Glossary

ABSORPTION-The movement of a chemical into plants, animals (including humans), microorganisms.

ACARICIDE-A pesticide used to control mites and ticks. A miticide is an acaricide.

ACTIVE INGREDIENT-The chemical or chemicals in a pesticide responsible for killing, poisoning or repelling the pest. Listed separately in the ingredient statement.

ACUTE TOXICITY-The capacity of a pesticide to cause injury within 24 hours following exposure. LD_{50} and LC_{50} are common indicators of the degree of acute toxicity. (See also Chronic Toxicity)

ADJUVANT-A substance added to a pesticide to improve its effectiveness or safety. Same as additive. Examples: Penetrants, spreader-stickers and wetting agents.

ADSORPTION-The process by which chemicals are held or bound to a surface by physical or chemical attraction. Clay and high organic soils tend to adsorb pesticides.

AEROSOL-A material stored in a container under pressure. Fine droplets are produced when the material dissolved in a liquid carrier is released into the air from the pressurized container.

ALGAE-Relatively simple plants that contain chlorophyll and are photosynthetic.

ALGAECIDE-A pesticide used to kill or inhibit algae.

ANTI-SIPHONING DEVICE-A device attached to the filling hose that prevents backflow or back siphoning from a spray tank into a water source.

ANTICOAGULANT-A chemical that prevents normal blood clotting. The active ingredient in some rodenticides.

ANTIDOTE-A treatment used to counteract the effects of pesticide poisoning or some other poison in the body.

ARACHNID-A wingless arthropod with two body regions and four pairs of jointed legs. Spiders, ticks and mites are in the class Arachnida.

ARTHROPOD-An invertebrate animal characterized by a jointed body and limbs and usually a hard body covering that is molted at intervals. For example, insects, mites and crayfish are in the phylum Arthropoda.

ATTRACTANT-A substance or device that will lure pests to a trap or poison bait.

AVICIDE-A pesticide used to kill or repel birds. Birds are in the class Aves.

BACTERIA-Microscopic organisms, some of which are capable of producing diseases in plants and animals. Others are beneficial.

BACTERICIDE-Chemical used to control bacteria.

BAIT-A food or other substance used to attract a pest to a pesticide or to a trap.

BAND APPLICATION-Application of a pesticide in a strip alongside or around a structure, a portion of a structure or any object.

BARRIER APPLICATION-see band application.

BENEFICIAL INSECT-An insect that is useful or helpful to humans. Usually insect parasites, predators, pollinators, etc.

BIOLOGICAL CONTROL-Control of pests using predators, parasites and disease-causing organisms. May be naturally occurring or introduced.

BIOMAGNIFICATION-The process where one organism accumulates chemical residues in higher concentrations from organisms they consume.

BOTANICAL PESTICIDE-A pesticide produced from chemicals found in plants. Examples are nicotine, pyrethrins and strychnine.

BRAND NAME-The name, or designation of a specific pesticide product or device made by a manufacturer or formulator. A marketing name.

CALIBRATE, CALIBRATION OF EQUIPMENT OR APPLICATION METHOD-The measurement of dispersal or output and adjustments made to control the rate of dispersal of pesticides.

CARBAMATES-(N-Methyl Carbamates) A group of pesticides containing nitrogen, formulated as insecticides, fungicides and herbicides. The N-methyl carbamates are insecticides and inhibit cholinesterase in animals.

CARCINOGENIC-The ability of a substance or agent to induce malignant tumors (cancer).

CARRIER-An inert liquid, solid or gas added to an active ingredient to make a pesticide dispense effectively. A carrier is also the material, usually water or oil, used to dilute the formulated product for application.

CERTIFIED APPLICATORS-Individuals who are certified to use or supervise the use of any restricted use pesticide covered by their certification.

CHEMICAL NAME-The scientific name of the active ingredients found in the formulated product. This complex name is derived from the chemical structure of the active ingredient.

