

## GLOSSARY OF TERMS

- Abatement** — A method of reducing a pest population, also used in reference to a reduction in pollution by chemicals.
- Abiotic** — Nonliving factors, such as wind, water, temperature, or soil type or texture.
- Abdomen** — The posterior or hindmost of the three main body divisions.
- Abdominal festoons** — In ticks (Acari), the rectangular areas divided by grooves along the posterior abdominal margin.
- Aberrant Cockroaches** — are cockroaches that are “finicky” eaters and will avoid certain toxicants incorporated in baits.
- Abrasion** — The process of wearing away by rubbing.
- Abscission** — Process by which a leaf or other part is separated from the plant.
- Absond** — To swarm in an attempt to form new colonies.
- Absorb** — To soak up or take in a liquid or powder.
- Absorption** — Process by which pesticide poisons are taken into tissues, namely plants, by roots or foliage (stomata, cuticle, etc.).
- Acaricide** — A pesticide poison used to destroy mites and ticks. A miticide is an acaricide.
- Acceptable Daily Intake (ADI)** — The level (based on all “current” facts) of daily intake/exposure to pesticide poisons over a lifetime where there is no appreciable health risk. Time will prove my belief that there is no safe level of poison. It is generally assumed to be 1/100th of the NOEL or 1/1,000,000th of the cancer NOEL.
- Acceptance** — Refers to the palatability of baits/poisons to rodents and other pests.
- Accessory vein** — An extra branch of a longitudinal vein; in Hymenoptera, the most posterior vein in the anal area of the front wing.
- Accumulate** — To increase in quantity within an area, such as the soil or tissues of people, plants, or animals.
- Acetic acid** — e.g., vinegar and lemon juice.
- Acetylcholine (ACh)** — Chemical transmitter of nerve and nerve-muscle impulses in animals.
- Acidic** — Having a pH less than 7.
- Activator** — Material added to increase toxicity, e.g. to a fungicide.
- Active ingredient (a.i.)** — The chemical or chemicals in a pesticide poison responsible for killing, poisoning, or repelling the pest. Listed separately in the ingredient statement. The only ingredient tested in the poison (see “inert” ingredient).
- Aculeus** — The name of the scorpion's stinger.
- Acute toxicity** — The capacity of a pesticide poison to cause injury or death within 24 hours following a single dose or exposure. LD<sub>50</sub> and LC<sub>50</sub> are common indicators of the degree of acute toxicity. (See also **chronic toxicity**.)
- Adaptation** — Another word for acclimation or the adjustment any organism makes to changes in its environment or habitat.
- Additive** — A substance added to a pesticide poison to change the properties of the poison. **They are not included in the risk formula or “registration”.**
- Adjustments** — Know when to make them and have the courage to do so. Life is a school that teaches change is the only constant.
- Adjuvant** — A substance added to a pesticide poison to improve its effectiveness or safety. Same as additive. Examples: Penetrants, spreader-stickers, wetting agents, emulsifiers, dispersing agents, foam suppressants, and correctives. **They are not included in the risk formula or “registration”.**
- Adsorb** — To take up and hold on surface of a solid.
- Adsorption** — The process by which chemicals are held or bound to a surface, e.g., soil particles, by physical or chemical attraction. Refers to gases, dissolved substances, or liquids on the surface of solids or liquids. Clay and high organic soils tend to adsorb pesticide poisons.
- Adult** — Fully grown and sexually mature arthropod or creature.
- Adulterated pesticide** — A pesticide poison that does not conform to the professed standard or quality as documented on its label or labeling. I believe all “registered” pesticide poisons are adulterated - **see Ch. 13**.
- Advisory** — When EPA notes they only advise something; you do not have to pay any attention - an advisory is unenforceable. **See Restriction.**
- Aerobic** — Living or functioning in air or requiring free oxygen, or relating to a condition where free oxygen is present.
- 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. Colloidal suspension of

solids or liquids in the air.

**Aestivate** — To go into a quiescence or resting period as a result of continued high temperatures or dry conditions.

**Aestivation** — Dormancy during a warm or dry season.

**Agitator** — A mechanical or hydraulic device that stirs or mixes the liquid in a spray tank to prevent the mixture from separating or settling.

**Air-dried** — Seasoned or dried by exposure to air in a yard or shed, without artificial heat.

**Akinesis** - The absence of movement; inactivity; used to describe the sleep or rest period of an insect.

**Alate** — Winged form - possessing wings.

**Algae** — Relatively simple plants that contain chlorophyll and are photosynthetic.

**Algaecide** — A pesticide poison used to kill or inhibit algae and aquatic weeds.

**Aliphatic** — Belonging to a group of organic compounds having an open-chain structure and consisting of the paraffin, olefin and acetylene hydrocarbons and their derivatives.

**Alkaline** — Having a pH greater than 7.

**Allelopathy** — The production of growth inhibitors by one plant that retards the development of another plant.

**Allergic effects** — Harmful effects, e.g., rash, asthma, sensitivity, etc. that people develop in reaction to synthetic pesticide poison exposure.

**Allergic reaction** — An increased sensitivity to foreign materials (especially proteins) - developed only after an initial exposure.

**Alternative** — What this book tries to teach to the “regulators;” an alternative is **not** an unregistered “pesticide.”

**American lumber standards** — Provisions for softwood lumber dealing with recognized classifications, nomenclature, basic grades, sizes, description, measurements, tally, shipping provisions, grade-making, and inspection of lumber. These standards serve as a guide in the preparation or revision of the grading rules of the various lumber manufacturers' associations. A purchaser must, however, make use of association rules because the basic standards are not commercial rules.

**Ametabolous** — Without metamorphosis.

**Anal** — Pertaining to the last abdominal segment (which bears the anus); also the posterior basal part of the wing.

**Anal groove** — In ticks (Acari), a groove either in front or behind the anal opening.

**Anal retentive** — What a lot of “regulators” and/or poison applicators seem to be to the Author.

**Anal trophallaxis** — The exchange of alimentary fluids via posterior orifices.

**Anaphylactic shock** — A collapse of the circulatory system/function from a generalized total body allergic reaction caused mostly by pesticides, insect stings, spider bites, ingested foods or drugs; a truly life-threatening condition.

**Anaerobic** — Not requiring free oxygen or a condition where free oxygen is not present.

**Annual** — Plant that completes its life cycle in one year, i.e., germinates from seed, produces seed, and dies in the same season.

**Annulate** — Appears to consist of ring-like segments.

**Antagonism** — Decreased activity arising from the effect of one chemical on another. (Opposite of synergism.)

**Antenna (pl. antennae)** — The paired, segmental feeler-like sensory organs located on the head above the mouthparts.

**Antennal club** — The enlarged distal segments of a clubbed antenna.

**Anterior** — Front; in front of; before.

**Antibiosis** — is plant resistance that directly affects the insect's survival.

**Antibiotic** — (Anti-life) A chemical substance produced by a living organism, such as a fungus, that is toxic to other types of living organisms. Sometimes used as a pesticide poison. See probiotic.

**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.

**Anti-siphoning device** — A device attached to the filling hose that prevents backflow or back-siphoning from a spray tank into a water source.

**Anti-transpirant** — A chemical applied directly to a plant which reduces the rate of transpiration or water loss by the plant.

**Artixenosis (also called nonpreference)** — is the ability of a plant to repel an insect or pest.

**Anus** — The posterior opening of the alimentary tract.

**Aorta** — Anterior portion of the heart (dorsal vessel) lacking lateral openings or ostia.

**Aperture** — In snails (Geophila), the opening in the shell.

**Aphid** — A member of the insect order Homoptera, family Aphididae, characterized by being soft-bodied usually with a pair of cornicles (tubular structures) near the posterior end (rear) of the abdomen; commonly called plant lice.

**Aphid mummies** — The tan or black, swollen shells of parasitized aphids; often stuck to leaves.

**Apical** — At the end, tip, or outermost part.

**Apiculture** — Pertaining to the care and culture of bees.

**Aquatic** — Living in water.

**Arboviral encephalitis** — Describes an infection of the brain caused by an arbovirus. Arbovirus is short for arthropod - born - virus.

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

**Aromatics** — Solvents containing benzene, or compounds derived from benzene. **See “inerts”**.

**ARP** — Acreage Reduction Program.

**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, crayfish, and centipedes are in the phylum Arthropoda. Any segmented invertebrate of the phylum Arthropoda, having jointed legs.

**Aspartame** — An artificial sweetener that kills rodents and other pests that eat it.

**Aspirator** — A suction device that can be used to pick up insect specimens.

**Assimilation** — The incorporation or absorption of a pesticide poison by any organism. **See Contamination**.

**Asthma** — The PEW Environmental Health Commission at the John Hopkins School for Public Health in 2000 issued a report that said the disease will more than double by the year 2020. The report states that in 1995 asthma accounted for more than 10 million missed school days, making asthma the number one cause of school absenteeism. See Cockroach and Dust Mite control and avoid using volatile, synthetic pesticides.

**Asymmetrical** — Not alike or evenly developed on both sides.

**Atropine (atropine sulfate)** — An antidote used to treat organophosphate and carbamate poisoning.

**Attractant** — A substance or device that will attract or lure pests to a trap or poison bait or to another area. When manufactured to attract pests to traps or poisoned bait, attractants are considered to be pesticide poisons. They are usually classed as either food, oviposition or see attractants.

**Attractant trap** — A device used to monitor pests and pest activity. These usually contain a pheromone or food substance that attracts the pests and a sticky surface or some other method to trap the pest.

**Auxin** — Substance found in plants, which stimulates cell growth in plant tissues.

**Avicide** — A pesticide poison used to kill or repel birds. Birds are in the class Aves.

**Bacteria** — See **bacterium**.

**Bacterial counts** —  $10^4$  are normally considered a light infestation,  $10^5$  and  $10^6$  a moderate infestation and  $10^6$  or more a heavy infestation.

**Bactericide** — Poison used to kill bacteria (but not ordinarily bacteria spores).

**Bacterium** (plural, bacteria) — A unicellular microscopic plant-like organism that lives in soil, water, organic matter, or the bodies of plants and animals. Some bacteria cause plant or animal diseases, others are beneficial. Foul odors are a telltale sign of “bad” bacterial activity. Bacteria are at the base of all life on earth. They were the original life and probably will be the last because no living organism on earth can exist without them. No bad bacteria can live in an environment that has a pH of 3.5 or less. Good bacteria manufacture lactic acid which has a pH of 3.5 to protect themselves from bad bacteria. Good bacteria can grow and prosper in this low pH. See Probiotic.

**Bait** — A food or other food-like or nesting substance used to attract a pest to a pesticide poison or alternative toxin or to a trap.

**Balance of Nature** — Outbreaks of pest insect populations are checked by climate and natural enemies. If this were not the case, how did anything survive before the advent of synthetic pesticide poisons?

**Band** — A traverse marking different in color that may completely ring an area or structure.

**Band application** — Application of a pesticide poison in a strip alongside or around a structure, a portion of a structure or any object.

**Barrier application** — **See Band application**.

**Basal** — At the base; near the point of attachment (of an appendage).

**Basal cell** — A cell near the base of the wing, bordered at least in part by the unbranched portions of the longitudinal veins.

**Basal treatment** — Applied to encircle the stem of a (woody) plant just above the soil surface so that foliage contact is minimal.

**Base board** — A board placed against the wall around a room next to the floor to finish properly between floor and plaster.

**Basement membrane** — The thin, acellular, innermost layer of the exoskeleton.

**Base plate** — Another name for sole plate.

**Basis capituli** — In ticks, the base for the mouthparts.

**Battle** — Ever since man has farmed (about ten thousand years ago), man has fought insect pests. No poison, potion, incantation, powder or process ever controlled, much less destroyed, these pests for they are hardy survivors, breed incredible numbers and evolve to evade or resist even the most toxic poisons and ingenious traps. Yet the Author was able to remove all pests, inside and outside, of from 350 school buildings without every using any dangerous poisons. So use my alternatives in this book and finally win this battle.

**Beak** — The protruding mouth-part structures of a sucking insect; proboscis, a snout, used for sucking.

**Beam** — A structural member transversely supporting a load; e.g., a beam under the floor of a house.

**Bearing wall** — A wall that supports any vertical load in addition to its own weight.

**Behavioral Resistance** — is a pest learning to avoid the toxicant.

**Belief** — It is interesting that the word “belief” has a little “lie” in it. (be\_LIE\_f)

**Beneficial** — Pertaining to being helpful in some way to people, such as a beneficial plant or insect.

**Beneficial insect** — An insect that is useful or helpful to humans; usually insect parasites, predators, pollinators, etc.

**Benzene** — The benzene hexagon is the beginning chemistry behind the chlorogenic, chlorophenoxy, carbamate and organophosphate pesticides and herbicides. **See carcinogenic.**

**Benthic** — Of aquatic habitats; those organisms that live on or in the sediments; bottom dwelling.

**Betrayal** — The hardest thing to overcome in one's life.

**Bicolored** — Of two different colors.

**Biennial** — A plant that completes part of its life cycle in one year and the remainder of its life cycle in the following year. The first year it produces leaves and stores food and the second year it produces fruit and seeds.

**Bilateral symmetry** — The left and right sides are essentially similar or the same.

**Billion** — According to a recent government publication...

A billion seconds ago Harry Truman was president.

A billion minutes ago was just after the time of Christ.

A billion hours ago man had not yet walked on earth.

A billion dollars ago was yesterday at the U. S. Treasury.

**Binding site** — Where a poison attaches to a site of action.

**Bioaccumulation** — The build-up of pesticides or other poisons in the bodies of animals (including humans), particularly in fat tissue. Living organisms accumulate certain pesticides through the process of bioaccumulation. Pesticides accumulate in lower organisms and are passed to higher organisms in the food chain when eaten. The higher organism will accumulate the stored pesticides of even higher levels than their food source. Pesticide levels in fish, for example, can be tens to hundreds of thousands of times greater than the ambient water (contamination) levels in which they live. Humans are on the very top of the food chain - and bioaccumulate all of the pesticides/poisons that were accumulated by all of the animals and plants they eat. *Bon appétit!*

**Bioassay** — The use of living organisms to determine the biological effect or toxicity of a substance, factor or condition.

**Biochemical** — Pertaining to a chemical reaction that takes place within the cells or tissues of living organisms.

**Biocide** — A synonym for a pesticide poison or poisons used in killing microorganisms.

**Bioconcentration** — The process by which living organisms can collect and concentrate chemicals/compounds from the surrounding environment.

**Biological control** — Control of pests using predators, parasites, pathogens, competitors and disease-causing organisms. May be naturally occurring or introduced or manipulated by people.

**Biological control agent** — Any biological agent that adversely affects pest species.

**Biomagnification** — The increase in concentration of a pollutant in animals as related to their position in a food chain, usually referring to the persistent, organochlorine pesticide poisons and their metabolites.

**Biorational pesticides** — Microbial pest control agents such as viruses, bacteria, protozoa, fungi and biochemical pest control agents, either naturally occurring or identical to a natural product, that exert pesticidal activity.

**Biota** — Animals and plants of a given habitat.

**Biotic** — Pertaining to living organisms, such as the influences living organisms have on pest populations.

**Biotic insecticide** — Usually microorganisms known as insect pathogens that are applied in the same manner as conventional insecticides to control pest species.

**Biotype** — Subgroup within a species differing in some respect from the species such as a subgroup that is capable of reproducing a resistant variety.

**Blacklight trap** — A monitoring or control device for certain flying insects; insects are attracted to the ultraviolet light source built into the trap.

**Blight** — Common name for a number of different diseases on plants, especially when collapse is sudden - e.g. leaf blight, blossom blight, shoot or stem blight.

**Bloom** — Crystals formed on the surface of treated wood by exudation and/or evaporation of the solvent in wood preservation solutions.

**Blue stain** — A blue or gray discoloration of the sapwood caused by the growth of certain dark-colored fungi on the surface and in the interior of the wood; made possible by the same conditions that favor the growth of other fungi.

**Book lung** — A respiratory cavity containing a series of leaf-like folds, in spiders(Araneae), located inside the abdominal venter with slit-like openings to the outside.

**Body bath powder** — The fine dust in this product quickly suffocates most insects or arachnids, e.g., bed bugs.

**Boot or booting** — A growth stage of grasses where the upper leaf sheath swells due to the growth of the developing spike or panicle.

**Borax** — a/k/a hydrated sodium borate.

**Boric Acid** — a/k/a boracic acid, borofax and orthoboric acid.

**Botanical** — Derived from plants or plant parts.

**Botanical pesticide** — A pesticide poison produced from naturally-occurring chemicals found in some plants. Examples are nicotine, neem, pyrethrum, strychnine, and rotenone.

**Box sill** — A foundation sill in which the sole plate rests on the floor joists rather than on the sill proper. Wood structural member on outer end of floor joist.

**Brand name** — The name, or designation of a specific pesticide poison product or device made by a manufacturer or formulator. A marketing name.

**Brick veneer** — A facing of brick laid against and fastened to sheathing of a frame or tile wall construction.

**Bridging** — Small wood or metal members that are inserted in a diagonal position between the floor joists at midspan to act both as tension and compression members for the purpose of bracing the joists and spreading the action of the loads.

**Bristle** — A stiff, usually short and blunt, hair-like projection.

**Broad-spectrum pesticide** — A pesticide poison that is capable of controlling (killing) many different species or types of pests. It has a toxicity that is non-selective to most insects and most non-target species. Avoid their use if at all possible, especially outside because they kill the beneficial insects and/or other organisms.

**Broadcast application** — Application over an entire area rather than only on rows, beds, or a specific area. Continuous “sheet” over the entire field. **See Contamination.**

**Broadleaf** — One of the major plant groups, known as dicots, with net veined leaves usually broader than grasses. Seedlings have two seed leaves (cotyledons); broadleaves (vs. needle-like) includes many herbaceous plants, shrubs, and (hardwood) trees, usually deciduous, shedding its leaves seasonally.

