

**ppb** -parts per billion.

**ppm** -parts per million.

**predator** -an organism, often an insect or mite, that preys upon another animal. A predator feeds on and kills it prey.

**pre-emergence treatment** - treatment made after a crop is seeded but before it emerges. May also refer to treatment before weeds emerge.

**pre-harvest interval** -see days-to-harvest.

**pre-planting treatment** -treatment made before the crop is planted.

**product** -the pesticide as it is packaged and sold.

**protectant** -a pesticide, usually a fungicide, that is applied where pests are expected to prevent them becoming established. Sometimes called a preventative pesticide.

**protective equipment or gear** -any clothes, materials or devices that offer protection from pesticides; especially important when handling or applying toxic pesticides, e.g. gloves, apron, boots, coveralls, hat, respirator and face shield.

**pupa** -the stage between the larva and the adult in insects with complete metamorphosis, a nonfeeding and usually an inactive stage.

**registered pesticide** -a pesticide accepted under the Pest Control Products Act for the uses and purposes claimed. The P.C.P. Act registration number must be displayed on the label of each pesticide container sold or used in Canada.

**repellant** - a chemical that drives pests away from a treated object, area or individual.

**residual** - to continue to have a killing effect over a period of time after application.

**residue** -the amount of pesticide that is on or in the crop at the time an analysis is made.

**resistance** - the ability of an organism to resist or suppress the injurious effects of a pesticide.

**respiration** - the act of breathing. Also, the physical and chemical processes by which an organism supplies its cells and tissues with oxygen, and the use of oxygen in the production of energy to sustain the living organism.

**rhizome** - underground root-like stem that produces roots and leafy shoots, e.g. the white underground parts of quack grass and Canada thistle.

**rodent** - small mammals of the order Rodentia. Includes such pest species as rats and mice

**rodenticide** -a pesticide used to control rodents.

**seedling stage** -usually refers to the early stages of growth of crop plants or weeds, technically; a plant prior to the development of a root system other than the seed or seminal roots.

**seed protectant** -a pesticide applied to seed before planting to protect seeds and new seedlings from diseases and insects.

**selective pesticide** -a pesticide which is more toxic to some types of organisms than others. Usually used to describe a particular type of pesticide, such as a selective herbicide, e.g. a selective herbicide may kill quackgrass in a carrot field without injury to the carrot.

**slugs** - molluscs belonging to the class Gastropoda, which do not have a shell.

**slurry** - a mixture of a liquid and a wettable powder to the consistency of a slow-running paste. It is good practice to prepare a slurry of wettable powder prior to incorporation in the final mixture.

**snail** - a mollusc, belonging to the class Gastropoda, which may be easily recognized by its shell.

**soil fumigant** - a pesticide used to control pests in the soil. When added to the soil, it takes the form of a gas or vapour. Since it can evaporate quickly, it is often used with some kind of cover, e.g. a tarpaulin which traps the gas in the soil until the pest is controlled.

**soil sterilant** - a non-selective chemical with the ability to persist for varying periods in the soil, thus preventing germination and growth of plants and other organisms.

**soluble** - will dissolve in a liquid.

**solubility** - the amount of substance which will dissolve in a given amount of another substance.

**soluble powder (SP)** -a dry (powder) formulation which contains an active ingredient that dissolves in water (or another liquid), and forms a solution so that it can be applied.

**solvent** - a liquid which will dissolve one or more substances to form a solution.

**species** - a group of individuals which are similar in a structure and physiology and are capable of producing fertile offspring.

**spiders** - tiny animals closely related to insects; they have eight jointed legs, two body regions, no antennae, and no wings. Spiders are often grouped with mites and ticks.

**split application** - applying a portion of the pesticide at one time and the remainder later.

**spore** -an inactive form of microorganism that is capable of becoming active again when conditions are favourable.

**spot treatment** -an application of spray to localized or restricted areas as differentiated from broadcast spray.

**spray** - a pesticidal formulation dissolved or suspended in a liquid (usually water or oil) so that it can be applied in fine droplets.

**spreading agent** - a substance used to improve the wetting and spreading properties of a spray mixture.

**spreader sticker** - a substance used to improve the setting, spreading and sticking properties of a spray mixture, e.g. facilitates the spreading of a liquid over leaf surfaces, and enhances adherence.

**stem** -those parts of a plant above the ground which support branches, twigs or flowers.

**sterile male technique** - a method to control insects by sterilization of males, usually accomplished by radiation or a chemosterilant, (e.g. sterile male coding moths).