CHEMICAL CONTROL-Pesticide application to kill pests.

CHEMOSTERILANT-A chemical compound capable of preventing animal reproduction.

CHEMTREC-The Chemical Transportation Emergency Center has a toll-free number that provides 24-hour information for chemical emergencies such as a spill, leak, fire or accident. 800-424-9300.

CHLORINATED HYDROCARBON-A pesticide containing chlorine, carbon and hydrogen. Many are persistent in the environment. Examples: Chlordane, DDT, methoxychlor. Few are used in urban pest management operations today.

CHOLINESTERASE, ACETYL CHOLINESTERASE-An enzyme in animals that helps to regulate nerve impulses. This enzyme is depressed by N-methyl carbamate and organophosphate pesticides.

CHRONIC TOXICITY-The ability of a material to cause injury or illness (beyond 24 hours following exposure) from repeated, prolonged exposure to small amounts. (See also Acute Toxicity)

COMMERCIAL APPLICATOR-A certified applicator that for compensation uses or supervises the use of any pesticide classified for restricted use for any purpose or on any property other than that producing an agricultural commodity.

COMMON NAME-A name given to a pesticide's active ingredient by a recognized committee on pesticide nomenclature. Many pesticides are known by a number of trade or brand names but the active ingredient(s) has only one recognized common name.

COMMUNITY-The different populations of animal species (or plants) that exist together in an ecosystem (See also Population and Ecosystem).

COMPETENT-Individuals properly qualified to perform functions associated with pesticide application. The degree of competency (capability) required is directly related to the nature of the activity and the associated responsibility.

CONCENTRATION-Refers to the amount of active ingredient in a given volume or weight of formulated product.

CONTACT PESTICIDE-A compound that causes death or injury to insects when it contacts them. It does not have to be ingested. Often used in reference to a spray applied directly on a pest.

CONTAMINATION-The presence of an unwanted substance (sometimes pesticides) in or on a plant, animal, soil, water, air or structure.

CULTURAL CONTROL-A pest control method that includes changing human habits, e.g., sanitation, changing work practices, changing cleaning and garbage pick-up schedules, etc.

DECONTAMINATE-To remove or break down a pesticidal chemical from a surface or substance.

DEGRADATION-The process by which a chemical compound or pesticide is reduced to simpler compounds by the action of microorganisms, water, air, sunlight or other agents. Degradation products are usually, but not always less toxic than the original compound.

DEPOSIT-The amount of pesticide on treated surface after application.

DERMAL TOXICITY-The ability of a pesticide to cause acute illness or injury to a human or animal when absorbed through the skin (see Exposure Route).

DESICCANT-A type of pesticide that draws moisture or fluids from a pest causing it to die. Certain desiccant dusts destroy the waxy outer coating that holds moisture within an insect's body.

DETOXIFY-To render a pesticide's active ingredient or other poisonous chemical harmless.

DIAGNOSIS-The positive identification of a problem and its cause.

DILUENT-Any liquid gas or solid material used to dilute or weakened a concentrated pesticide.

DISINFECTANT-A chemical or other agent that kills or inactivates disease-producing microorganisms. Chemicals used to clean or surface-sterilize inanimate objects.

DOSE, DOSAGE-Quantity, amount or rate of pesticide applied to a given area or target.

DRIFT-The airborne movement of a pesticide spray or dust beyond the intended target area.

DUST-A finely ground, dry pesticide formulation containing a small amount of active ingredient and a large amount of inert carrier or diluent such as clay or talc.

ECOSYSTEM-The pest management unit. It includes a community (of populations) with the necessary physical (harborage, moisture, temperature), and biotic (food, hosts) supporting factors that allow an infestation of pests to persist.

EMULSIFIABLE CONCENTRATE-A pesticide formulation produced by mixing or suspending the active ingredient (the concentrate) and an emulsifying agent in a suitable carrier. When added to water, a milky emulsion is formed.