**Brood** — All of the immature members or individuals arising from one mother; individuals that hatch at about the same time and normally mature at about the same time.

**Brown rot** — Any wood decay in which the attack concentrates on the cellulose and associated carbohydrates rather than on the lignin, producing a light to dark brown friable residue — hence loosely termed “dry rot.” An advanced stage where the wood splits along rectangular planes is termed “cubical rot.”

**Brown stain** — A rich brown to deep chocolate-brown discoloration of the sapwood of some pines caused by a fungus that acts much like the blue-stain fungi.

**Budding** — The process in which reproductives, workers and some immatures leave the parent or major colony to start a new colony. See Pharaoh ants.

**Buffer area** — A part of a pest infested area that is not treated with a pesticide poison to protect adjoining areas from pesticide poison hazards.

**Bug** — Believed to be derived from the Middle English or Welsh word “bugge” or “buga”, meaning scarecrow, hobgoblin or ghost. Today “bug” is used to describe germs, insects, spiders, mites and other creatures that people believe have sinister or harmful traits.

**Burndown** — A herbicide poison application designed to kill or stunt a cover crop or weeds in preparation for planting the next crop.

**Button** — In fly larvae or maggots (Diptera) a dark donut-shaped structure on the posterior spiracle opening’s inner margin.

**C-9** — The usual abbreviation of the 9 spotted lady beetle (*Coccinella novemnotata*) commonly called a “lady-bug”. Now in rapid decline throughout the U.S.A. The last known collection date in New York was 1970.

**Cache** — Anything hidden or stored.

**Calcareous** — Containing calcium.

**Calibration** — The process used to measure the output of pesticide poison application equipment so that a

known amount of pesticide poison can be applied to a given area.

**Cambium** — A thin layer of tissue between the bark and wood that repeatedly subdivides to form new wood and bark cells.

**Cancer** — *Cancer, carcinogen, carcinoma* are all derived from the Greek word “karkinos”, meaning “the crab.” Cancer in animals and fish may announce the presence of carcinogens in the environment. Cancer cells are made not born. Cancer arises through a series of incremental changes to chromosomal DNA. Cancer is mitosis run amuck. Cancer cells carry on replication and division despite a myriad of direct commands to cease and desist all such unrelenting growth. Different kinds of cancer are associated with different kinds of mutations and/or different kinds of carcinogens and promoters. Estrogen can act as a cancer promoter as can many organochlorine compounds. Some agents of cancer can be initiators, promoters and/or progressors; some like radiation are complete carcinogens that can play all three roles by themselves.

**Canker** — A lesion on a stem. A diseased or dying area on a stem, branch or twig.

**Cannibalistic** — Feeding on other individuals of the same species.

**Cantharophilous** — Flowers pollinated by beetles are said to be “cantharophilous.”

**Capitulum** — In ticks (Acari) the mouth parts and their base.

**Capsaicin** — The oily, alkaline substance that makes chile peppers hot.

**Carapace** — In crustacea, the hard dorsal covering consisting of fused dorsal sclerites/plates.

**Carbamate insecticides** — (N-Methyl Carbamates) A group of pesticide poisons (derived from carbamic acid) containing nitrogen, formulated as insecticides, fungicides and herbicides. The N-Methyl Carbamates are insecticides and inhibit cholinesterase in animals. **Do not use these poisons.**

**Carcinogen** — A substance that causes cancer in living animal tissue, e.g., benzene, pesticide poisons. Too often cancer has focused on finding the “last straw that broke the camel’s back.” It’s time we looked at and removed all of the “straws.”

**Carcinogenic** — The ability of a substance or agent to produce cancer.

**Carina** — An elevated ridge or keel.

**Carnivorous** — Predacious; eating or feeding on the flesh, tissue and/or fluids of animals.

**Carrier** — An “inert” liquid, solid, or gas added to an active ingredient to make a pesticide poison dispense effectively. A carrier is also the material, usually powder, a solvent, water or oil, used to dilute the formulated product for application. They are not included in the risk formula or “registration”.

**Carrying capacity** — The capacity a certain defined area or ecosystem has for supporting a population of pests in healthy condition; factors influencing a carrying capacity include food, water, temperature, light, humidity, and shelter or hiding places.

**Carton** — In termites (Isoptera), the nest building material composed of semi-digested wood and soil glued together with saliva and feces.

**Casein** — A milk protein used in cheese, paint, etc.

**Caste(s)** — A distinct form or type among social insects; e.g., queen, drone, worker or soldier.

**Cation Exchange Capacity (CEC)** — An important measure of the soil’s ability to retain and supply nutrients to the plants. The bulk of this capacity resides in soil organic matter and clay particles.

**Caudal filament** — An antenna-like structure on the last abdominal segment.

**Causal organism** — The organism (pathogen) that produces or encourages a given disease.

**Caterpillar** — A larva with a cylindrical body, a well developed head and with both thoracic legs and abdominal prolegs (e.g. butterfly, moth, sawfly).

**CDC** — Centers for Disease Control located in Atlanta, Georgia.

**Cell** — A unit mass of protoplasm, surrounded by a cell membrane and containing one or more nuclei or nuclear material; a space in the wing membrane partly or completely surrounded by veins.

**Cellulose** — The carbohydrate that is the principal constituent of wood, which forms the framework of the wood cells. A polysaccharide consisting of repeated glucose units, which is a major component of plant cell walls.

**Centimeter (cm)** — 0.01 meter; 0.394 inches, about 2.5 cm = 1 inch.

**CEPA** — The Children’s Environmental Protection Act has been proposed to eliminate pesticide use in federally funded schools.

**Cephalothorax** — A body region consisting of head and thoracic segments (Crustacea and Arachnida).

**Cercus** (plural, cerci) — One of a pair of dorsal appendages at the posterior end of the abdomen of certain groups.

**Certified applicators** — individuals who are certified to use or supervise the use of any Restricted Use Pesticide Poison as defined by the EPA. You do not need to be certified to control pests with the Get Set IPM Plan.

**Check** — A lengthwise separation of the wood that usually extends across the rings of annual growth and commonly results from stress in wood during seasoning.

**Chelate** — Pincer-like, having two opposable claws; in mites (Acari), mandible-like chelicerae.

**Chelating agent** — Certain organic chemicals (i.e. ethylenediaminetetraacetic acid) that combine with metal to form soluble chelates and prevent conversion to insoluble compounds.

**Chelicera (plural, chelicerae)** — One of the anterior pair of appendages, usually fang-like, in arachnids.

**Chemical brown stain** — A chemical discoloration of wood that sometimes occurs during the air drying or kiln drying of several species, apparently the result of the concentration and modification of extractives.

**Chemical name** — The scientific name of the active ingredient(s) found in the formulated product. This complex name is derived from the chemical structure of the active ingredient.

**Chemical control** — Pesticide Poison application to kill pests. We do not recommend the use of any volatile synthetic pesticide poisons. This is an oxymoron.

**Chemical dependence** — Depending on chemicals (poisons), rather than common sense requires more and more chemicals (poisons) rather than crop rotation and other safe alternative controls (e.g. plowing, hoeing, discing, biologicals, native species, proper planting time, etc.) The lack of common sense causes ever increasing resistant pest problems (e.g. insects, weeds, etc.) **See Ecological Narcotics.**

**Chemigation** — The application of chemicals (poisons) by injecting them into irrigation water.

**Chemosterilant** — A chemical compound (poison) capable of preventing animal reproduction.

**Chemotherapy** — Treatment of a diseased organism, usually plants, with chemicals (poisons) to destroy or inactivate a pathogen without seriously affecting the host.

**Chemtrec** — The Chemical Transportation Emergency Center has a toll-free number that provides 24-hour information for chemical (poison) emergencies such as a spills, leaks, fires, or accidents (1-800- 424-9300).

**Chevron-shaped** — Stripes meeting at an angle like an army sergeant's stripes.

**Chitin** — A nitrogenous polysaccharide occurring in the cuticle of arthropods, secreted by the epidermis. Tough, hornlike material that forms part of the outer covering of some insects, arachnids and crustaceans.

**Chlorinated hydrocarbon** — A pesticide poison containing chlorine, carbon, and hydrogen. Many are persistent in the environment. Examples: Chlordane, DDT, methoxychlor. Few are used in urban pest management operations today. **Never use these toxins.**

**Chlorophyll** — The green photosynthetic substance in plants which allows them to capture and use solar energy.

**Chlorosis** — Loss of green color in foliage. Yellowing caused by the destruction of chlorophyll or failure of its formation.

**Cholinesterase (ChE), acetylcholinesterase** — An enzyme of the body necessary for proper nerve function that is inhibited or damaged by organophosphate or carbamate insecticide poisons taken into the body by any route. Horsebalm, cardamom, teatree, spearmint, rosemary, eucalyptus and sage are herbs that naturally inhibit cholinesterases. Female rodents are more resistant to ChE depression than are males.

**Chronic** — Pertaining to long duration or frequent recurrence.

**Chronic effect** — Injuries, concerns, poisoning symptoms, etc. which occur after an extended period of exposure to even extremely low levels of pesticide poisons or other toxins or medicines.

**Chronic onset** — Symptoms of pesticide poisoning that occur days, weeks, months, or years after the actual exposure.

**Chronic toxicity** — The ability of a material (poison) to cause injury or illness (beyond 24 hours following exposure) from repeated, prolonged exposure to small amounts that occur days, weeks, or years after the actual application. There is virtually no testing on this ability of poisons to poison you. **See Acute toxicity.**

**Chrysalis (pl. chrysalids or chrysalides)** — The pupa of a butterfly or moth.

**Cide** — From the Latin word "cida" which means "to kill"; "to murder."

**Circadian Rhythm** — Refers to activity cycles for approximately a 24 hour period under a constant condition.

**Clasper** — One of a pair of clasping structures located at the end of the abdomen functioning to hold the female during copulation.

**Class** — A subdivision of a phylum or subphylum containing a group of related orders.

**Clavate** — Thickened or widened towards the base; clubbed.

**Cleft** — Split or forked.

**Closed cell** — The membranous space of a wing being enclosed or bounded by veins on all sides.

**Clover** — Clover in the lawn generally indicates you have low fertility soil that needs fertilization or compacted soil that has low oxygen levels that needs aeration and/or overseeding to keep the soil porous or a very acidic soil with a low pH that needs a number of corrective lime applications.

**Clubbed** — With the distal part (or segments) enlarged; clubbed antennae.

**Clutch** — In birds (Aves), the number of eggs produced/incubated at one time.

**Cocoon** — A silken case or chamber inside which the pupa is formed. Composed partly or wholly of silk constructed by the larvae.

**Coliform** — A specific group of Bacillus bacteria associated with human or animal excreta.

**Collapse** — The flattening of single cells or rows of cells in heartwood during the drying or pressure treatment of wood. Often characterized by a caved-in or corrugated appearance of the wood surface.

**Colloidal silver** — and other compounds are being researched by the Author for their use as pest control materials as well as alternative medicines.

**Collophore** — In springtails (Collembola) a ventral tube borne on the first abdominal segment which is thought to function as a water intake or uptake.

**Colony** — A group of social insects living and working together and sharing a nest.

**Comb** — A row of hairs or bristles (e.g. on head of fleas).

**Commensalism** — A living together of two or more species, one of which is injured thereby, and at least one of which is benefited.

**Commensal Rodents** — Applied to house mice and (house) rats because they live with and whose needs are supplied by man.

**Commercial Applicator** — A certified applicator who for compensation uses or supervises the use of any pesticide poison classified for restricted use for any purpose or on any property other than that producing an agricultural commodity. Normally you do not need commercial applicators to “control” your pests.

**Common name** — The recognized, nonscientific name given to plants or animals. The Weed Science Society of America and the Entomological Society of America publish lists of recognized common names.

**Common pesticide name** — A name given to a pesticide poison’s active ingredient by a recognized committee on pesticide nomenclature. Many pesticide poisons are known by a number of trade or brand names but the active ingredient(s) has only one recognized common name. Example: The common name for Sevin insecticide poison is carbaryl.

**Community** — The different populations of animal species (or plants) that exist together in an ecosystem. **See Population and Ecosystem.**

**Compatible** — The condition in which two or more pesticide poisons mix without unsatisfactory chemical or physical changes; so that neither adversely affect the action of the other.

**Competent** — Individuals properly qualified to perform functions associated with pesticide poison applications. The degree of competency (capability) required is directly related to the nature of the activity and the associated responsibility.

**Complete metamorphosis** — In insects, development where the immature stages consist of an egg, followed by a series of larval stages and then a pupal stage before becoming an adult.

**Compound eye** — An eye composed of many individual or separate visual elements or ommatidia, each of which is indicated or represented externally by a facet; the external surface of such an eye consists of hundreds or more circular facets that are very close together, or of facets that are in contact and more or less hexagonal in shape. Each facet is the lens of a separate light-sensitive unit called an ommatidium.

**Compressed** — Flattened from side to side.

**Concentration** — Refers to the amount of active ingredient in a given volume or weight of formulated pesticide poison, for example lbs/gallon or percent by weight.

**Concentric** — Having a common center, e.g. circles.

**Conifer** — Evergreen tree, e.g. pine, spruce, fir, etc.

**Confined area** — Enclosed spaces such as attics, crawl spaces, closed rooms, warehouses, greenhouses, holds of ships, and other areas that may be treated with pesticide poisons.

**Conjunctivitis** — Inflammation of the mucous membrane that lines the inner surface of the eyelids.

**Constricted** — Narrowed, pinched in.

**Contact herbicide** — Phytotoxic by contact with plant tissue rather than as a result of translocation.

**Contact insecticide** — **See Contact pesticide.**

**Contact pesticide** — A compound (poison) that causes death or injury to insects when it contacts them. It does not have to be ingested. Often used in reference to a poison spray applied directly on a pest.

**Contact poison** — **See Contact pesticide.**

**Contaminate** — To make impure by contact or mixture; to pollute.

**Contamination** — The presence of an unwanted substance (usually pesticide poisons) in or on a plant, animal, soil, water, air, or structure. Contamination “normally” occurs whenever volatile, synthetic pesticide poisons are applied, and lasts as long as the poison is “effective.” If you do not use volatile, pesticide poisons, you will not contaminate all surfaces, people and things. The poison “industry” calls contamination “residue.”

**Contiguous** — Touching each other; unbroken.

**Control** — A single method of attacking, killing, trapping, repelling, excluding, reducing and/or removing a pest problem. When combined, all of the controls used are called management.

**Coprolite** — Fossilized excrement.

**Cornicle(s)** — In aphids (Homoptera; Ahididae) the tubular structure on each side of the 5th or 6th abdominal tergites (dorsal) through which various alarm pheromones are released.

**Coverage** — The degree to which a pesticide poison is distributed over a target surface. **See Contamination.**

**Cover crop** — A crop used to protect soil from erosion and/or used to build soil organic matter and control weeds.

**Convergent** — To be oriented as though coming together at a point; inclined toward each other.

**Coxa** (plural, coxae) — The basal segment of the leg or the first leg segment connected to the body.

**Cracking** — The time just prior to seedling emergence when the soil cracks and the surface is pushed upward by seedling growth.

**Crawl space** — A shallow space below the living quarters of at least a partially basementless house, normally enclosed by the foundation walls.

**Creosote** — A pungent, oily liquid distilled from wood tar or coal tar, commonly used as a wood preservative. Placed on the Environmental Protection Agency list of “Restricted Use” chemicals in 1984.

**Crepuscular** — Active at dusk/sunset.

**Cripple or cripple stud** — Short stud used above and/or below windows and doorways.

**Criticism** — Whenever you are willing to listen to the criticism of others, you will find many volunteers.

**Crochet(s)** — In butterfly and moth larvae (Lepidoptera), the curved spines or hooks on the bottom (end) of the prolegs.

**Crop** — In insects the dilated portion of the alimentary canal behind the esophagus which serves to receive and hold food.

**Cross vein** — A vein transverse connecting adjacent longitudinal veins.

**CRP** — Conservation Reserve Program.

**Crust** — A surface layer on soils that is much more compact, hard and brittle when dry than the material under it.

**Ctenidium** (plural, ctenidia) — A row of stout bristles like the teeth of a comb (e.g. fleas).

**Cultivation** — Cultivate shallow to prevent bringing new weed seeds to the surface.

**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.

**Cumulative pesticides** — Those poisons which tend to accumulate or build up in the tissues of people, animals, or in the environment (soil, water).

**Curative pesticide** — A pesticide poison which can inhibit or eradicate a disease-causing organism after it has become established in the plant or animal. An oxymoron.

**Curing time** — The period of time an assembly of lumber is subjected to heat or pressure, or both, to cure a preservative. Also called “setting time.”

**Cutaneous toxicity** — same as dermal toxicity.

**Cuticle** — The thin, acellular external outer covering of insects or leaves. The exoskeleton is comprised of 3 layers - chemically they are quite different.

**Cytotoxin** — A toxin that kills, effects or attacks the cells in the immediate area of introduction.

**CZMA** — Coastal Zone Management Act.

**D-limonene** — is a natural material found in the volatile oils of oranges and other citrus fruits. Orange peel oils contain about 98% D-limonene, a monocyclic terpene. See linalool and Chapter 11 notes.

**Damping off** — Destruction of seedlings at the soil line, which can be caused by many pathogens.

**Danger** — The signal word used on labels of pesticide poisons in toxicity Category I — those pesticide poisons, active ingredients, with an oral LD<sub>50</sub> less than 50 or a dermal LD<sub>50</sub> less than 200 or those having specific, serious health or environmental hazards.

**Days-to-harvest** — The least number of days between the last pesticide poison application and the harvest date, as set by law. Same as “harvest intervals.”

**Deactivation** — The process by which the toxic action of a pesticide poison is reduced or eliminated by impurities in the spray tank, by water being used for mixing, or by biotic or abiotic factors in the environment.