**stolon** -above-ground runners or slender stems that develop roots and shoots and new plants at the tips or at nodes. e.g. strawberries and creeping buttercups.

**stomach poison** - compounds that kill organism when they are eaten and absorbed.

**stunting** -in relation to weeds or crop plants, usually refers to a retarding effect on growth and development. Often stunting or suppressing of weeds or grasses, even without kill, may give effective control (management).

**summer annuals** - plants which germinate in the spring, do most of their growing in the summer, produce flowers or seeds, and then die in the fall.

**surface tension** - the force which tends to cause a liquid drop to retain its shape rather than spreading as a film.

**surfactant** - a chemical or agent used in a pesticide to make mixing easier and to assist in the spreading of a chemical and the wetting of and adherence to the surface to be treated, e.g. emulsifiers, soaps, wetting agents, detergents and spreader stickers.

**susceptibility** - the degree to which an organism can be injured or affected by a pesticide at a known dose or exposure.

**suspension** - a liquid or gas in which very fine solid particles are dispersed but not dissolved, e.g. diuron or simazine in water. Constant agitation is essential.

**swath** - the width covered by a sprayer when it moves across a field or other area to be treated.

**synergist** - a chemical added to a pesticide to increase the level of activity of the active ingredient.

**synthetic** - a term derived from the Greek "Synthetikos", meaning "that which is put together". Man-made chemicals may be identical to those found in nature, but are generally purer and more uniform.

**systemic pesticide** - a pesticide which is absorbed by and flows through the plant or animal.

**target pest** - the pest at which a pesticide application or other control method is directed.

**technical material** - the pesticide (active ingredient) as it is manufactured by a chemical company before formulation.

**teratogenic** - capable of inducing deformities to unborn animals, as with thalidomide.

**test animal** - laboratory animals exposed to pesticides so that toxicity and hazards can be determined, e.g. weeds rats, mice, rabbits, birds and fish.

**threshold of toxicity** - the lowest dose of a poison which causes one or more toxic effects examined for in animals or humans.

**ticks** - tiny animals closely related to insects. They have eight jointed legs, two body regions, no antennae and no wings. Ticks are blood sucking organisms and are often found on dogs, cows or other domestic and wild animals. They are closely related to mites and spiders.

**tolerance** - see residue tolerance.

**tolerant** - ability to withstand effect, e.g. grasses are tolerant to 2,4-D to a degree that it can be used selectively on lawns to control some broadleaved weeds.

**topical application** - a pesticide that is applied from above, usually to the top or upper surface of a plant.

**toxicant** - poison.

**toxicity** - the degree to which a substance is poisonous or injurious to a plant or animal. Toxicity is one consideration in assessing the hazard in handling a particular pesticide.



**translocation** - transfer of food or other materials, e.g. 2,4-D, from one part of a plant to another.

**vapour** - the gas produced by a substance which is generally a solid or liquid at room temperature. A gas or vapour is not the same as an aerosol or mist which are composed of tiny droplets of liquid suspended in air.

**vapour drift** - the movement of vapours from the area of application to other areas.

**vector** - a carrier of a disease producing organism (pathogen); an insect or other animal that transmits a pathogen, e.g. aphids, leafhoppers and nematodes can transfer viruses from one host to another. The vector may or may not be affected by the pathogen.

**vertebrate** - an animal with a bony spinal column, e.g. mammals, fish, birds, snakes, man and frogs.

**Viroids** -very small molecules of infectious (naked) RNA (Ribo Nucleic Acid), 50 times smaller than typical plant viruses. Viroids have been recognized only recently and so far only in plants. They lack the protein coating which is found in viruses. Control of viroids is the same as for viruses; sound cultural practices and control of vectors.

**virus** - infectious agent of plant or animal, too small to be seen except with an electron microscope. They are protein bodies capable of multiplying and acting like living organisms within the host organism.

**volatility** - the degree to which a solid or liquid material evaporates (evolves a gas).

**volatility injury** - injury from the vapour of a pesticide.

**weed** - any plant growing where it is not wanted.

**wettable powder** - a powder containing a wetting agent so that it will readily form a suspension in water.

**winter annual** - plants which germinate in the fall or early winter, do most of their growing in the spring, produce flowers and seeds and die within a year.

**wood preservation** - preserving the usefulness and structural strength of wood and wood products by chemical treatment to repel harmful parasitic organisms.