EMULSIFYING AGENT (EMULSIFIER)-A chemical that aids in the suspension of one liquid in another that normally would not mix together.

EMULSION-A mixture of two liquids that are not soluble in one another. One is suspended as very small droplets in the other with the aid of an emulsifying agent.

ENCAPSULATED FORMULATION-A pesticide formulation with the active ingredient enclosed in capsules of polyvinyl or other materials; principally used for slow release. The enclosed active ingredient moves out to the capsule surface as pesticide on the surface is removed (volatilizes, rubs off, etc.).

ENDANGERED SPECIES-Individual plants or animals with a population that has been reduced to the extent that it is near extinction and that has been designated to be endangered by a federal agency.

ENTRY INTERVAL-See Re-entry Interval.

ENVIRONMENT-Air, land, water, all plants, man and other animals, and the interrelationships that exist among them.

ENVIRONMENTAL PROTECTION AGENCY OR EPA-The federal agency responsible for ensuring the protection of man and the environment from potentially adverse effects of pesticides.

EPA ESTABLISHMENT NUMBER-A number assigned to each pesticide production plant by the EPA. The number indicates the plant at which the pesticide product was produced and must appear on all labels of that product.

EPA REGISTRATION NUMBER-An identification number assigned to a pesticide product when the product is registered by the EPA for use. The number must appear on all labels for a particular product.

ERADICATION-The complete elimination of a (pest) population from a designated area.

EXPOSURE ROUTE OR COMMON EXPOSURE ROUTE-The manner (dermal, oral or inhalation/respiratory) in which a pesticide may enter an organism.

FIFRA-The Federal Insecticide, Fungicide and Rodenticide Act; a federal law and its amendments that control pesticide registration and use.

FLOWABLE-A pesticide formulation in which a very finely ground solid particle is suspended (not dissolved) in a liquid carrier.

FOG TREATMENT-A fine mist of pesticide in aerosol-sized droplets (under 40 microns). Not a mist or gas. After propulsion, fog droplets fall to horizontal surfaces.

FORMULATION-The pesticide product as purchased, containing a mixture of one or more active ingredients, carriers (inert ingredients), with other additives making it easy to store, dilute and apply.

FUMIGANT-A pesticide formulation that volatilizes, forming a toxic vapor or gas that kills in the gaseous state. Usually, it penetrates voids to kill pests.

FUNGICIDE-A chemical used to control fungi.

FUNGUS (Plural, Fungi)-A group of small, often microscopic, organisms in the plant kingdom that cause rot, mold and disease. Fungi need moisture or a damp environment (wood rots require at least 19 percent moisture). Fungi are extremely important in the diet of many insects.

GENERAL USE (UNCLASSIFIED) PESTICIDE-A pesticide that can be purchased and used by the general public. (See also Restricted Use Pesticide)

GRANULE-A dry pesticide formulation. The active ingredient is either mixed with or coated onto an inert carrier to form a small, ready-to-use, low-concentrate particle that normally does not present a drift hazard. Pellets differ from granules only in their precise uniformity, larger size and shape.

GROUNDWATER-Water sources located beneath the soil surface from which springs, well water, etc., is obtained (see also Surface Water).

HAZARD-see Risk.

HERBICIDE-A pesticide used to kill or inhibit plant growth.

HOST-Any animal or plant on or in which another lives for nourishment, development or protection.

IGR, INSECT GROWTH REGULATOR JUVENOID-A pesticide constructed to mimic insect hormones that control molting and the development of some insect systems affecting the change from immature to adult. (See Juvenile Hormone)

INERT INGREDIENT-In a pesticide formulation, an inactive material without pesticidal activity.

INGREDIENT STATEMENT-The portion of the label on a pesticide container that gives the name and amount of each active ingredient and the total amount of inert ingredients in the formulation.

INHALATION-Taking a substance in through the lungs; breathing in. (See Exposure Route)

INSECT GROWTH REGULATOR-see IGR.