**Decay** — Disintegration of wood or other substance through the action of fungi. In advanced (or typical) decay, the wood has become punky, soft and spongy, stringy, ringshaked, pitted, or crumbly. Decided discoloration or bleaching of the rotted wood is often apparent. In incipient decay, the decay has not proceeded far enough to soften or otherwise perceptibly impair the hardness of the wood. It is usually accompanied by a slight discoloration or bleaching.

**Deciduous** — Plants that lose their leaves during the winter - mostly broadleaf or hardwood trees.

**Decomposer** — An organism that feeds on dead organisms.

**Decontaminate** — To remove or break down a pesticidal chemical (poison) from a person, surface or substance.

***Do not use poisons and you will not have to decontaminate anything.***

**Deflocculating agent** — Material added to a spray preparation to prevent aggregation or sedimentation of the

solid particles. A material added to the suspension to prevent settling.

**Defoliant** — A chemical (poison) that initiates abscission.

**Degenerate mouthparts** — Mouthparts that do not have all the common components.

**Degradation** — The process by which a chemical compound or pesticide poison is reduced to simpler compounds, which are inactive or less active, by the action of microorganisms, water, air, sunlight, or other agents. Degradation products are usually, but not always less toxic than the original compound. Degradation may be chemical, biological, physical or a combination of any three.

**Dengue** — is reported to infect some 50 million people annually worldwide!

**Density** — The mass of wood substance enclosed within a unit volume. It is variously expressed as pounds per cubic foot, kilograms per cubic meter, or grams per cubic centimeter at a specified moisture content.

**Deposit** — The amount of pesticide poison on treated surface after application. **See Contamination.**

**Deposition** — The placement of pesticide poisons on target surfaces. **See Contamination.**

**Dermal** — Pertaining to the skin. One of the major ways pesticide poisons can enter the body to possibly cause poisoning and death or injury.

**Dermal toxicity** — Toxicity of a material as tested on the skin, usually on the shaved belly of a rabbit; the ability of a pesticide poison to cause acute illness or injury to a human or animal when absorbed through the skin. **See Exposure route.**

**Dermatitis** — An inflammation of the skin.

**Desiccant** — A type of pesticide poison or GRAS alternative 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.

**Desiccation** — Accelerated drying of plant, plant parts, or pests.

**Desiccate** — To dry.

**Detergent builders** — are detergent components which basically help remove calcium and magnesium ions in hard water and/or help prevent the deposition of calcium and magnesium salts; they are basically water softeners. The presence of lather indicates the detergent builder has done its job; with the loss of phosphates, zeolites, PCAs and/or reinforced surfactant systems have been used to soften water. Ammonia salts (ammonium laureth sulfate) is a preferred alternative choice. However, using higher total surfactant loads and/or modified proportions of different surfactants and/or components such as glycerin, pareth-6, cocamide DEA, propylene glycol, sodium borate and/or even enzymes can also be considered to be detergent builders. A detergent builder basically is anything that helps the detergent do its job.

**Detergents** — Synthetic formulations of various surfactants, builders, bleaching agents, enzymes, fillers and/or other additives.

**Detoxify** — To render a pesticide poison's active or "inert" ingredient or other poisonous chemical harmless and incapable of being toxic to plants and animals.

**Detritovore** — Feeds on decaying organic matter.

**Developmental time** — The period from egg fertilization to emergence of the adult; egg to adult.

**Diad** — A raised group of eyes (some spiders).

**Diagnosis** — The positive identification of a problem and its cause.

**Diapause** — A period of time where the insect survives in an inactive state of arrested development or dormancy.

**Diatomaceous earth (DE)** (Diatomite) — A whitish powder prepared from deposits formed by the silicified skeletons of diatoms. Used as diluent in dust formulations. Food-grade De has varying amounts of silica.

**Diatoms** — Microscopic single cell algae having siliceous cell walls.

**Digital photographs** — can be used to denote pest infestations, conditions conducive or problem areas and can be e-mailed to your account and/or printer and kept as records.

**Dilute** — To make less concentrated.

**Diluent** — Any liquid or solid material used to dilute, thin or weaken a concentrated pesticide poison.

**Dimorphic** — Occurring in two distinct forms.

**Disease** — A condition, caused by biotic or abiotic factors, that impairs some or all of the normal functions of a living organism.

**Disinfectant** — A chemical or other poison agent that kills or inactivates disease-producing microorganisms in animals, seeds or other plant parts. Chemicals used to clean or surface-sterilize inanimate objects.

**Dispersal** — Abandonment of a former home range.

**Dispersing agent** — A material that reduces the attraction between particles.

**Dissolve** — To pass into solution.

**Distal** — Near or toward the free end of an appendage; that part of a segment or appendage farthest from the body.

**Distillate** — A liquid product condensed from vapor during distillation.

**Diurnal** — Active during the daytime; active at sunrise and sunset.

**DNA** — Deoxyribonucleic acid.

**DOA** — Dead on arrival and/or my acronym for the Department of Agriculture.

**Dormancy** — A state of quiescence or inactivity.

**Dormant spray** — Chemical applied in winter or very early spring before treated plants have started active growth.

**Dorsal** — Top or uppermost; relating to or pertaining to the back or upper side.

**Dorsoventrally flattened** — Flattened top to bottom like a pancake.

**Dose, dosage** — Quantity, amount or rate of pesticide poison (where only the active ingredient is considered) applied per unit of plant, animal, or surface. Often the size of the dose determines the degree of effectiveness, or, in the case of poisoning of nontarget organisms, the degree of injury.

**DOT** — U. S. Department of Transportation.

**Drone** — The male bee in Hymenoptera which develops from an unfertilized egg.

**Drift** — The airborne movement of a pesticide poison spray or dust beyond the intended target area. Some labels state, "Minimize drift to non-target areas;" and others state, "Do not allow drift to contact non-target areas." EPA and common courtesy indicate a preference for the no-drift, zero-tolerance policy, but my research indicates this is impossible with volatile pesticides! **See contamination.** Note: Just the average monthly dust fall in Cincinnati, Ohio is about 15 tons per square mile - add to this pesticide poisons in rivers and in the rain and wind etc. - and you can see why it is now impossible to grow true organic food or stop drift!

**Drinking water** — Water has many dangers for drinkers, especially today's polluted water. There are parasites in the water that can cause all kinds of health problems. Disease bacteria are especially prevalent when the water is highly polluted and low in oxygen. So water treatment plants have to kill these organisms before they pass the water on to you. They also want the pipes from the treatment plant to your house to prevent disease bacteria from growing in the pipes after treatment, so they chlorinate the water, and add ammonia, which produces chloramine, a cancer-producing substance. Drinking water is also loaded with about 15,000 pesticide poisons from farms, lawns, homes, sewers and runoff. These pesticides cause everything from cancer to heart disease to nerve damage. The water treatment plants usually do nothing to remove these toxins, but some plants pass the water through activated carbon, which removes most/some of the toxins. You should call your local water treatment plant to ask what they are doing. They often do not want to discuss it with customers for fear of law suits.

Most water treatment plants also add alum to drop the suspended matter out of the water. Aluminum has long been suspected of causing Alzheimer's disease. They fluoridate the water for no other reason than to prevent cavities. Fluoride is also a cancer-producer. For these reasons I never drink city water, even in the form of tea, coffee or pop in restaurants. I believe the water should be further treated, or we should look for alternatives such as bottled natural spring water. I am a label-reader, no matter what I buy. Not drinking city water will not prevent these diseases, as almost all food is saturated with the same poisons. But it can at least slow down these problems. The best way of treating your tap water is with an osmosis unit followed by an activated carbon filter. This or distilled water followed by an activated carbon filter removes all/most of the toxins. This water also has most of the minerals removed that are essential to your health. So you need mineral supplements from the health store. — Bob Laing

**Dry rot** — A term loosely applied to any dry, crumbly rot, but especially to that which, in an advanced stage, permits the wood to be crushed easily to a dry powder. The term is actually a misnomer for any decay, since all fungi require considerable moisture for growth.

**Duct tape** — An extremely useful material to seal-off areas and/or use as a trap when properly placed sticky-side up. Use a good grade of (fresh) tape. Duct tape also can be used to remove warts; simply cover the wart with duct tape.

**Ducts** — In a house, usually round or rectangular metal pipes for distributing warm air from the heating plant to rooms, or air from a conditioning device or as cold air returns. May be embedded in or placed beneath concrete slabs. Ducts are also made of asbestos and composition material.

**Dust** — A finely ground, dry pesticide poison formulation containing a small amount of active ingredient and a large amount of inert carrier or diluent such as clay or talc. Dusts are applied without mixing with water or other liquid. **See Desiccant.**

**Dyar's Law** — Harrison Dyar noted the width of the head capsule of caterpillars increases as a regular geometrical progression from instar to instar.

**EC<sub>50</sub>** — The median effective concentration (ppm or ppb) of the toxicant in the environment (usually water) which produces a designated effect in 50% of the test organisms exposed.

**Ecdysis** — Molting; the process of shedding the exoskeleton.

**Echolocation** — In bats (Chiroptera) the method of locating objects by determining the time for an echo to return and the direction from which it returns via the use of a series of supersonic sounds (about 30 to 60 squeaks per second, with a pitch of 30 - 100,000 cycles.)

**Ecological Impact** — The total effect of any environmental change either man-made or natural.

**Ecological Narcotics** — With any chemical (poison) dependency, routine use invariably makes worse the very problem it intended to correct. Trying to control or eliminate insects with volatile, synthetic, pesticide poisons incites even more severe pest outbreaks and resistant pests. Drowning one's sorrows in alcohol creates more problems and more sorrow, which creates even more alcohol use, which in turn, creates more sorrow and problems, which creates more alcohol use, ad nauseum. **See Chemical dependence.**

**Ecology** — Derived from the Greek *oikos*, house or place to live. A branch of biology concerned with organisms and their relation to the environment.

**Economic damage** — Damage caused by pests to plants, animals, or other items which results in loss of income or a reduction of value frequently used to *justify* poison usage.

**Economic threshold** — The point at which the value of the damage caused by a pest exceeds the cost of controlling the pest, therefore it becomes "ECONOMICALLY" practical to use the control method.

**Ecosystem** — The interacting system of all the living organisms of an area and their nonliving environment. 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.

**Ectoparasite** — A parasite that lives on the outside of its host; an external parasite.

**ED<sub>50</sub>** — The median effective dose, expressed as mg/kg of body weight, which produces a designated effect in 50% of the test organisms exposed.

**Efficacy** — The ability of a pesticide poison or a Pestisafe® to produce a desired effect/kill a target organism. **See Field tests.**

**Efficacy tests** — They can be easily "arranged" to reflect whatever the paying company wishes to show, e.g., you can put a fly swatter in a cage of flies. The flies will not die and will walk all over the flyswatter. See Field tests.

**Elbowed** — Abruptly bent in an obtuse angle (between 90-180°).

**Elbowed antenna** — An antenna with the first segment elongated and the remaining segments coming off the first segment at an angle (e.g. ants).

**Ellipsoid** — Egg shaped.

**Elytron** (plural, elytra) — A thickened, leathery, or horny front wing (e.g. Coleoptera, Dermaptera and some Homoptera).

**Emergence** — The act of the adult insect leaving the pupal case or the last nymphal skin or when a plant shoot becomes visible.

**Emigration** — The act of leaving an area or community more or less permanently.

**Empty-cell process** — Any process for impregnating wood with preservatives or chemicals in which air, imprisoned in the wood under pressure, expands when pressure is released to drive out part of the injected preservative or chemical. The distinguishing characteristic of the empty-cell process is that no vacuum is drawn before applying the preservative. The aim is to obtain good preservation distribution in the wood and leave the cell cavities only partially filled.

**Emulsifiable concentrate** — A concentrated pesticide poison formulation usually consisting of a petroleum-based liquid or organic solvent and emulsifiers that enable it to be mixed with water for application. 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. **They are not included in the risk formula or "registration."**

**Emulsion** — A mixture of two liquids which are not soluble in one another. One is suspended as very small droplets in the other with the aid of an emulsifying agent (e.g. oil in water). When the emulsion consists of droplets of water in oil it is known as an "invert" or "mayonnaise" emulsion.

**Encapsulated formulation** — A pesticide poison formulation with the active poison 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 poison on the surface is removed (volatilizes, rubs off, etc.)

**Endangered species** — Groups of interbreeding plants or animals that have been reduced to the extent that they are near extinction and that have been designated to be endangered by a Federal Agency. **Do not use pesticide poisons.**

**Endocuticle** — The chitinous internal or innermost layer of the cuticle.

**Endoparasite** — A parasite that enters host tissue and lives and feeds from within.

**Engorged** — In arthropods - to fill excess with blood.

**Entomology** — The scientific study of insects; that branch of zoology dealing with insects. Entomology is catching.

**Entry interval** — See **Reentry interval**.

**Environment** — All the organic and inorganic, external features, conditions and influences that surround and affect the life development and survival of a particular organism or group of organisms in a defined area.

**Environmental Protection Agency or EPA** — The federal agency (created by Nixon on 7/9/70) is responsible for ensuring the protection of man and the environment from potentially adverse effects of pesticide poisons. The EPA is responsible for regulating pesticide poison “registration” and use in the United States.

**Enzymes** — There are many different kinds of enzymes that naturally digest organic materials including proteins, cellulose, fats, greases, carbohydrates and starches, insects, fungus, mold, mildew, etc. Kleen Kill® enzyme cleaners can be used to safely control insects, spiders, ticks, lice, roaches, ants etc. and to clean showers, drains, sewers, floors, walls, blood, urine, spit, etc. These can be produced by bacteria, fungus etc. They can be purchased dry or wet, they often are quite active and therefore unstable. They are chemicals produced by cells or fungus that bring about changes in processes such as maturation or digestion. The use of some enzyme cleaners may cause severe allergic reactions, anaphylactic shock, occupational asthma and dermal and ocular sensitivities. Be sure your enzyme cleaner has had dermal and ocular sensitivity tests. ***The Author has patented the stabilized use of enzymes, e.g., proteases and surfactants, for pest control.***

**EPA** — The U.S. Environmental Protection Agency.

**EPA establishment number** — A number assigned to each pesticide poison production plant by the EPA. The number indicates the plant at which the pesticide poison product was produced and must appear on all labels of that product.

**EPA “registration” number** — An identification number assigned to a pesticide poison active ingredient when the active ingredient is “registered” or extended by the EPA for use. The number must appear on all labels for a particular poison.

**Epicuticle** — The very thin, nonchitinous, external, acellular layer of the cuticle.

**Epidemic** — A disease that affects a large number of organisms and spreads rapidly through that community.

**Epidermis** — The middle, cellular layer of the exoskeleton.

**Epidemiology** — The study of diseases and/or poisons as they affect populations.

**Epigynum** — The external female genitalia of spiders.

**Epilachna** — Lady beetles in the genus *epilachna* are foliage eaters as adults and larva, unlike most lady beetles who are predators on soft bodied insects, e.g., aphids.

**Epinasty** — That state in which rapid growth on one side of a plant organ or part (especially a leaf) causes it to bend or curl downward.

**Epipharynx** — A mouth-part structure on the inner surface of the labrum or clypeus; in chewing insects a median lobe on the posterior (ventral) surface of the labrum or clypeus.

**Equine cloaca** — A horse’s “ass.”

**Eradicant** — Applies to fungicides in which a chemical is used to eliminate a pathogen from its host or environment.

**Eradication** — The complete elimination of a (pest) population from a designated area.

**Estrogen** — Manufactured from cholesterol by a woman’s ovaries each month, estrogen circulates in the blood, passes freely in and out of all organs and tissues, eventually is metabolized by specific enzymes, and with the help of the liver, is eliminated from the body via the gut. Organic compounds (e.g. pesticide poisons, surfactants, and plastics) can possess estrogenic properties. The pesticide poisons dieldrin, endosulfan, toxaphene and chlordane, when combined in cultured yeast cells were shown to exert estrogenic effects 160 to 1,600 times higher than any one acting alone. Environmental contaminants can turn the natural hormone estrogen into a weapon that is aimed at the breasts it caused to grow in the first place.

**Eschar** — Hard crust or scab.

**Ethology** — The study, observation and experimentation on animals in nature or in the field rather than in the laboratory. Where they can exhibit, unimpeded, their individuality and behavior.

**EUP** — Experimental Use Permit. Another way to *justify* the use of dangerous synthetic pesticide poisons.

**Evaluation** — The study of the effectiveness, performance or capability.

**Evaporate** — The process or a liquid turning into a gas or vapor.

**Evergreen** — A tree or other plant which doesn’t shed its leaves until they are replaced with new leaves, always with green leaves - leaves usually narrow and often needle like.

**Exclusion** — A pest management technique that uses physical or chemical barriers to prevent certain pests from getting into a defined area.

**Exocuticle** — The layer of the cuticle just outside the endocuticle, between the endocuticle and the epicuticle. The hard (sclerotized) chitinous, outer layer of the cuticle.

**Exoskeleton** — The skeleton or supporting structure located on the outside of the body. It is non-living and can not grow, so it must be periodically shed as the insect grows.

**Exposure** — Coming in contact with a pesticide poison. This happens to everyone of us daily.

**Exposure route or common exposure route** — The manner (dermal, oral or inhalation/respiratory) in which a pesticide poison may enter an organism. **See Contamination.**

**Exotic** — Any organisms not native to the location you found them in.

**Exsanguination** — is the word used to describe death caused by mosquitoes literally sucking enough blood from a creature that it dies.

**Extension** — Most synthetic pesticide poison active ingredients are simply extended and not really “registered.”

**External feeder** — The larva feeds from the outside of the kernel or seed inward.

**Exterminate** — Often used to imply the complete extinction of a species over a large continuous area such as an island, or a continent.

**Extragenital** — Unusual form of insemination not involving joining of the sexual organs (e.g., bedbugs).

**Exudate** — A biochemical compound released or discharged from living organisms.

**Eye, compound** — **See Compound eye.**

**Eye, simple** — **See Ocellus.**

**Eye spots** — Often eyespots are used to startle the predator briefly and give the wearer time to escape (e.g. the silk moth is camouflaged when its wings are closed, but when attacked, the front wings open and the moth flashes the eyespots on the hind wings).

**FAA** — Federal Aviation Administration.

**Facet** — The external surface of a single compound eye unit or ommatidium.

**Facultative parasite** — An organism that can grow on either dead or living organic matter.

**Fahrenheit (F.)** — A thermometer scale that marks the freezing point of water at 32° and the boiling point at 212°. To convert to degrees Celsius or centigrade, subtract “32” and multiply by “5/9”.

**Family** — A subdivision of an order, suborder, or superfamily, and containing a group of related genera, tribes, or subfamilies. Family names end in *-idae*.

**Fangs** — In spiders (Araneae) the chelicerae/jaws modified for injecting venom.

**Fascia** — A flat board often used vertically to finish off the edge of a roof. “It faces ‘ya.”

**FDA** — Food and Drug Administration.

**Fear factors** — To convince someone to do something they normally would not do, you create fear: “If you see one cockroach you have a million behind the walls!”

**Febrile** — Feverishness; pertaining to or marked by fever.

**Fecundity** — The average number of eggs laid by an arthropod.

**Feces** — Excrement, the material passed from the alimentary tract through the anus.

**Femur** (plural, femora) — The third leg segment, located between the trochanter and the tibia.

**FEPCA** — The Federal Environmental Pesticide Control Act of 1972. The terminology FIFRA is still used.

**Feral** — Wild, including having escaped from domestication or cultivation and become wild (e.g., feral cats, feral pigeons).

**Fermentation** — Yeast eats sugar granules twice its size and “pees” alcohol and “farts” carbon dioxide. Most yeasts can only live in their own alcohol “waste” up to 12 per cent. French champagne yeast can survive in 16 per cent alcohol.

**Ferric phosphate** — is a poison for slugs usually mixed with baits.

**Field tests** — This is the only logical way to prove efficacy for use in the real world - laboratory “tests” can be rigged and/or will often give false or misleading results.

**FIFRA** — The Federal Insecticide, Fungicide, and Rodenticide Act of 1974; a federal law and its amendments that supposedly control pesticide poison “registrations” and usage. Over 40 years ago, FIFRA as amended in 1964, required the USDA Secretary to refuse registration of pesticides that were unsafe or ineffective and to remove them from the market. The Author finds it amazing that any pesticides are still “registered” or on the market today as these terrible toxins are obviously neither “safe” nor are they effective. **See Chapter 13.**

**Filament** — A long, slender process of equal diameter throughout.

**Filliform antennae** — Antennae whose segments look like a string of sausage links.

**Filler** — Diluent in powder form, usually added to increase bulk.

**Fixed coppers** — Insoluble copper fungicides where the copper is in a combined form. Usually finely divided, relatively insoluble powders.

**Fledged young** — In birds (Aves) when nestlings or young birds are able to fly.

**Flashing** — (1) Strips of aluminum, lead, tin or copper that are worked into the joints of a wall so as to lap over gutters or other pieces; (2) pieces worked in the slates or shingles around dormers, chimneys, and other

rising parts, to prevent leaking.

**Flowable** — A pesticide poison formulation in which very finely ground solid particles of insoluble active ingredient are suspended (not dissolved) in a petroleum-based liquid combined with emulsifiers. Flowables are mixed with water for final application.

**Flypaper** — Strips of paper coated with a sticky substance and sometimes a pheromone attractant; these strips are hung in areas inside buildings where flies are a problem. Flies become entangled in the sticky substance. See duct tape.

**Foaming agent** — A chemical which causes a pesticide poison preparation to produce a thick foam. This aids in reducing physical drift but not volatilization.

**Fog** — A spray of very small pesticide poison droplets that remain suspended in the air. **See Contamination.**

**Fog treatment** — A fine fog of pesticide poison in aerosol-sized droplets (under 40 microns). Not a mist or gas. After propulsion, fog droplets fall to horizontal surfaces and contaminate them.

**Foliar treatment** — Application of the pesticide poison to the foliage of plants.

**Fontanelle** — In termites (Isoptera) the pore-like opening on the frontal region of the head through which secretions of the frontal glands are ejected/squirted.

**Food chain** — Sequence of species within a community, each member of which serves as food for the next species higher in the chain. Increases the pesticide poison bioaccumulation at each step.

**Food Quality Protection Act (FQPA)** — Under this act the EPA must now supposedly consider the aggregate exposure of each active ingredient meaning dietary and non-dietary contamination. The EPA will also evaluate contamination residues that share a common mechanism of toxicity, meaning that may have a similar impact on the human body. The EPA also now must add in an additional safety factor for infants and children.

**Footing** — A masonry section, usually concrete, in a rectangular form wider than the bottom of the foundation wall or pier it supports.

**Forewing** — The anterior or front pair of wings.

**Formulation** — The pesticide poison as originally purchased, containing a mixture of one or more active ingredients, carriers (and other inert ingredients), with other additives making it easy to store, dilute and apply (e.g. emulsifiable concentrates, granules, wettable powders). ***The entire poison formulation is not evaluated or registered.***

**Foundation** — The supporting portion of a structure below the first-floor construction, or below grade, down to and including the footings.

**Frankenfoods** — Gene-spliced crops. By combining genes of dissimilar and unrelated species, e.g., bacteria, plants, viruses, frogs, animals and even humans, literally thousands of new “species” are being created. This poses unprecedented ethical and legal concerns as well as serious challenges to the environment, human health, animal welfare, the future of agriculture and the survival of our species. See super weeds and monoculture.

**Frass** — Plant fragments and/or refuse made by wood-boring insects, usually mixed with excrement; solid excrement of larval insects. The excrement of larvae.

**Fruiting body** — The fungal structure containing spores.

**Fry** — Recently hatched fish.

**Full-cell process** — Any process for impregnating wood with preservatives or poisons in which a vacuum is drawn to remove air from the wood before admitting the preservative. This favors heavy adsorption and retention of preservative in the treated portion.

**Fumigant** — Volatile vapor or gas form of a pesticide poison used to penetrate porous surfaces for temporary control of soil dwelling pests or pests in enclosed areas or storage, e.g. insects, pathogens etc. **See Contamination.**

**Fumigation** — Tent fumigation was originally developed by Truly Wheatfield Nolen in 1950 to “control” drywood termites.

**Functional worker** — In termites (Isoptera) workers who are either male or female but not sterile.

**Fungi** — Are saprophytes or parasites that have no roots, stems or leaves or chlorophyll and require moisture and oxygen to grow; often colorless and may take on the color of their reproductive spores.

**Fungicide** — A poison used to kill fungi (including yeast).

**Fungistatic** — Action of a chemical that inhibits the germination of fungus spores while in contact.

**Fungus (pl. fungi)** — Multicellular lower plant lacking chlorophyll, such as a mold, mildew, mushrooms, rust or smut. The fungus body normally consists of filamentous strands called the mycelium and reproduces through dispersal of spores. They are small, often microscopic, organisms which cause rot, mold and disease. Fungi need moisture or a damp environment (wood rots require at least 19% moisture). Fungi are extremely important in the diet of many insects.

**Funiculus (or funicle)** — The antennal segments between the scape and the club.

**Furcula** — A forked process; in springtails (collembola) the forked spring or leaping appendage borne on the 4th or 5th abdominal segment.

**Gallonage** — Number of gallons of finished poison spray mix applied per 1000 square feet, acre, tree, hectare, square mile, or other unit.

**Ganglion (pl. ganglia)** — A nerve center comprised of a cell mass and fibers.

**Gaster** — The rounded or swollen part of the abdomen posterior to the node-like segment or behind the waist or pedicel in ants (Hymenoptera).

**Genal comb** — A row of strong spines borne on the anteroventral border of the gena (cheek) in adult fleas (siphonaptera).

**General Use (unclassified) pesticide** — A pesticide poison active ingredient which can be purchased and used by the general public hopefully without undue hazard to the applicator and environment as long as the instructions on the label are followed carefully. **See Restricted Use Pesticide and “inert.”**

**Generation** — From any given stage in the life cycle to the same stage in the immediate offspring.

**Genitalia** — Structures associated with the genital opening and used during copulation.

**Genome** — The complete set of hereditary factors, as contained in the haploid assortment of chromosomes.

**Genus (pl. genera)** — A group of closely related species; the first name in a binomial or trinomial scientific name. Names of genera are Latinized, capitalized, and when printed are italicized.

**Gestation period** — The time from conception through development.

**Germicide** — A poison that kills germs (microorganisms). (Antiquated term.)

**Get Set IPM** — A system of safe, non-toxic controls—using least toxic pesticide poisons only as a last resort—developed by Stephen L. Tvedten. Also called Intelligent Pest Management®.

**Gill** — Evaginations of the body wall or hindgut, functioning in gaseous exchanges in an aquatic animal. A respirator organ in aquatic (immature) stages via which oxygen is extracted from the water.

**Girder** — A large or principal beam of wood or steel used to support concentrated loads at isolated points along its length.

**Girdling** — Completely encircling the tree trunk with a cut or wire that severs the bark and cambium and usually penetrates into the sapwood in order to kill the tree by preventing the conduction of nutrients. Also used to describe the injection of toxic compounds/poisons into the tree or when bark beetle tunneling results in tree mortality.

**Globose** — Spherical or nearly so.

**Glabrous** — Hairless, smooth.

**Glue board** — A small cardboard sheet or box-like apparatus having one or more surfaces coated with a thick sticky glue or paste. This is placed on surfaces to capture pest insects, bats, birds or small rodents.

**Gnathosoma** — The anterior region of ticks and mites containing the mouthparts.

**GPA** — Gallons per acre.

**GPM** — Gallons per minute.

**Grade** — The slope or pitch of the ground. As distinct from the natural grade, the established grade is the level of the street curb as fixed by the municipality.

**Grade stake** — Wood stake driven into ground to establish levels. These stakes are sometimes left in concrete floors and serve as passage (lunch and highways) for termites.

**Gradual metamorphosis** — In insects, development where the immature stages are the egg followed by a series of nymphs which are very similar in appearance to and habits of the adult stage; with no pupal stage.

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

**Gravid female** — Pregnant female especially one heavy with fully developed eggs.

**GRAS** — Generally Recognized As Safe. It is against federal law to say poisons are *safe*.

**Greed** — What is not done for love is done for money.

**Green** — Freshly sawed or undried wood that still contains tree sap. Wood that has become completely wet after immersion in water would not be considered green, but may be said to be in the “green condition.”

**Green manure** — A crop grown to build fertility and to suppress weeds. Green manures are turned in before they mature.

**Gregarious** — Gathering together and/or living in groups or aggregations; not solitary.

**Groundwater** — Water sources located or trapped beneath the soil surface in zones called aquifers from which spring water, well water, etc. is obtained. **See Surface Water.**

**Grout** — Mortar made of such consistency (by adding water) that it will just flow into the joints and cavities of

the masonry work and fill them solid.

**Growth regulator** — Organic substance (poison) effective in minute amounts for controlling or modifying (plant or insect) growth processes.

**Grub** — A thick-bodied larva with a well-developed head and thoracic legs, without abdominal prolegs, and usually sluggish but often wriggling when disturbed.

**Gynecoid worker** — In Hymenoptera, a worker ant which can and does lay eggs and function as a substitute queen.

**Habitat** — The place where plants or animals live and grow. The sum total of all environmental conditions in a specific place.

**Habitat modification** — A pest management practice that involves modifying certain physical aspects of a building or structure to make it less suitable for pests to live.

**Hair** — A slender, flexible filament of equal diameter throughout, a term commonly misused for seta/setae; by definition hair is found only on mammals.

**Haller's organ** — In ticks (Acari) a sensory organ located on the first pair of legs, on top of each tarsus.

**Hallux** — The first or preaxial digit of the hind limb of vertebrates.

**Haltere** (plural, halteres) — A knob-like organ replacing the second pair of wings on flies, mosquitoes, and other insects in the order Diptera; this organ is believed to assist in balance, aerodynamic stability, and control.

**Haploid** — Having a single set or pair of homologous chromosomes.

**Harborage** — A protected area where insects or rodents may hide and/or nest.

**Hardwoods** — Generally, one of the botanical groups of trees that have broad leaves in contrast to the conifers or softwoods. The term has no reference to the actual hardness of the wood.

**Hardened wings** — Wings that are opaque, as opposed to soft, membranous wings.

**Harvest intervals** — Period between last application of a pesticide poison to a crop and the harvest as permitted by law.

**Haustiseta(e)** — Spear-like hairs (setae) often found in tufts rising from the tergites, especially the posterior segments of dermestid larvae (Coleoptera: Dermestidae).

**Hazard** — The pest control industry prefers to use the word *safe* it deals with the degree or length of exposure to one or more substances. **See Risk.**

**Head** — the anterior or front body region, which bears the eyes, antennae, and mouth parts.

**Header** — (1) A beam placed perpendicular to joists and to which joists are nailed in framing for basement, chimney, stairway, or other opening; (2) a wood lintel.

**Heart rot** — Any rot characteristically confined to the heartwood. It generally originates in the living tree.

**Heartwood** — The wood extending from the pith to the sapwood, the cells of which no longer participate in the life processes of the tree. Heartwood may contain phenolic compounds, gums, resins, and other materials that usually make it darker and more decay resistant than sapwood.

**Heating pads** — can be used to attract bloodfeeding insects such as ticks, bed bugs and kissing bugs. You can ring them with duct tape (sticky-side up) to trap and/or to monitor these creatures. Increase their effectiveness by using a slightly damp sponge and Alka Seltzer tablet that slowly dissolves.

**Hemocoel** — A body cavity filled with blood.

**HEPA filter** — High efficiency particulate air filter, removes particles down to 0.3 microns.

**Herbaceous** — A plant that is herb-like, usually having little or no woody tissue.

**Herbarium (pl. herbaria)** — A systematically arranged collection of dried plants or rooms or place in which such a collection is kept.

**Herbicide** — A pesticide poison used to kill weeds or herbaceous plants. **See Phytocide and Ecological narcotics.**

**Herbivorous** — Feeding on plants.

**Heterotrophic** — Pertaining to soil organisms. Those that are dependent for nourishment upon organic materials produced by other living organisms.

**Hibernation** — Dormancy or period of inactivity during the winter.

**Hindwings** — The second pair of wings in certain orders.

**Honeydew** — Watery liquid (carbohydrate-rich) excrement containing sugars excreted or discharged from the anus of certain Homoptera, e.g., aphids, scale insects, treehoppers and most plant hoppers.

**Honey guides** — Lines on the flower petal of certain plants which reflect ultraviolet light and direct insects to the pollen and nectar of the plant.

**Hormone** — A product of living cells that circulates in the animal or plant fluids and that produces a specific effect on cell activity remote from its point of origin.

**Horticultural oils** — are fine mineral oils used to spray on dormant insects to smother them in early spring

before they emerge. Used mainly on fruit trees.

**Host** — Any animal or plant attacked by or upon or in which another parasite or herbivore feeds on or lives on for nourishment, development, or protection or upon which it lays its eggs.

**Host resistance** — The ability of a host plant or animal to ward off or resist attack by pests or to be able to tolerate damage caused by pests.

**Humus** — The more or less stable fraction of the soil organic matter remaining after the major portion of added plant and animal residues have decomposed. Usually it is dark in color.

**Hydrolysis** — Chemical process of pesticide poison breakdown or decomposition involving a splitting of the molecule and addition of a water molecule.

**Hyper** — A prefix denoting an increase, excess or more than normal or desirable.

**Hyperparasites** — Sometimes referred to as superparasites, are parasites of a parasite.

**Hyperplasia** — Abnormal increase in the number of cells of a tissue.

**Hypertrophy** — Abnormal increase in the size of cells of a tissue.

**Hypha (pl. hyphae)** — A thread-like strand of fungus.

**Hypo** — A prefix denoting a deficiency, lack or less than normal or desirable.

**Hypopharynx** — A median mouthpart structure anterior to (just in front of) the labium; the ducts from the salivary glands are usually associated with the hypopharynx, and in some sucking insects the hypopharynx is the mouthpart structure containing the salivary channel; a tongue-like structure.

**Hypostome** — In ticks (Acari) a dark-like structure arising from the median ventral surface of the basis capituli.

**Idiosoma** — The body section of ticks and mites excluding the mouthparts.

**IGR, Insect Growth Regulator Juvenoid** — A pesticide poison constructed to mimic insect hormones that control molting and the development of some insect systems affecting the change from immature (pupal stage) to adult. May cause deformities in frogs. We do not recommend their use. **See Juvenile hormone.**

**Illegal** — A sick bird.

**Imago** — The adult stage.

**Immature** — A life stage proceeding the adult stage; not sexually mature.

**Immigration** — Any organism entering an area where it was not present previously.

**Immunity** — The ability of an organism to resist the development of an infecting or destroying agent.

**Impermeable** — Can not be penetrated.

**Impregnate** — An item, such as a flea collar, that has been manufactured with a certain pesticide poison in it; impregnates usually emit small, localized quantities of pesticide over an extended period of time.

**Incompatible** — Two or more pesticide poisons which cannot be mixed or used together. **See Chapter 13.**

**Incomplete metamorphosis** — In insects development where the immature stages are the egg followed by a series of naiads which are aquatic and have gills, the naiads differing greatly in appearance and habitat from the adult stage with no pupal stage.

**Incorporate** — To mix, blend or move a pesticide poison below the surface of the soil by discing, tilling, or irrigation. To combine one pesticide with another.