INSECTICIDE-A pesticide used to manage or prevent damage caused by insects. Sometimes generalized to be synonymous with pesticide.

INSECTS, INSECTA-A class in the phylum Arthropoda characterized by a body composed of three segments and three pairs of legs.

INSPECTION-To examine for pests, pest damage, other pest evidence, etc. (See Monitoring)

INTEGRATED PEST MANAGEMENT-see IPM.

IPM-Integrated Pest Management. A planned pest control program in which methods are integrated and used to keep pests from causing economic, health-related, or aesthetic injury. IPM includes reducing pests to a tolerable level. Pesticide application is not the primary control method, but is an element of IPM, as are cultural and structural alterations. IPM programs stress communication, monitoring, inspection and evaluation (keeping and using records).

JUVENILE HORMONE-A hormone produced by an insect that inhibits change or molting. As long as juvenile hormone is present, the insect does not develop into an adult but remains immature.

LABEL-All printed material attached to or on a pesticide container.

LABELING-The pesticide product label and other accompanying materials that contain directions that pesticide users are legally required to follow.

LARVA (plural Larvae)-The developmental stage of insects with complete metamorphosis that hatches from the egg. A mature larva becomes a pupa (some other invertebrates have larvae but they do not involve urban pests).

LC_{50}-Lethal concentration. The concentration of a pesticide, usually in air or water that kills 50 percent of a test population of animals. $LC_{50}$is usually expressed in parts per million (ppm). The lower the LC_{50} value, the more acutely toxic the chemical.

LD_{50}-Lethal dose. The dose or amount of a pesticide that can kill 50 percent of the test animals when eaten or absorbed through the skin. LD_{50} is expressed in milligrams of chemical per kilogram of body weight of the test animal (mg/kg). The lower the LD_{50}, the more acutely toxic the pesticide.

LEACHING-The movement of a substance with water downward through soil.

METAMORPHOSIS-A change in the shape or form of an animal. Usually used when referring to insect development.

MICROBIAL DEGRADATION-Breakdown of a chemical by microorganisms.

MICROBIAL PESTICIDE-Bacteria, viruses, fungi, and other microorganisms used to control pests. Also called biorationals.

MICROORGANISM-An organism so small it can be seen only with the aid of a microscope.

MITICIDE-A pesticide used to control mites. (See Acaricide)

MODE OF ACTION-The way in which a pesticide exerts a toxic effect on the target plant or animal.

MOLLUSCICIDE-A chemical used to control snails and slugs.

MONITORING-Ongoing surveillance. Monitoring includes inspection and record keeping. Monitoring records allows technicians to evaluate pest population suppression, identify infested or non-infested sites and manage the progress of the management or control program.

NECROSIS-Death of plant or animal tissues which results in the formation of discolored, sunken or necrotic (dead) areas.

NONTARGET ORGANISM-Any plant or animal other than the intended target(s) of a pesticide application.

NYMPH-The developmental stage of insects with gradual metamorphosis that hatches from the egg. Nymphs become adults.

ORAL TOXICITY-The ability of a pesticide to cause injury or acute illness when taken by mouth. One of the common exposure routes.

ORGANOPHOSPHATES-A large group of pesticides that contain the element phosphorus and inhibit cholinesterase in animals.

PARASITE-A plant, animal or microorganism living in, on, or with another living organism for the purpose of obtaining all or part of its food.

PATHOGEN-A disease causing organism.

PERSONAL PROTECTIVE EQUIPMENT-Devices and clothing intended to protect a person from exposure to pesticides. Includes such items as long-sleeved shirts, long trousers, coveralls, suitable hats, gloves, shoes, respirators and other safety items as needed.

PEST MANAGEMENT-see IPM

PEST-An undesirable organism: (1) any insect, rodent, nematode, fungus, weed or (2) any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other microorganism (except viruses, bacteria or other micro-organisms on, or in living man or other living animals) which the Administrator declares to be a pest under FIFRA, Section 25(c)(1).