**Inert dust** — A finely ground clay or other powder used to control certain types of insects by desiccation.

**“Inert” ingredient** — In a pesticide poison formulation, an “inactive” material supposedly without pesticidal activity. “Inert” ingredients may actually be more toxic or hazardous to people than the active ingredient. They are not noted on the label or tested or even considered for dangers by the EPA. An oxymoron and a lie - we have proven over and over the “inert” ingredients control pests better than the active ingredient! **See Chapter 13.**

**Infections** — 1 in 20 Americans get infections in the hospital each year. More than 60% of staph germs are resistant to drugs. Two million patients are infected in hospitals each year and more than 90,000 patients die every year.

**Ingest** — To eat or swallow.

**Ingredient statement** — The portion of the label on a pesticide poison container that gives the name and amount of each active ingredient and the percentage of the unknown “inert” ingredients in the formulation.

**Inhalation** — The method of taking a substance, e.g. pesticide poisons, in through the lungs; breathing in; exposure of test animals either to vapor or dust for a predetermined time. **See Exposure route and Contamination.**

**Inhalation toxicity** — Poisonous to man or animals when breathed into lungs.

**Inhibit** — To prevent something from happening, such as a biochemical reaction within the tissues of a plant or animal.

**Inoculant** — A material of high microbial content that is added to the soil or compost to stimulate biological activity.

**Insect Growth Regulator** — **See IGR.**

**Insect pest management** — The practical manipulation of insect pest populations using any or all control methods in a sound ecological manner.

**Insectary** — Is a place where we grow beneficial insects.

**Insecticide** — A pesticide poison used to manage or prevent damage caused by insects. Sometimes generalized to be synonymous with pesticide. Some insecticide poisons are also labeled for control of ticks, mites, spiders, and other arthropods.

**Insects, Insecta** — A class in the phylum Arthropoda characterized by a body composed of three segments and three pairs of legs. **See Ecological narcotics.**

**Ishmael** — Means “G-d hears, G-d will hear” or an outcast.

**Inspection** — To systematically search for clues or to closely examine for pests, pest eggs, pest damage, other pest evidence, etc. It is not acceptable to describe an infestation as an ant or roach problem - you should note the specific species and stage of metamorphosis. **See Monitoring.**

**Instar** — The stage of an insect between successive molts, the first instar being the stage between hatching and the first molt.

**Instinctive behavior** — Unlearned stereotyped behavior in which the nerve pathways involved are hereditary.

**Integrated control** — The integration of chemical, mechanical and biological methods of pest control.

**Integrated Pest Management** — **See IPM.**

**Integument** — The outer covering of the body.

**Intelligent Pest Management**<sup>®</sup> — A registered trademark the author has “coined” to describe his pest control alternatives and techniques.

**Interactive effect** — Interaction when two or more pesticide poisons are mixed, producing greater or lesser toxicity to the target pests or changing the mode of action. ***They create unregistered, highly dangerous and illegal pesticide poisons!***

**Internal feeder** — The larva feeds entirely within the grain kernel or seed and usually requires a whole kernel or seed for development.

**Intermediate host** — The host in which the asexual stages of the parasite are passed.

**Intradermal** — Within the skin.

**Intramuscular** — Injected into the muscle.

**Intraperitoneal** — Injected into the viscera, but not into the organs.

**Intravenous** — Injected into the vein.

**Invert emulsion** — One in which the water is dispersed in oil rather than oil in water. Usually a thick, salad-dressing-like mixture results.

**Invertebrate** — Any animal having an external skeleton or shell, such as insects, spiders, mites, worms, nematodes, and snails and slugs. A class of animals that lack spinal cords.

**IPM** — Integrated pest management. A pest management program that uses life history information and extensive monitoring to understand a pest and its potential for causing economic, health-related, or aesthetic damage. The goal is to achieve long-term suppression of target pests with minimal impact on nontarget organisms and the environment. Pesticide poison applications should never be the primary control method, but least toxic poisons may occasionally be a small part of true IPM. Control is achieved through integrated methods including prevention, cultural practices, spot application of least-toxic pesticide, exclusion, natural enemies, and host resistance. True IPM programs should stress sanitation, habitat reduction, communication, monitoring, inspection, and evaluation (keeping and using records). This term has been corrupted by the pesticide *industry to mean* “include pesticides monthly.” **See Get Set IPM.**

**Iridescence** — Displaying a shifting/change lustrous colors when viewed from different angles; shines by reflection.

**Isomers** — Two or more chemical compounds having the same structure but different properties.

**Jamb** — The side post or lining of a doorway or other opening. The jambs of a window outside the frame are called reveals.

**Joint** — An articulation of two successive segments or parts.

**Joist** — One of a series of parallel beams, usually 2 inches in thickness, used to support floor and ceiling loads, and supported in turn by larger beams, girders, bearing walls, or foundation.

**“Junk Science”** — What the poison *industry* likes to pretend all health and/or environmental data they have not hidden, paid for, falsified, corrupted, adjusted, ignored, covered-up and/or *created* is.

**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.

**Keel** — An elevated ridge in cockroach (Blattodea) oothecae (egg cases) the raised dorsal ridge.

**Keratin** — An inert animal protein found in feathers, hair, horns, hoofs, etc. similar to the chitin of insects.

**kg (kilogram)** — A unit of weight in the metric system equal to 2.2 pounds.

**Kiln** — A chamber having controlled air flow, temperature, and relative humidity for drying lumber, veneer, and other wood products.

**Kiln-dried** — Dried in a kiln with the use of artificial heat.

**Kleptoparasites** — Animals that steal food from other animals.

**Knock down** — An insecticide poison that has a rapid, although sometimes temporary, immobilizing effect on target insects; some knock down materials have rapid killing abilities.

**Kosher insects?** — See Leviticus 11:21-22, but observe Leviticus 11:20 and Deuteronomy 14:19!

**Label** — All printed material attached to or on a pesticide poison container. **Does not assure safety.**

**Labeling** — The pesticide poison label and all other accompanying materials/literature that contain directions or suggestions that pesticide users are legally required to follow. **Does not assure safety.**

**Labella** — In some adult flies (Diptera) the fleshy paired oral lobes or pads at the terminal end of the proboscis.

**Labial** — Of or pertaining to the labium.

**Labium** — One of the hindmost mouthpart structures; the lower lip located behind the maxillae.

**Labrum-epipharynx** — A mouthpart representing the labrum and epipharynx.

**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, including crustaceans, and especially mites and ticks.) Usually in a form radically different than the adult.

**Larviform** — Shaped like or resembling a larva.

**Laterally flattened** — Flattened side to side.

**Laths** — Thin strips of wood four feet long, nailed to studding as supports for plaster. Also, wire mesh or composition plasterboard.

**LC<sub>50</sub>** — Lethal concentration. The median lethal concentration of a pesticide poison (active ingredient only), usually in air or water, that kills 50 percent of a test population of animals. LC<sub>50</sub> values are expressed as milligrams (mg), or cubic centimeters (cc), if liquid, per animal. It is also the concentration expressed as parts per million (ppm) or parts per billion (ppb) in the environment (usually water) which kills 50% of the test organisms exposed. The lower the LC<sub>50</sub> value, the more acutely toxic (dangerous) the poison.

**LD<sub>50</sub>** — Lethal dose. The medium lethal dose or amount of a pesticide poison (active ingredient only) that will kill 50 percent of the test animals when eaten or absorbed through the skin. LD<sub>50</sub> is expressed in milligrams of toxicant per kilogram of body weight of the test animal (mg/kg). The lower the LD<sub>50</sub>, the more acutely toxic (dangerous) the poison.

**Leaching** — The movement of a chemical substance with water downward through soil with the possibility of reaching ground potable water supplies. **See Contamination.**

**Legal threshold** — A mandate to begin control of a particular pest. A legal threshold is usually based on a very low pest population and sets limits on the amount of pest damage or contamination allowed in food products offered for sale or that may endanger public buildings or occupants.

**Legionella pneumophila** — Small gram-negative bacteria, some of which cause Legionnaire's Disease.

**Lesion** — A spot or area of diseased tissue.

**Lethal** — Capable of causing death.

**Liability** — Legal responsibility.

**Life cycles** — The series of stages an organism passes through during its lifetime from egg stage to egg stage.

**Life history** — A detailed record of a life cycle (egg to egg).

**Lignin** — The second most abundant constituent of wood, located principally in the secondary wall and the middle lamella — the thin cementing layer between wood cells.

**Linalool** — is a natural material found in oils from several hundred herbs, pine wood, leaves, flowers and plants. 3,7-dimethyl-1,6-octadien-3-01. **See D-limonene and Chapter 11 notes.**

**Lintel** — A horizontal structural member that supports the load over an opening such as a door or window. (See header.)

**Litter** — A number of young born at usually the same time.

**Low input** — Refers to reduced use of (off-farm) resources (such as synthetic fertilizers and pesticide poisons) and increased reliance on naturally occurring resources and (on-farm) nutrients and controls.

**Low volume spray** — Concentrate spray, applied to uniformly cover the crop, but not as a full coverage to the point of runoff.

**Macrophyte** — A large plant that is easily seen without the aid of a microscope.

**Maggot** — A legless larva without a well-developed head capsule (e.g. Diptera), tapers from a blunt caudal/posterior end towards a pointed *head* end represented by 2 hooks. The larva of a fly.

**Major worker** — In termites (Isoptera) and ants (Hymenoptera: Formicidae) a member of the worker subcaste of largest size.

**Malaria** — is a parasite. About 300 million people a year come down with this disease. The World Health Organization reports that on average more than 800,000 children under the age of five die from malaria every year!

**Malpighian tubules** — Blind excretory tubes that arise near the anterior end of the hindgut and extend into the body cavity; the insect's urinary system.

**Mammals** — Warm-blooded animals that nourish their young with milk. Their skin is more or less covered with hair.

**Management** — (1) The ongoing process of organizing and controlling the environment, sanitation and/or groups of organisms. (2) The use of all (pest) controls necessary to remove/eliminate a pest problem on a permanent basis.

**Mandible** — Jaw; one of the anterior pair of the paired mouthpart structures.

**Margin** — Of or pertaining to the edge.

**Marginal cell** — A cell in the distal part of the insect wing.

**Margins of Exposure (MOE)** — Measures adverse effects on humans in terms of effects seen in laboratory animals. Mathematically, it is the ratio of estimated actual human exposure to the level that had no adverse effect on laboratory animals. Generally, EPA considers MOEs below 100 to be "of concern." Under the Food Quality Protection Act, EPA must apply an additional 10-fold factor, making any level below 1000 unacceptable for children.

**Marsupium** — The ventral pouch in certain Isopoda used for carrying eggs and/or young.

**Material safety data sheet (MSDS)** — An information sheet provided by a pesticide poison manufacturer describing chemical (usually of the active ingredient only) qualities, hazards, safety precautions, and emergency procedures to be followed in case of a spill, fire, or other emergency. Log on to <http://www.edms.net>, and click on "web services" to obtain instant product information from more than 70 chemical manufacturers serving the MSDS. Product labels and MSDS can be located by either company or brand name.

**Mating plug** — Some males seal or plug their mate's vagina after mating so that she can not receive sperm from other males.

**Matrone** — George Craig, Jr. gave this name to a pheromone secreted by a male mosquito's accessory gland that turns off a female mosquito's desire to mate even if they are virgins.

**Maxilla (pl. maxillae)** — One of the paired mouthpart structures immediately posterior to the mandibles, often jaw-like and with a palp.

**Mazel tov!** — Means "congratulations" or "Thank G-d!" rather than its literal meaning: "Good luck!"

**MDA (Michigan Department of Agriculture)** — but the Author prefers the acronym DOA.

**Mechanical Controls** — Traps, vacuums, caulking, lights, tools, etc. other than pesticide poisons which are used to control pests. Pest control by physically altering the environment.

**Mechanical Exclusion** — A pest control program based on physically keeping pests out of a particular building, habitat or area by caulking, screening and/or sealing off holes, cracks, crevices, doors and other openings through which the pests may enter.

**Media worker** — In polymorphic ants (Hymenoptera: Formicidae) with 3 worker subcastes, a member of the intermediate size of worker subcaste.

**Median cauda filament** — A thread-like process at the posterior end of the abdomen positioned in the middle.

**Median frontal stripe** — In adult flies (Diptera) a stripe in the middle of the front/face of the head.

**Membranous** — Like cellophane, a thin flexible, usually transparent, film of tissue.

**Membranous wings** — Wings that are flexible and clear.

**Mesonotum** — The dorsal sclerite of the mesothorax.

**Mesothorax** — The middle or second segment of the thorax, bearing the middle pair of legs and front wings if present.

**Metabolism** — The total chemical process that takes place in a living organism to utilize food and manage wastes, provide for growth and reproduction, and accomplish all other life functions. Formerly, the metabolism of all foreign organic compounds e.g. drugs, pesticides, additives, etc.; i.e., xenobiotics, was called *detoxification* since it has been found that the body converts or metabolizes some compounds into more toxic substances - this phenomenon is now called *activation*!

**Metallic** — Having the appearance of metal or lustre.

**Metamorphosis** — The physical transformation or change in form, more or less sudden, undergone by insects (and some other animals) during their development; e.g., the change of an insect from larva to pupa to adult.

**Metapleural gland** — An antibiotic-secreting gland, found near the rear of the midportion of ground-dwelling ant's body. The potent antibiotics it secretes allow ants to colonize the ground - among all of the social insects of the order Hymenoptera, ants are the only ones with this gland. Tree dwelling ants do not have this metapleural gland either.

**Metathorax** — The third or hindmost segment of the thorax bearing the third pair of legs and the wings if present.

**Meter** — 39.37 inches.

**mg/kg (milligrams per kilogram)** — Used to designate the amount of toxicant required per kilogram of body weight of test organism to produce a designated effect, usually the amount necessary to kill 50% of the test animals.

**Microbes** — Safe Solutions, Inc. microbes are safe enough to drink. **See Probiotic.**

**Microbial degradation** — Breakdown of a chemical by microorganisms.

**Microbial Insecticide** — **See Microbial Pesticide.**

**Microbial Pesticide** — Bacteria, viruses, fungi and other microorganisms used to control pests. Also called biorationals, applied in the same way as synthetic pesticide poisons to control pests. Cause disease.

**Microbicide** — A poison used to kill microorganisms. Includes bactericides, algacides and fungicides.

**Microgram** — Symbol ug, or a millioneth of a gram. 1 part per million is about 1 minute every 2 years or about 1 inch every 16 miles.

**Microorganism** — An organism so small it can be seen only with the aid of a microscope, such as bacterium, virus, fungus, viroid or mycoplasma. "Modern" farming uses synthetic pesticides and fertilizers which kill the beneficial microorganisms in the soil.

**Midges** — True flies or diptera in the family Chironomidae. Midge larvae often called blood worms which may even pass through tap water. Common in wastewater lagoons.

**Midgut** — The mesenteron, or middle portion of the alimentary tract.

**Mildew** — Fungus growth on a surface.

**Millimeter (mm)** — 1/1000 meter; 0.3937 inch; about 25mm = 1 inch.

**Mimic** — Relating to insect pheromones, the ability of a synthetic chemical to produce the same or similar effect on a target insect as a pheromone produced by that species of insect or a species which closely resembles a species of different group for a survival advantage.

**Mineralization** — The conversion of an organic form of an element to the inorganic state, generally through microbial decomposition. Mineralization allows plants to absorb soil nutrients through their roots.

**Minor pests** — come early in the growing season and generally do not cause too much damage. They attract beneficial insects that will be there to control the key pests, generally in the middle of the growing season.

**Minor worker** — In termites (Isoptera) and ants (Hymenoptera: Formicidae) a member of the smallest size worker subcaste.

**Miscible liquids** — Two or more liquids capable of being mixed in any proportions, and that will remain mixed under normal conditions.

**Mite** — The tiniest of the arachnids, its body consists of two discernible parts. They are the only arachnids in which the mouthparts and legs are on separate parts of the body. Probably a half million species exist everywhere on earth in fresh water and even in the seas.

**Miticide** — A pesticide poison used to control mites. **See Acaricid.**

**M.L.D.** — Median lethal dose, or the LD<sub>50</sub>.

**Mitzva or Mitzah** — (Plural Mitvoth) Mitzva is second only to the word "Torah" in the vocabulary of Judaism. Simply put, it is first a divine commandment and second a meritorious act that expresses G-d's will; a righteous or good work, a truly virtuous, kind, considerate, ethical deed. See Tikkun Olan.

**Mode of action** — The way in which a pesticide poison exerts a toxic effect on the target plant or animal.

**Modified wood** — Wood processed by chemical treatment, compression, or other means (with or without heat) to impart properties quite different from those of the original wood.

**Moisture content** — The amount of water contained in the wood, usually expressed as a percentage of the weight of the oven-dried wood.

**Molluscicide** — A poison used to control snails and slugs and other aquatic animals with soft, unsegmented bodies, usually enclosed in a shell.

**Mold** — The vegetative phase in the growth of certain fungi displaying long filamentous extensions. Some molds produce chemicals that are toxic to other molds, bacteria, insects and to people. Collectively these chemicals are known as mycotoxins.

**Molt** — A process of shedding the skin or the exoskeleton to be replaced by another. Also known as ecdysis.

**Moniliform antennae** — Antennae that look like strings of beads.

**Monitoring** — The process of carefully watching the activities, growth, and development of pest organisms over a period of time, often utilizing very specific procedures. Monitoring includes very thorough inspection and accurate 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.

**Monoculture** — The planting of only one species of plant which can be totally destroyed, e.g., the Irish potato famine. When Dutch elm disease invaded the U.S.A. we basically lost all of our beautiful American elm trees.

**Monomorphic** — Of or having only one form.

**Morphology** — The science or study of form or structure.

**Mosaic** — Leaf pattern of yellow and green or light green and dark green produced by certain virus infections.

**Mouthparts** — Include two pairs of jaws (the mandibles and the maxillae) and other segmented appendages near the jaws used for holding food.

**MSDS** — **See Material Safety Data Sheet.**

**MSHA** — Mine Safety and Health Administration.

**Mud Puddeling** — The habit of butterflies of gathering in groups to drink from muddy puddles in order to obtain essential salts and minerals.