PESTICIDE-A chemical or other agent used to kill, repel or otherwise control pests or to protect from a pest.

pH-A measure of the acidity/alkalinity of a liquid: acid below pH 7, basic or alkaline above pH 7 (up to 14).

PHEROMONE-A substance emitted by an animal to influence the behavior of other animals of the same species. Some are synthetically produced for use in insect traps.

PHOTODEGRADATION-Breakdown of chemicals by the action of light.

PHYSICAL CONTROL-Habitat alteration or changing the infested physical structure; e.g., caulking holes, cracks, tightening around doors, windows, moisture reduction, ventilation, etc.

PHYTOTOXICITY-Injury to plants caused by a chemical or other agent.

POINT OF RUNOFF-The point at which a spray starts to run or drip from the surface to which it is applied.

POISON CONTROL CENTER-A local agency, generally a hospital, which has current information as to the proper first aid techniques and antidotes for poisoning emergencies. Centers are listed in telephone directories.

POPULATION-Individuals of the same species. The populations in an area make up a community.
(See Ecosystem)

PRECIPITATE-A solid substance that forms in a liquid and settles to the bottom of a container. A material that no longer remains in suspension.

PREDATOR-An animal that attacks, kills and feeds on other animals. Examples of predaceous animals are hawks, owls, snakes, many insects, etc.

PROFESSIONAL-One who is able to make judgments based on training, experience and an available database.

PROPELLANT-The inert ingredient in pressurized products, which forces the active ingredient from the container.

PUPA (plural Pupae)-The developmental stage of insects with complete metamorphosis where major changes from the larval to the adult form occurs.

RATE OF APPLICATION-The amount of pesticide applied to a plant, animal, unit area or surface; usually measured as per acre, per 1,000 square feet, per linear feet or per cubic feet.

RE-ENTRY INTERVAL-The length of time following an application of a pesticide when entry into the treated area is restricted. (See Entry Interval)

REGISTERED PESTICIDES-Pesticide products that have been registered by the Environmental Protection Agency for the uses listed on the label.

REPELLENT-A compound that keeps insects, rodents, birds or other pests away from plants, domestic animals, buildings or other treated areas.

RESIDUAL PESTICIDE-A pesticide that continues to remain effective on a treated surface or area for an extended period following application.

RESIDUE-The pesticide active ingredient or its breakdown product(s) that remain in or on the target after treatment.

RESTRICTED USE PESTICIDE-A pesticide that can be purchased and used only by certified applicators or persons under their direct supervision. A pesticide classified for restricted use under FIFRA, Section 3(d)(1)(C).

RISK-A probability that a given pesticide will have an adverse effect on man or the environment in a given situation.

RODENTICIDE-A pesticide used to control rodents.

RUNOFF-The movement of water and associated materials on the soil surface. Runoff usually proceeds to bodies of surface water.

SIGNAL WORDS-Required word(s) that appear on every pesticide label to denote the relative toxicity of the product. Signal words are DANGER-POISON, DANGER, WARNING or CAUTION.

SITE-Areas of actual pest infestation. Each site should be treated specifically or individually.

SOIL INJECTION-The placement of a pesticide below the surface of the soil. Common application method for termiticides.

SOIL DRENCH-To soak or wet the ground surface with a pesticide. Large volumes of the pesticide mixture are usually needed to saturate the soil to any depth.

SOIL INCORPORATION-The mechanical mixing of a pesticide product with soil.

SOLUTION-A mixture of one or more substances in another substance (usually a liquid) in which all the ingredients are completely dissolved. Example: Sugar in water.

SOLVENT-A liquid that will dissolve another substance (solid, liquid or gas) to form a solution.

SPACE SPRAY-A pesticide that is applied as a fine spray or mist to a confined area.

STOMACH POISON-A pesticide that must be eaten by an animal in order to be effective; it will not kill on contact.

SURFACE WATER-Water on the earth's surface: rivers, lakes, ponds, streams, etc. (See Groundwater)

SUSPENSION-A pesticide mixture consisting of fine particles dispersed or floating in a liquid, usually water or oil. Example: Wettable powders in water.

TARGET-The plants, animals, structures, areas or pests at which the pesticide or other control method is directed.

TECHNICAL MATERIAL-The pesticide active ingredient in pure form, as it is manufactured by a chemical company. It is combined with inert ingredients or additives in formulations such as wettable powders, dusts, emulsifiable concentrates or granules.

TOXIC-Poisonous to living organisms.

THRESHOLD-A level of pest density. The number of pests observed, trapped, counted, etc., that can be tolerated without an economic loss or aesthetic injury. Pest thresholds in urban pest management may be site specific, for example, different numbers of cockroaches may be tolerated at different sites (e.g., hospitals and garbage rooms). A threshold may be set at zero (e.g., termites in a wooden structure, flies in a hospital operating room).

TOLERABLE LEVELS OF PESTS-The presence of pests at certain levels is tolerable in many situations. Totally eliminating pests in certain areas is sometimes not achievable without major structural alterations, excessive control measures, unacceptable disruption, unacceptable cost, etc. Pest levels that depend on pest observations vary. The tolerable level in some situations will be zero (e.g., termites). Urban pest management programs usually have lower tolerable levels of pests than agricultural programs.

TOXICANT-A poisonous substance such as the active ingredient in a pesticide formulation.

TOXICITY-The ability of a pesticide to cause harmful, acute, delayed or allergic effects. The degree or extent that a chemical or substance is poisonous.

TOXIN-A naturally occurring poison produced by plants, animals or microorganisms. Examples: The poison produced by the black widow spider, the venom produced by snakes, the botulism toxin.

UNCLASSIFIED PESTICIDE-See General Use Pesticide.

URBAN-A Standard Metropolitan Area (SMA) or a town of 2,500(+) occupants.

URBAN PEST MANAGEMENT-Management of pest infestations that are normally problems in urban areas. Urban pest management involves reducing pest populations to tolerable numbers in and around homes, in structures and those pests that cause health related problems. Urban pest management may or may not focus on reducing economic injury but it always deals with health or aesthetic injuries. Pest control workers certified in Categories 3, 7 and 8 usually work in urban pest management or urban pest control.

USE-The performance of pesticide related activities requiring certification include: application, mixing, loading, transport, storage or handling after the manufacturing seal is broken; care and maintenance of application and handling equipment; and disposal of pesticides and their containers in accordance with label requirements. Uses not needing certification are: long distance transport, long-term storage and ultimate disposal.

VAPOR PRESSURE-The property that causes a chemical to evaporate. The higher the vapor pressure, the more volatile the chemical or the easier it will evaporate.

VECTOR-A carrier, an animal (e.g., insect, nematode, mite) that can carry and transmit a pathogen from one host to another.

VERTEBRATE-Animal characterized by a segmented backbone or spinal column.

VIRUS-Ultramicroscopic parasites composed of nucleic acids and proteins. Viruses can only multiply in living tissues and cause many animal and plant diseases.

VOLATILITY-The degree to which a substance changes from a liquid or solid state to a gas at ordinary temperatures when exposed to air.

WATER TABLE-The upper level of the water saturated zone in the ground.

WETTABLE POWDER-A dry pesticide formulation in powder form that forms a suspension when added to water.

ZONE-The management unit, an area of potential pest infestation made up of infested sites. Zones will contain pest food, water and harborage. A kitchen-bathroom arrangement in adjoining apartments might make up a zone; a kitchen, storeroom, waiters station, loading dock at a restaurant may make up another. Zones may also be established by eliminating areas with little likelihood of infestation and treating the remainder as a zone. A zone will be an ecosystem.