**Multiple Catch Trap** — A special type of trap designed to catch mice. A spring-loaded mechanism flips the mouse into a holding chamber; traps of this type can hold several mice. Mice are not killed by this device. There is also a multiple catch trap for rats. Quite often the prisoners will consume one another.

**Mutagen** — Substance causing genes in an organism to mutate or change and/or genetic damage.

**Mutagenic** — A chemical that is capable of causing deformities and/or genetic damage in living organisms.

**Mycelial fan** — Flat masses of fungal hyphae.

**Mycelium** (plural, mycelia) — The vegetative body of a fungus, consisting of a mass of slender filaments called hyphae.

**Mycologist** — One who studies fungi.

**Mycoplasma** — A microorganism intermediate in size between viruses and bacteria possessing many virus-like properties and not visible with a light microscope.

**Mycorrhiza** — A symbiotic association of a fungus with the roots of a plant.

**Myiasis** — A disease or injury caused by the invasion of dipterous (fly) larvae.

**Naiad** — The aquatic nymph of insects with simple or incomplete metamorphosis.

**Nape** — In birds (Aves) the back side of the neck.

**Napthalene** — is produced by termite colonies to protect their nests. This gas can harm people

**Nasutiform soldier** — In termites (Isoptera) a soldier with the head prolonged into a snout-like structure used to eject/squirt a defensive secretion.

**National Pesticide Telecommunications Network** — 1-800-858-7378.

**Natural enemy** — an organism that causes premature death of a pest organism; includes predators, pathogens, parasites, and competitors.

**Necrosis** — Death or decay of plant or animal tissues which results in the formation of discolored, sunken, or necrotic (dead) areas.

**Nectar** — A sugary fluid found in flowers.

**Negligible residue** — A tolerance which is set by the government on a food or feed crop permitting or ignoring an ultra-small amount of pesticide poison at harvest as a result of contamination.

**Nematicide** — A poison or fungus used to kill nematodes.

**Nematode** — Nonsegmented, microscopic (or larger) worm-like creatures that live in soil, water, plants, animals and dead organic matter.

**Neoprene** — A synthetic rubber with superior resistance to penetration by pesticide poisons.

**Neurotoxic** — A pesticide poison that is very destructive/harmful to nerve tissue or the normal functioning of the nervous system. ***The author refers to these poisons as “nerve gas.”***

**NIOSH** — National Institute for Occupational Safety and Health.

**Nit** — The egg of the sucking louse (Anoplura) when glued to the hair shaft.

**Nocturnal** — Active at night and resting by day.

**Node** — A segment of the pedicel of the waist.

**NOEL** — The level or dose of poison that supposedly causes no observable effects.

**Nonselective** — A pesticide poison that has an action against many species of pests and beneficials rather than just a few. **See Contamination.**

**Nontarget** — Any site or organism other than the site or pest toward which the control measures are being directed. **See Contamination.**

**Nontarget organism** — Any plant or animal other than the intended target(s) of a pesticide poison application.

**Notification** — Before you apply **any** pesticide poisons you must first properly notify all occupants before and after **any** application is made. **See Contamination.**

**Notum (pl. nota)** — The dorsal or top surface plate of a body segment (usually used when speaking of the thoracic segments).

**Noxious weed** — A weed specified by law as being especially troublesome, undesirable and/or difficult to control. This *definition* will vary according to legal interpretations.

**Natality** — Birth rate.

**Nymph** — The developmental or immature stage of insects with gradual/simple or incomplete metamorphosis that hatches from the egg. Most nymphs resemble the adult stage, although the markings and coloration may differ considerably. Nymphs become adults; the immature stages of Acarina that have eight legs.

**Obligate parasite** — An organism that can live and multiply only on or in other living organisms.

**Ocellus (pl. ocelli)** — A simple eye consisting of a single lens of an insect or other arthropod.

**Ocular** — Pertaining to the eye — this is one of the routes of entry of pesticide poisons into the body.

**Odor** — In the past people wanted pesticides with strong odors because they thought the stronger, the better - today insecticidal odor is a liability, so you may be poisoned without even realizing how or when.

**Oesophagus (esophagus)** — That part of the alimentary canal between the mouth and the crop.

**Olefin** — An unsaturated open-chain hydrocarbon containing at least one double bond.

**Ommatidium** — An individual compound eye unit or visual section capable of detailed vision.

**Omnivorous** — Feeding on a wide variety of substances of both animal and vegetable origin.

**Oncogenic** — The property to produce tumors (not necessarily cancerous) in living tissues. **See Carcinogenic.**

**Ootheca (pl. oothecae)** — A capsule, constructed by female cockroaches, into which they deposit many eggs; some species carry an ootheca attached to the body, while others will deposit the ootheca in a hidden place.

**Open cell** — The membranous space between the wings veins, continuous with or reaching the wing margin.

**Opportunity** — The opportunity for victory is provided by the enemy.— Sun Tzu's Art of War.

**Opposed** — Closest to or opposite.

**Oral** — Of, by or through the mouth — this is one of the routes of entry of pesticide poisons into the body.

**Oral toxicity** — Toxicity of a compound (active ingredient) when given by the mouth. Usually expressed as number of milligrams of pesticide poison per kilogram of body weight of animal (white rat) when given orally in a single dose that kills 50% of the animals. The smaller the number, the greater the toxicity.

**Order** — A subdivision of a class or subclass, containing a group of related families.

**Organic** — Referring to our derived from living organisms. In chemistry any compound containing carbon. In farming or gardening, it generally refers to a methodology that does not use any synthetic pesticide poisons or fertilizers. USDA Organic logo can be displayed on products that have at least 95% organically produced ingredients. The words 100% organic can only be used when products contain 100% organically produced ingredients. Pesticides still can be used. See <http://www.ams.usda.gov/nop>. **See Synthetic.**

**Organic matter** — The fraction of the soil that includes plant and animal remains, residues, or their waste products in various stages of decomposition.

**Organism** — Any living plant or animal.

**Organochlorine insecticide** — One of the many chlorinated insecticide poisons, e.g., DDT, dieldrin, chlordane, BHC, lindane, etc. **Do not use these toxins.**

**Organophosphates** — Class of pesticide poisons (also one or two herbicides and fungicides) derived from phosphoric acid esters. Organophosphates inhibit cholinesterase in animals. Examples are malathion, chlorpyrifos, diazinon, etc. **Do not use these toxins.**

**Orientation** — Insect orientation to polarized light. Sunlight and moonlight scatters when it hits dust particles in the atmosphere causing celestial polarization patterns. Many creatures, including insects, can use these patterns to orientate themselves to move in a straight line. Polarizing filters can redirect creatures to a trap or away from an area.

**OSHA** — Occupational Safety and Health Administration.

**Ostium (pl. ostia)** — Lateral openings of the heart (dorsal vessel) located in the posterior portion.

**Oven-dried wood** — Wood dried to a relatively constant weight in a ventilated oven at 101° to 105° C.

**Overweight?** — Read the carbamate section in Chapter 13.

**Ovicide** — A poison that destroys an organism's eggs.

**Oviposit** — To lay or deposit eggs.

**Ovipositor** — The egg-laying apparatus or structure or tube; the external genitalia of the female that may withdraw into the body.

**Ozone** — is very toxic to the respiratory system and causes significant biochemical and physiological changes in humans; exposure to ozone aggravates asthma, so increase your intake of vitamin C and E so you can ameliorate ozone-induced bronchoconstriction.

**Palp (pl. palpi)** — A segmented process or feeder-like structure borne by the maxillae or labium. A sensory organ beside the jaws of some insects.

**Palpilla (pl. papillae)** — Tiny finger-like projections.

**Pandemic** — A disease of wide occurrence.

**Parasite** — A plant, animal, or microorganism living in, on, or with another living organism (its host) for the

purpose of obtaining all or part of its food. Parasites often attach themselves to their host or invade the host's tissues. Parasitism may eventually result in injury or death of the host. An animal that lives in or on the body of another living animal (its host), at least during a part of its life cycle. The parasite generally does not kill its host.

**Parasitic** — Living as a parasite, an organism that lives on or in another host from which it obtains food and shelter.

**Parasitoid** — An external or internal parasite that more or less immediately kills its host.

**Parent colony** — The main colony containing the Queen(s), other castes, immatures and eggs.

**Parthenogenesis** — Reproducing by eggs that develop without being fertilized.

**Patent** — Legal restraint of trade.

**Pathogen or pathogenic organism** — A microorganism or virus that causes a disease in other organisms.

**PCO** — Pest Control Operator

**PDS** — Post-directed spray.

**Peace of mind** — The best ingredient in Pestisafes®.

**Pecten** — A comblike or rakelike structure.

**Pectines** — Comblike organs of touch (e.g., scorpions).

**Pedicel** — The second segment of the antenna; the stem of the abdomen, between the thorax and the gaster (ants), or between the head-thorax and the abdomen (spiders).

**Pedipalps** — The second pair of appendages of an arachnid.

**Penetrant** — An additive or adjuvant which aids the pesticide poison in moving through the outer surface of plant tissues or you.

**Pedogenesis** — Is the production of offspring by an immature stage.

**Penetrate** — To pass through a surface such as skin, protective clothing, plant cuticle, or insect cuticle. Also refers to the ability of an applied spray to pass through dense foliage.

**Pentachlorophenol** — A powdered poison produced by chlorinating phenol and used as a wood preservative. In 1984, placed on the Environmental Protection Agency list of "Restricted Use" chemicals for use as a wood preservative.

**Penultimate** — Next to the last.

**Perennial** — A plant that lives longer than two years — some may live indefinitely. Some perennial plants lose their leaves and become dormant during winter; others may die back and re-sprout from underground root structures each year. The evergreens are perennial plants that do not die back or become dormant. Plants may be herbaceous or woody.

**Perimeter barrier treatment** — Spraying poisons around the perimeter of the building up to 10 feet outward and 3' high - done to *protect* the building by the poison *industry*. **See Contamination.**

**Peritreme** — In fly larvae (Diptera) the margin of the spiracular plate.

**Permeability** — The ability to absorb.

**Perpendicular** — Oriented or being at a right angle (90°) to another surface.

**Persistence** — The quality of an insecticide poison to persist or contaminate as an active residue due to its chemical stability, e.g. certain organochlorine insecticides. **See Contamination.**

**Persistent pesticide** — A pesticide poison that remains active in the environment for long periods of time because it is not easily broken down by microorganisms or environmental factors. Persistent pesticides generally move or travel the longest distances and have the greatest potential to accumulate in living organisms. **See Contamination.**

**Personal protective equipment** — Devices and clothing intended to try to protect a person from exposure to pesticide poisons. Includes such items as long-sleeved shirts, long trousers, coveralls, suitable hats, gloves, shoes, respirators, and other safety items as needed. **Do not use poisons.**

**Pest management** — **See IPM.**

**Pest** — Any undesirable organism: (1) any insect, disease, mite, vertebrate, plant, rodent, nematode, fungus, weed, etc. or (2) any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other microorganism (except viruses, bacteria, or other microorganisms on or in living man or other living animals) which the Administrator declares to be a pest under FIFRA, Section 2S(c)(1). Remember no animal, insect or plant is a pest in and of itself - to some a mouse can be a pet - to others the same creature is a *pest*. Your point of view determines if it is a pest or a pet or an uninvited guest. A few pests in a field are actually beneficial because they will attract and serve as food for beneficial insects.

**Pesticide** — Collectively, pesticides are the biocidal agricultural poison active ingredients that are widely being broadcast into our environment today. Pesticide poisons are designed to kill living organisms and the U.S. EPA prohibits any/all claims that these toxic substances are either safe or non-toxic. That is just another reason why Pestisafes® can not be registered. An "economic poison" defined in most state and federal

laws as any substance (poison) or mixture of substances (poisons) intended for killing, sterilizing, preventing, destroying, repelling, attracting or mitigating any insects, rodents, nematodes, fungi, or weeds, or any other forms of life declared to be pests; and any other substance or mixture of substances intended for use as a plant/pest regulator, defoliant, or desiccant. **Do not use any volatile, pesticide poison with an LD<sub>50</sub> of less than 5000 mg. Never mix different pesticides! See Ecological narcotics.**

**Pesticide formulation** — The pesticide poison as it comes from its original container, consisting of the active ingredient blended with “inert” materials. **Only the active ingredient is “tested” or considered.**

**Pesticide resistance** — Genetic qualities of a pest population that enable individuals to resist the effects of “certain” types of synthetic pesticide poisons that are toxic to other members of that species. **This phenomenon is very common today. See Pestisafes®.**

**Pestisafes®** — This is another word the author “coined” to describe “his” alternative products and techniques that are either non-toxic or Generally Recognized As Safe (GRAS) to people and pets that can be used to control pests better and safer than dangerous, volatile, synthetic pesticide poisons. Pestisafes® control even pesticide resistant pests. U. S. Patent & Trademark Office gave allowance for its use 5/18/99.

**Pestisucide** — What the Author believes the continued use/misuse of “registered” pesticide poisons will do to all of mankind.

**Petiole** — The first joint, knot, node, segment or raised area on the pedicel. Also a leaf stalk.

**pH** — A measure of the acidity/alkalinity of liquid: acid below pH7; basic or alkaline above pH7 (up to 14).

**Pheromone** — A chemical produced by an animal to attract other animals of the same species. Highly potent insect sex attractants produced by the insects. For some species laboratory-synthesized pheromones have been developed for trapping purposes.

**Phoresy** — A phoretic insect hitchhikes on another animal or species to provide it transportation, but it does not harm its host.

**Photodegradation** — Breakdown of chemicals by the action of (sun) light.

**Photosynthesis** — The process by which plants convert sunlight into energy.

**Phylum** (plural, phyla) — One of the dozen or so major divisions of the animal kingdom.

**Physical control** — Habitat alteration or changing the infested physical structure, e.g., caulking holes, cracks, tightening around doors, windows, moisture reduction, ventilation, etc.

**Physical selectivity** — Refers to the use of broad-spectrum insecticide poisons in such ways as to obtain selective action. This may be accomplished by timing, dosage, formulation, etc.

**Physiological** — Pertaining to the functions and activities of living tissues.

**Physiological selectivity** — Refers to insecticide poisons which are inherently more toxic to some insects than to others.

**Phytocides** — Poisons which kill plants. **See Herbicide.**

**Phytotoxic** — Injurious to plants. A substance toxic to plants.

**Phytotoxicity** — Injury to plants caused by a chemical or other agent.

**Pier** — A column of masonry or sometimes wood, usually rectangular in horizontal cross section, used to support other structural members. Post.

**Pilose** — Covered with hair.

**Pilosity** — Hairiness.

**Piscicide** — Poison used to kill fish.

**Plagiarism** — To take the intellectual property or thoughts from one. See Research.

**Plant growth regulator (PGR)** — A chemical or pesticide poison used to regulate, increase, decrease, change the reproduction, or alter the normal growth of plants and/or the development of plant parts.

**Plant vampires** — Insects or mites that live by sucking the nutrients from plants include aphids, mealybugs, scales, spider mites, thrips and white flies.

**Plate** — Sill plate: a horizontal member anchored on top of a masonry wall. Sole or bottom plate: bottom horizontal member of a frame wall. Top plate: top horizontal member of a frame wall supporting ceiling joists, rafters, or other members.

**Plumose** — Featherlike; feathery in appearance.

**Pocket rot** — Advanced decay that appears in the form of a hole or pocket, usually surrounded by apparently sound wood.

**Point of runoff** — The point at which a spray starts to run or drip from the surface to which it is applied.

**Poison** — Any chemical or agent that can cause illness or death when eaten, absorbed through the skin or inhaled by man or animals, insects, birds, fish, e.g., synthetic pesticide poisons.

**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, including pesticide poisons. Centers are listed

in telephone directories. **Only the active poison ingredient is normally considered.**

**Pollen** — A flower's male sex cells which fertilize the female sex cell (ovule).

**Pollinose** — Covered with a loose, mealy dust like the pollen of flowers; surface covered with a whitish dusting.

**Polymorphic** — Having many different forms or sizes, e.g., worker ants of some species.

**Population** — Individuals of the same species. The populations in an area make up a community. **See Ecosystem.**

**Post-emergence** — After emergence of the specified weed or crop.

**Post-emergent** — A herbicide poison applied after emergence of a specified weed or crop.

**Posterior** — Hind or rear; hindmost.

**Postnotum (pl. postnota)** — A notal plate behind the scutellum, often present in wing-bearing segments.

**Potable water** — Water used for drinking - easily contaminated with water-soluble fertilizers, medicines and/or pesticides.

**Potency** — Pertaining to the toxicity of a pesticide poison's active ingredient.

**Potentiation** — The increase in toxicity of two pesticide poisons when applied together. **See Synergist.**

**Powder** — A finely ground dust containing active ingredient and inert materials. This powder is mixed with water before application as a liquid spray.

**ppb (parts per billion)** — Parts per billion (parts in  $10^9$  parts) is the number of parts of toxicant per billion parts of the substance in question.

**PPE** — Personal Protective Equipment.

**ppm (parts per million)** — Parts per million (parts in  $10^6$  parts) is the number of parts of toxicant per million parts of the substance in question. They may include *residues* in soil, water, or whole animals.

**ppmw (parts per million weight)** — See above - this pertains to weight only.

**Preapical** — Situated just before the apex (e.g., preapical tibial bristle of Diptera).

**Prebaiting** — Placing non-toxic bait in a trap to overcome bait or trap shyness on the part of the target pest; once the target pest becomes used to feeding from the trap, the non-toxic bait is replaced with toxic bait.

**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.

**Predacide** — Chemical used to poison predators.

**Predator** — An animal or organism that attacks, kills, and feeds on other animals or prey organisms. Examples of predaceous animals are hawks, owls, snakes, many insects, etc. They can kill their prey more or less immediately and eat most or all of their bodies. Predators kill and consume several or many prey in their lifetimes.

**Pre-emergent** — The action of an herbicide poison that controls specified weeds as they sprout from seeds before they push through the soil surface.

**Preformed Enzymes** — can and do vary greatly by each fermentation batch. Generally have a pH of 3.5 to retard bacterial growth.

**Pre-planting treatment** — Made before the crop is planted.

**Prespiracular tubercle** — In larval Lepidoptera, the wart-like (sclerotized/thickened) area between the spiracle and the front edge of the prothoracic segment, bearing setae (hairs).

**Prepupa** — A quiescent or resting stage between the larval period and the pupal period in insects having complete metamorphosis.

**Preservative** — Any substance that, for a reasonable length of time, is effective in preventing the development and action of wood-rotting fungi, borers of various kinds, and harmful insects that deteriorate wood.

**Pressure process** — Any process of treating wood in a closed container whereby the preservative is forced into the wood under pressures greater than one atmosphere. Pressure is generally preceded or followed by vacuum, as in vacuum-pressure and empty-cell processes respectively; or high and low pressures may be alternated, as in the full-cell and alternating-pressure processes.

**Pre-treatment** — Poison application made before the building is finished.

**Prevention** — Keeping a pest from becoming a problem.

**Primary reproductive** — In termites (Isoptera) the colony founding male or female derived from a winged adult.

**Primary setae** — In larval Lepidoptera - those setae (hairs) with a definite arrangement, and found in all instars.

**Probiotic** — (Pro-life) Professor Ilya Mechnikov first used this term to describe friendly bacteria. His research made a direct link between human longevity and the necessity of maintaining a healthy balance of probiotics in the body. Things that can kill probiotics in the body are antibiotics, birth control pills, carbonated drinks, chlorine, coffee/tea, fertilizers (synthetic), fluoride, man-made vitamins, pesticides, preservatives, radiation, steroidal/hormonal drugs, stress and synthetic ascorbic acid. Because of these "killers," today most people have lost their ability to digest nutrients. Probiotic or friendly bacteria prevent the invasion and colonization

of harmful bacteria, fungi, yeast, viruses, molds and other parasites. **See Safe Solutions, Inc. microbes.**

**Proboscis** — The extended beaklike mouthparts.

**Professional** — One who is supposedly able to make safe judgments based on training, experience, and an available data base. A true professional can control pests without poisons. ***No poisons are safe!***

**Prolegs** — False legs or fleshy abdominal process on the abdomen that are characteristic of caterpillars and sawflies.

**Pronotal comb** — In adult flies (Siphonaptera) a row of strong spines located on the pronotum's posterior margin.

**Pronotum** — The dorsal sclerite or top surface plate of the prothorax.

**Propellant** — The "inert" ingredient in self-pressurized products that forces the active ingredient from the container. ***They are not included in the risk formula or "registration."*** **See Aerosol.**

**Protectant** — Fungicide applied to plant surface before pathogen attack to prevent penetration and subsequent infection. The author does not believe poisons *protect* anything.

**Protective clothing** — Clothing (masks, gloves, boots, respirators, goggles, etc.) to be worn in pesticide poison applications or in treated fields under certain conditions as required by federal law, e.g., reentry intervals.

**Prothorax** — The anterior or first or front of the three thoracic segments, bearing the first pair of legs and without wings (except for the order strepsiptera).

**Proteinases** — These are the enzymes that activate the degrading and recycling of the insect cuticle during molting. Microbial pathogens utilize proteinases to destroy the cuticle. Entomopathogenic fungi normally invade their hosts by penetration of the cuticle using proteolytic and chitinolytic enzymes (St. Leger, 1995). The first line of defense of arthropods is the cuticle. Protease enzymes and surfactants destroy this defense.

**Protopam chloride (2-PAM)** — An antidote for certain organophosphate pesticide poisoning, but not for carbamate poisoning.

**Proventriculus** — The rear part of the foregut, behind the crop and before the midgut, variously modified in insects to aid in food processing; the gizzard.

**PSI** — Pounds per square inch.

**Psammophore** — A group of long hairs on the underside of an ant's head, used for cleaning, etc.

**Ptilinum** — A temporary bladderlike structure that can be inflated and thrust out through the frontal suture, just above the bases of the antennae, at the time of emergence from the puparium (Diptera).

**Pubescent** — Having a hairy surface.

**Pulvillus (pl. pulvilli)** — A pad or lobe beneath each tarsal claw (Diptera).

**Punctures** — Pits or small impressions on the cuticle, like made with a pin or needle.

**Pupa (pl. pupae)** — The developmental resting or transformation stage of insects with complete metamorphosis where major changes from the larval to the adult form occurs. This is a nonfeeding and usually an inactive or immobile stage.

**Puparium (pl. puparia)** — A case formed by the hardening of the next to the last larval skin, in which the pupa is formed (Diptera).

**Pupate** — To transform to a pupa.

**Pyrethrins** — The active ingredients of pyrethrum insecticide poisons.

**Pyrethroid** — A synthetic pesticide poison that mimics pyrethrin, a botanical pesticide poison derived from certain species of chrysanthemum flowers. ***Do not use these toxins.***

**Queen** — Female member of a reproductive caste of social species.

**Questing behavior** — Ticks wait patiently for up to a year for some creature to come close enough to grab onto and feed. This hanging around and waiting is called questing behavior.

**Quiescent** — Quiet, still or in a state of arrested development.

**Rafter** — One of a series of structural members of a roof designed to support roof loads. The rafters of a flat roof are sometimes called roof joists.

**Rate** — (1) The amount of pesticide poison (active ingredient) 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. (2) The amount, quantity, or volume of active ingredient, liquid spray, dust, or granules that is applied to an area over a specified period of time.

**Raw agricultural commodity** — Any food in its raw and natural state, including fruits, vegetables, nuts eggs, raw milk, and meats.

**RCRA** — The Resource Conservation and Recovery Act. The federal law regulating the transport, storage, treatment and disposal of hazardous wastes.

**Record** — The inspector records his/her observations and that of the occupants on a graph that clearly shows the size, shape and construction of the building. These records are then permanently kept in order to monitor the building, pests and controls used. They help locate and correctly identify problem areas, conditions

conducive to infestation, seasonal fluctuations, actual infestations, damages, hazards and other problems.

**Rectum** — The posterior region of the hindgut.

**Reentry interval** — Waiting interval required by federal law between application of certain hazardous pesticide poison active ingredients to crops and the entrance of workers into those crops without protective clothing. **Does not assure absolute safety.**

**Reflex** — The involuntary and instinctive response to a stimulus.

**“Registered” pesticides** — The pesticide poisons (only the active ingredient) which have been “registered” by the Environmental Protection Agency for the uses listed on the label. **They are not approved nor tested by the EPA. An oxymoron. See Chapter 13.**

**“Regulators”** — Often promote the interests of the poison “industry” rather than the interests of the people.

**REI** — Restricted Entry Interval. See 8/92, EPA Worker Protection Standard.

**Repellent** — (1) A pesticide poison used to keep target pests away from a treated area by saturating the area with an odor that is disagreeable to the pest. (2) Substance used to repel ticks, chiggers, gnats, flies, mosquitoes, and fleas from people and pets.

**Research** — To take from the intellectual property or thoughts from the many. “There is nothing new under the sun,”

**Residual** — Having a continued killing effect over a period of time. **See Contamination.**

**Residual insecticide** — **See Residual pesticide.**

**Residual pesticide** — A pesticide poison active ingredient that continues to kill pests on a treated surface or area for an extended period following the initial application. **See Contamination.**

**Residue** — What the poison “industry” wants to call the pesticide poison’s active ingredients and its metabolites, contaminates, “inerts”, etc. that remain on treated surfaces, air, soil, water, or people after a period of time after a pesticide application. **See Contamination.**

**Resistance (antibiotic)** — Today at least 70% of hospital-acquired bacterial infections are resistant to at least one of the antibiotics used to “treat” them and some organisms are now impervious to all approved antibiotics. Use my safe and far more effective alternatives.

**Resistance (insecticide)** — Natural or genetic ability of an organism to avoid or mitigate or tolerate or develop a toleration to the poisonous effects of a toxicant. Many pests have already developed many resistances to pesticides. Pestisafes® safely control even pesticide resistant pests. **Resistance will always occur with synthetic pesticide poison usage.** Anticoagulant and insecticide resistance are different. Insecticidal resistance is an evolutionary process that can not be overcome by a slight increase in the dose, e.g., a dose that is several thousand times greater than “normal” may be required to kill resistant flies or roaches, while a slight increase in anticoagulant baits may still kill “resistant” rodents that have a genetic (inherited) resistance rather than a physiological (acquired) resistance. “If a battle can not be won, do not fight it.” — The Art of War **See Host resistance and ecological narcotics.**

**Restricted-use pesticide** — Any pesticide poison designated by EPA that can only be purchased and used by or under the supervision of a licensed or certified pesticide applicator because of their inherent toxicity or potential hazard to the environment. A pesticide poison active ingredient classified for restricted use under FIFRA, Section 3(d)(1)(c). **We do not recommend their use.**

**Restriction** — When is a (label) restriction not a (label) restriction? **See advisory.**

**Resurgence** — A dramatic increase in the level of the target pest, after a pesticide poison application, due to the destruction of its natural enemies by the *treatment*...pest numbers may soon surpass the pretreatment levels.

**Rhizomes** — Elongated, lateral roots or underground stems from which new plants, shoots or roots may emerge from the nodes.

**Rhizomorph** — The root-like thick strands of fungal hyphae.

**Rhizosphere** — The soil around living plant roots.

**Riser** — The vertical board under the tread in stairs; it forms the front of the stair step.

**Risk** — A probability that a given pesticide poison active ingredient will have an adverse effect on man or the environment in any given situation. The author believes all pesticide poisons create *risk*. As you use pesticides, your risk increases; once you switch to Pestisafes®, your risk decreases. **“Inerts”, contaminates, metabolites, etc. are not considered in the risk “formula.”**

**Risk Assessment** — is a prescription for legalized murder.

**Risk/Benefit** — An oxymoron with pesticide poisons.

**Risk cup** — Under the FQPA, the EPA has to determine the total allowable pesticide poison active ingredient exposure allowed from all sources. Obviously, our (risk) cup runneth over!

**RNA** — Ribonucleic acid.

**Rodenticide** — A pesticide poison applied as a bait, dust, or fumigant to destroy, repel, or control rats, mice,

gophers, squirrels, moles, rabbits, and other rodents. Use only as a last resort.

**Roost** — In birds, a perch upon which they rest at night; in bats, the place where they rest during the day.

**Rostrum** — Beak or snout. The piercing and sucking, beaklike mouthparts of true bugs.

**Rot** — See **decay**.

**Rouge** — To remove a plant.

**Rump** — In birds (Aves) the dorsal area between the wings just before the tail.

**Runoff** — The liquid spray material that drips from the foliage of treated plants or from other treated surfaces.

Also the rainwater or irrigation water that leaves an area — this water may contain trace amounts of pesticide. Runoff usually proceeds to bodies of surface water.

**RUP** — Restricted Use Pesticide. ***Never use these very highly toxic poisons.***

**Rust** — A disease with symptoms that usually include reddish-brown or black pustules; a group of fungi in the Basidiomycetes. Soybean rust spores can travel 1000 miles in a short period of time.

**Safe Solutions, Inc. Microbes** — are probiotic or friendly bacteria safe enough to drink, yet digest muck, odors and many pathogens.

**Safe, safety, etc.** — May never be used to describe even the labeled use of any pesticide (poison).

**Safener** — Chemical that reduces the phytotoxicity of another chemical.

**Safetycides** — Another word the Author coined or made up to distinguish between his ideas and products for pest control rather than the continued use/misuse of “registered” poisons.

**Saliva** — A liquid secreted in the mouth which begins the process of digestion. In some insects, the saliva is deadly and is injected into prey, killing the prey and dissolving its insides. **See Enzymes.**

**Sanitation** — A pest management practice that involves removing desirable food and habitat that could be used by and promote particular pests.

**Saprophyte** — An organism that obtains its food from dead or decaying organic matter.

**Sapwood** — The softer part of the wood of pale color near the outside of a timber and just under the bark. Under most conditions, the sapwood is more susceptible to decay than heartwood, and usually it is more receptive to impregnation with preservatives and fire retardants.

**Satellite colony** — A secondary colony which does not contain a queen or eggs and is still connected to the parent colony.

**Scale** — A flattened seta or hair-like structure. Modified hairs which have become flattened; especially found in butterflies and moths.

**Scape** — The first or basal segment of the antenna.

**Scavenger** — An animal organism that feeds on dead plants or animals, on decaying materials, or an animal wastes or garbage.

**Scent gland** — A gland producing an odorous substance.

**School Environmental Protection Act** — Introduced by Torricelli (D-NJ) and Murray (D-WA). Will try to limit pesticide use and initiate notification regulations for schools nationwide.

**Schools** — Child sensitive facilities or child sensitive environments.

**Scientific name** — The one name of a plant or animal used throughout the world by scientists, normally based on Latin or Greek. The scientific name of a species consists of the generic and specific name and the name of the describer of the species; the scientific name of a subspecies consists of generic, specific, and subspecific names and the name of the describer of the subspecies. Scientific names (excluding authors' names) are always printed in italics.

**Sclerite** — A hardened body wall plate usually hardened or bounded by sutures (line-like grooves) or membranous areas.

**Sclerotium** — A concentrated mass of fungal filaments (hyphae) which does not contain spores, but is capable of becoming dormant and surviving unfavorable environmental conditions, often for a number of years, before resuming growth.

**Sclerotized** — Hardened cuticle through sclerotization, involving the development of cross-links between protein chains.

**Scouting** — Regular monitoring of an area or site following a standard protocol to determine the pest population levels and the extent of pest damage. **See Monitoring.**

**Scutellum** — A sclerite of a thoracic notum.

**Scutum** (pl. scuta) — The middle division of a thoracic notum, just anterior to the scutellum. Also the dorsal shield or the plate on the back of ticks and mites (Acari); any shield-shaped plate.

**Secondary colony** — In termites (Isoptera) a colony of subterranean termites existing above ground because the moisture requirements have been met by a stable above-ground moisture source.

**Secondary pest** — An organism that becomes a pest only after a natural enemy, competitor, or primary pest

has been eliminated through some type of pest control method.

**Secondary reproductive** — In termites (Isoptera) reproductives which have developed from nymphs (not alates); nymphoid reproductive.

**Seed tick** — The first instar tick (Acari).

**See-saw rodent trap** — See description in Chapter 33.

**Segment** — A subdivision of the body or of an appendage, between joints or articulations or areas of flexibility.

**Selective insecticide** — One which supposedly only kills a single or selected number of insects, but spares many or most of the other organisms, including beneficial species, either through differential toxic action or the manner in which insecticide poison is used. **An oxymoron.**

**Selective pesticide** — One which, while killing the pest individuals, supposedly spares much or most of the other fauna or flora, including beneficial species, either through differential toxic action or through the manner in which the pesticide poison is used (formulation, dosage, timing, placement, etc.) **An oxymoron.**

**Senescence** — Process or state of growing old. (Look in the mirror.)

**Sensitive areas** — Sites or organisms that are particularly vulnerable to the harmful effects from pesticide poisons, e.g., older people, pregnant people, sick people, chemically-sensitive people, babies and like.

**Serrate** — Toothed along the edge like a saw; serrate antenna; serrate bristles; saw-like.

**Service container** — Any container designed to hold concentrate or diluted pesticide poisons, including the sprayer tank, but not the original pesticide poison container. **See Contamination.**

**Sessile** — Describes a leaf that lacks a petiole, attached directly to the stem.

**Seta (pl. setae)** — A bristle, a sclerotized hair-like projection.

**Setaceous** — Bristlelike, (e.g., setaceous antenna).

**Setal comb** — Tufts of hair (setae).

**Setate** — Provided with bristles.

**Setula (pl. setulae)** — In fly larvae or maggots, very fine bristles or cone-shaped processes on their ambulatory areas.

**Sex lure** — Synthetic chemical which acts as the natural lure (pheromone) for one sex of an insect species.

**Sheathing** — The structural covering, usually wood boards or plywood, used over studs or rafters of a structure. Structural building board is normally used only as a wall sheathing.

**Shellac** — One species of scale insect called the lac insect produces sticky goo as it feeds to help protect it from its enemies. People gather the goo, mash it, wash it and then bleach it. This is then dissolved in alcohol to make shellac. Shellac is used to varnish and protect wood and to coat sweets and drug tablets.

**Shim** — A strip of material used to fill a small space or level an item.

**Shoe mold or base shoe** — A strip of quarter-round that is nailed across the joint between the floor and the baseboard.

**Shore** — A piece of timber placed in an oblique direction to support a building or wall temporarily while it is being repaired or altered.

**Siding, bevel (lap siding)** — Wedge-shaped boards used as horizontal siding in a lapped pattern. This siding varies in butt thickness from 1/2 to 3/4 inch and in widths up to 12 inches. Normally used over some type of sheathing.

**Sign** — Any visible part or product of a pathogen.

**Signal words** — The word "Danger," "Warning," or "Caution" that is required to appear on a pesticide poison label that signifies how toxic the pesticide active ingredient is and what toxicity category it belongs to. The signal words are "Danger — poison" with skull and crossbones for highly toxic compounds, "Warning" for moderately toxic, or "Caution" for slightly toxic. **The bulk of the poison formula is normally ignored and considered to be "inert."**

**Sill** — The lowest member of the frame of a structure, resting on the foundation and supporting the floor joists or the uprights of the wall. The member forming the lower side of an opening, as a door sill, window sill, etc. **See Plate.**

**Silvicides** — Poisons which kill woody plants.

**Simple** — Unmodified, not complicated; not forked, toothed, branched or divided.

**Simple eye** — Eye with only a single lens; an ocellus.

**Simple metamorphosis** — In insects, development in which there is no pupal stage.

**Siphon** — Breathing tube of mosquito larvae.

**Site** — Areas of actual pest infestation. Each site should be treated specifically or individually.

**Site of action** — The location within the tissues of the target organism where a pesticide acts.

**Slab** — There are 3 basic slab types: floating slab - The foundation wall and footing are separated from the slab floor by an expansion joint; the slab floor is concrete but the foundation wall may be comprised of a variety

of materials, e.g., solid or hollow blocks or concrete. **monolithic slab** - The foundation footing and slab floor are poured as one continuous concrete unit. **supported slab** - The slab floor and the foundation wall are separate units, with the slab floor extending over the top of the foundation wall. The slab floor is concrete but the material used for the foundation wall may vary.

**SLAP** — An acronym for Strategic Lawsuits against People, a program utilized by the poison “industry” to try to stop any public or environmental dissent.

**Sleeper** — Usually, a wood member embedded in concrete, as in a floor, that serves to support and to fasten subfloor or flooring.

**Slimicide** — Poison used to kill and/or prevent slimy growth, as in wood pulping processes for manufacture of paper and paperboard.

**Slurry** — Thin, watery mixture, such as liquid mud, cement, etc. Fungicide poisons and some insecticide poisons are applied to seeds as slurries to produce thick coatings and reduce dustiness.

**Smut** — A fungus with sooty spore masses; a group of fungi in the Basidiomycetes.

**Soap** — Simple dish soaps or insecticidal soaps mixed with water and sprayed directly on many arthropod pests will usually kill them. **The original Pestisafe®.**

**Social insects** — Insects that live together in a colony with well-developed castes, e.g., queen, workers, soldiers, etc. The most highly developed of these include termites, ants, bees, and wasps. There is an overlap of at least 2 generations and the group cooperates to take care of the young, there is a reproductive division of labor with more or less sterile workers taking care of the young and reproductives.

**Sodium borate** — Sodium borate has long been used as a safer alternative to highly volatile, synthetic chemical pesticides to stop decay and insects. The pesticide qualities of borax, boric acid and/or sodium borate have been known for at least 300 years. Sodium borate kills termites and other wood-eating insects by poisoning the microorganisms in the insects' digestive tracts that are needed to break down the wood's cellulose. Sodium borate is also a detergent builder that helps clean by creating hydrogen peroxide.

**Soft rot** — A special type of decay developing under very wet conditions (as in cooling towers and boat timbers) in the outer wood layers, caused by cellulose-destroying microfungi that attack the secondary cell walls and not the intercellular layer.

**Soft woods** — Generally, one of the botanical groups of trees that in most cases have needlelike or scalelike leaves — the evergreens or conifers; also the wood produced by such trees. The term has no reference to the actual hardness of the wood.

**Soil application** — Application of pesticide poison made primarily to soil surface rather than to vegetation.

**Soil injection** — The placement of a pesticide poison below the surface of the soil.

**Soil drench** — To soak or wet the ground surface with a pesticide poison. Large volumes of the pesticide poison mixture are usually needed to saturate the soil to any depth. This will contaminate ground water and often potable water supplies.

**Soil incorporation** -- The mechanical mixing of a pesticide poison with soil.

**Soil persistence** — Length of time that a pesticide poison application on or in soil remains “effective.” **See Contamination.**

**Soil pipe** — A cast-iron or plastic pipe used for the house sewer line.

**Sole or sole plate** — A horizontal member, usually a 2” x 4”, on which wall and partition studs rest.

**Soluble** — A material that dissolves completely in a liquid.

**Soluble powder** — A pesticide poison formulation where the active ingredient and all “inert” ingredients are finely ground and will completely dissolve in water to form a true solution.

**Solubility** — The solubility of a pesticide poison is its ability to dissolve in water. Higher solubility increases the risk of off-site pesticide poison movement. If a pesticide poison is very soluble in water, it is more easily carried or transported by rainwater (or floods or sprinklers) as runoff, or carried through the soil as a potential groundwater, aquifer or well contaminant. Water soluble pesticide poisons are more likely to remain in surface water where they may continue to adversely affect fish and other organisms that live in or drink the contaminated water. **See Bioaccumulation and Contamination.**

**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 which will dissolve another substance (solid, liquid, or gas) to form a solution.

**Sorptive dust (or powder)** — A fine powder used to destroy arthropods by removing the protective wax coating that prevents water loss.

**Space spray** — A pesticide poison which is applied as a fine spray or mist to a confined area.

**Special local need (SLN)** — An existing or perceived pest problem within the state which the local pest control industry believes can not be *adequately* controlled by the use of any available registered pesticide poison.

The EPA allows a “temporary” use of a more dangerous poison to alleviate the perceived *need*.

**Species (pl. species)** — A group of individuals or populations that are fundamentally similar in structure and physiology and are capable of interbreeding and producing fertile offspring, and which are different in structure and/or physiology from other such groups and normally do not interbreed with them.

**Sperm** — A male cell which is put inside a female during mating to join with her egg cell, which creates a new individual.

**Spermatheca (pl. spermathecae)** — The saclike structure in the female in which sperms from the male are received and often stored.

**Spill** — Once a pesticide poison has been applied to a non-target, non-label specified area, or applied in doses greater than allowed by the label, it is a spill according to the EPA.

**Spine** — A thorn-like process of the cuticle not separated from it by a joint.

**Spinose** — Armed with thorny spines.

**Spinneret** — A small tubular appendage or structure with which silk is spun, usually fingerlike in shape.

**Spiracular bristle** — A bristle very close to a spiracle (Diptera).

**Spiracle** — The external opening of the tracheal (respiratory) system, through which the insect breathes. These openings are equipped with valves that open and close as the insect requires oxygen. The valves help conserve moisture.

**Spirochete** — A corkscrew-shaped bacterium belonging to the order spirochaetales.

**Spore** — a single to many-celled reproductive body in the fungi that can resist destruction and develop a new fungus colony. Resting structures of some bacteria are also called spores. Probiotic bacterial spores are fully alive but in a dormant stage. They have developed a protective envelope to wrap themselves in, and are totally unharmed by stomach acid. Probiotic bacteria maintain a healthy chemical and hormonal balance; regulate nutrients, stimulate correct digestion and proper immune function. Probiotic bacteria will process putrefied materials and pathogenic products like candida, harmful bacteria and parasites and in many cases can penetrate the permeable lining of the gut wall and permanently destroy harmful organisms.

**See Safe Solutions, Inc. Microbes.**

**Sporophore** — Fungal fruiting bodies which produce spores.

**Spot treatment** — A method of applying pesticide poisons only in small, localized, or restricted areas where pests congregate rather than treating a larger, general area. Considered a “violation” by some *regulators*.

**Spreader** — Ingredient added to spray mixture to improve contact between pesticide and plant surface.

**Spring trap** — A spring-loaded trap used to capture mice and rats.

**Spur** — A movable spine; when on a leg segment usually located at the apex of the segment.

**Stain** — A discoloration in wood that may be caused by such diverse agencies as microorganisms, metal, or chemicals. The term also applies to materials used to impart color to wood.

**Stair carriage** -- Supporting member for stair treads, usually made from 2 inch thick planks. Usually rests on basement slab but may improperly extend through concrete to dirt below, thus providing passage for termites.

**STD** — Sexually transmitted disease.

**Sterility** — The inability of a living organism to reproduce.

**Sterilize** — To treat with a chemical or other poison agent to kill every living thing in a certain area.

**Sternite** — A subdivision of a sternum.

**Sternum (pl. sterna)** — A sclerite or hardened body wall plate on the ventral or bottom side of the body; the ventral sclerite of an abdominal segment.

**Sticker** — Ingredient added to spray or dust to improve its adherence to plants.

**Sticker stain** — A brown or blue stain that develops in seasoning lumber where it has been in contact with the stickers.

**Stickers** — Strips or boards used to separate the layers of stacked lumber, thus improving air circulation.

**Stigma (pl. stigmata)** — A thickening of the wing membrane along the coastal border of the wing near the apex. Also respiratory opening in mites and ticks.

**Stinger** — A modified ovipositor used for injecting venom.

**Stria (pl. striae)** — In beetles (Coleoptera) a longitudinal depressed line or furrow, frequently with punctures or pits, extending from the base to the apex of the elytra (wing covers).

**Stomach poison** — A pesticide poison that must be eaten by an animal in order to be effective; it supposedly will not kill on contact.

**Structural Pest Control Board** — They are *responsible* for “regulating” pest control for hire in commercial and residential structures and for certifying the qualifications of persons working in this industry.

**Structural pests** — Pests which attack and destroy buildings and other structures, clothing, stored food, and manufactured and processed goods. Examples: termites, cockroaches, clothes, moths, rats, dry-rot fungi.

**Stucco** — Most commonly refers to an outside plaster made with Portland cement as its base.

**Stud** — One of a series of slender wood or metal vertical structural members placed as supporting elements in walls and partitions. (Plural, studs or studding.)

**Stupeficient or soporific** — Drug used as a pesticide poison to cause birds to enter a state of stupor so they can be captured and removed or to frighten other birds away from the area.

**Stylet** — A small, slender style or stiff process; a small, pointed, non-articulated process. A piercing needlelike organ, usually a mouthpart of bugs and certain blood-sucking insects.

**Stylus (pl. stylic)** — A short, slender, fingerlike process; a small, pointed, non-articulated process.

**Subclass** — A major subdivision of a class, containing a group of related orders.

**Subcutaneous toxicity** — The toxicity determined following its injection just below the skin.

**Subfloor** — Boards or plywood laid on joists over which a finished floor is to be laid.

**Sublimation** — The process of causing a substance to pass from a solid state directly to the vapor state (by heating) and then condensing again to solid form (e.g. in production of flake naphthalene).

**Subspecies** — A subdivision of a species, usually a geographic race. The different subspecies of a species are ordinarily not sharply differentiated and intergrade with one another and are capable of interbreeding.

**Suicide** — Tom Rachman of the Associated Press noted 1/9/00 that the most common method of suicide in Sri Lanka is drinking insecticides or pesticides which is highly lethal. Most tragic of the cases of people who take weed killers, which make victims briefly ill, then appear to dissipate from their systems, but once the chemical (poison) is absorbed no one survives! Two or three months later, when many patients are thankful to have survived, their lungs and heart continue to deteriorate, then stop working.

**Sump** — A pit, well or the like in which water or other liquid is collected.

**Supernormal stimulus** — It is an exaggerated stimulus, usually artificial, that is more attractive than the real thing, e.g., a gull can be tricked into abandoning its own eggs by offering it a larger artificial egg.

**Suppress** — To lower the level of a pest population to an acceptable level.

**Surfactant** — Surfactants use organic chemicals obtained through complex chemical reactions from oil or fat raw materials. They have wetting, emulsifying and dispersing properties. To the Author, they are any ingredient that aids or enhances the surface-modifying properties of a pesticide poison formulation (wetting agent, emulsifier, spreader). Some surfactants can kill plants by the refraction of the light through the drop. ***They are not considered by EPA in the risk formula or "registration."***

**Surface-active agents or surfactants** — Substances which, when added to a liquid, affect the physical properties of the liquid surface (e.g. for the formulation of emulsifiable concentrates and wettable powders and for increasing the wetting properties of sprays).

**Surface water** — Water on the earth's surface: rivers, lakes, ponds, streams, etc. **See Groundwater.**

**Super weeds** — Glyphosate-tolerant crops have been genetically engineered.

**Susceptible** — Capable of being diseased or poisoned; not immune or resistant.

**Suspension** — A pesticide poison mixture consisting of fine particles dispersed or floating in a liquid, usually water or oil. Example: wettable powders in water.

**Sustainable** — Regarding agricultural systems as defined by the American Society of Agronomy: "A sustainable agriculture is one that over the long term **1.** enhances environmental quality and the resource base on which agriculture depends; **2.** provides for basic human food and fiber needs; **3.** is economically viable; and **4.** enhances the quality of life for farmers and society as a whole.

**Swarmers** — A winged reproductive; in ants (Hymenoptera; Formicidae) and termites (Isoptera) a member of the mass exodus of alates or winged reproductives from the nest for the mating flight; in honey bees (Hymenoptera: Apidae) a member of the mass of workers and their queen which suddenly leave the colony to start a new colony.

**Swath** — The width of the area covered by a sprayer or duster making one sweep.

**Symptom** — A sign which indicates the presence of a disease, disorder or poisoning exposure.

**Synergism** — The combined effect of two or more pesticide poisons mixed together leading to a greater pesticidal effect than would be predicted from the behavior of each component when applied singly. **See Estrogen and Contamination.**

**Synergist** — A chemical that enhances the effectiveness of an active ingredient.

**Synthesize** — Production of a compound by joining various elements or simpler compounds.

**Synthetic** — Produced artificially; man-made rather than G-d-made. Many "organic" chemicals now in daily use are synthetic - they do not exist in Nature.

**Systemic** — Compound that is absorbed and translocated throughout the plant or animal.

**Systemic pesticide** — A pesticide poison that is taken up into the tissues of the organism and transported to other locations where it will affect pests, and you can eat it as "residue" later. **See Contamination.**

**Tank mix** — Mixture of two or more pesticide poisons in the spray tank at time of application. Such mixture must be cleared by EPA. We do not recommend the use of any synthetic pesticide poisons.

**Target** — The plants, animals, structures, areas, or pests at which the pesticide poison or other control method is supposedly directed.

**Tarsal reflex** — When a winged insect's tarsi (or feet) lose contact with a surface, it immediately flies by reflex, and will continue to fly as long as it remains suspended or until it can grasp something with its tarsi.

**Tarsus (pl. tarsi)** — The fifth leg segment beyond the tibia, consisting of one or more segments or subdivisions. The insect's "foot" consisting of 1-5 segments and 1-2 claws for gripping surfaces.

**Taxis (pl. taxes)** — A directed response involving the movement of an animal toward or away from a stimulus.

**Taxonomist** — One who studies/practices the science of identification, naming and classifying organisms.

**Taxonomy** — The science of classification into categories of varying rank, based on similarities and differences, and the describing and naming of these categories.

**Technical material** — The pesticide poison's 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 solvents, wettable powders, dusts, emulsifiable concentrates, or granules.

**Tegmen (pl. tegmina)** — The hardened, leathery front wing usually with reduced venation of Blattodea, Mantodea, Orthoptera and certain Heteroptera.

**Telson** — In scorpions (Scorpionès) the narrow last 5 segments of the abdomen ending in a stinger.

**Temperate regions** — Parts of the earth between the tropical and polar regions, with moderate temperatures.

**Temple** — The part of the head behind the compound eyes.

**Temporary tolerance** — A tolerance established on an agricultural commodity by EPA to permit a pesticide poison manufacturer or his agent time, usually one year, to collect additional "residue" data to support a petition of a permanent tolerance; in essence, an experimental tolerance. **See Tolerance.**

**Teratogenic** — Substance which causes physical birth defects or malformations in the offspring following exposure of the pregnant female. **Only the active ingredient is considered.**

**Tergum (pl. terga)** — The dorsal or top surface plate of an abdominal segment.

**Terrestrial** — Living or growing on land; not aquatic.

**Terminal** — Located at the tip, end or extremity; using poisons can be terminal to your health.

**Termite shield** — A shield, usually of noncorroding metal, e.g., copper, aluminum or other materials, placed in or on a foundation wall, other mass of masonry, or around pipes to prevent the invasion of termites.

**Terpenes** — Any of various hydrocarbons (C<sub>5</sub>H<sub>8</sub>)<sub>n</sub> found in essential oils and resins (esp. from conifers) and used especially as solvents.

**Territory** — That area of a species' home range that is defended against invasion or trespass by individual members of that species.

**Texture** — The relative proportions of sand, silt and clay in a particular soil.

**Thigmotaxis** — A movement in which surface contact (esp. with a solid or a rigid object) is the directive factor.

**Thigmotropic** — Response to touch or contact.

**Thorax** — The second or intermediate region of the insect body found between the head and abdomen which bears the true legs and wings.

**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 an operating room).

**Tibia (pl. tibiae)** — The fourth segment of the leg, between the femur and the tarsus.

**Tikkun Olan** — In Judaism we are taught that while we may not complete the process of Tikkun Olan (healing the world), we may not walk away from the task. This work is my gift to mankind and the world.

**Tilth** — The physical quality of a soil that relates to its ease of tillage, and the ease of penetration by germinating seedlings and roots. Tilth is directly related to soil structure.

**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.

**Tolerance** — (1) The ability to endure the effects of a pesticide poison's active ingredient or pest without exhibiting adverse effects. (2) The maximum amount of pesticide poison residue or contamination permitted by federal regulation to remain on or in a crop or food. Usually expressed as parts per million (ppm). The

EPA determines the “acceptable” amount of poison exposure to a poison’s active ingredient that a person could theoretically be exposed to every day for 70 years without experiencing any health risk. Originally set not for safety, but crop *protection* or field performance of the poison. The maximum permissible levels of (only the active ingredient) in pesticide poisons legally allowed to contaminate our food. As our knowledge of the dangers increase, these maximum levels are reduced - so people can “normally/safely” eat unsafe “tolerances” of poisons for months or even years. Even though legally there are no safe poisons, in 1994, there were 9,341 poison tolerances. These “tolerances” assume adult eating habits. In one recent study, researchers found traces of 16 pesticide poisons in 8 different U.S. baby foods. Five of these 18 poisons were possible human carcinogens - obviously, poison tolerance is an oxymoron. Each “tolerance” ignores all the other “tolerances.” Tolerance can also be the plant’s ability to recover from any insect damage and/or to replace damaged plant tissues during growth phases following the insect/pest attack.

**Tolerant** — Capable of withstanding adverse effects (e.g. infection, environmental stress, or injury without much damage).

**Topical application** — Treatment of a localized surface site such as a single leaf blade, on an insect, etc., as opposed to oral application.

**Total release** — A pressurized insecticide poison dispenser that will release its entire contents into an area once it has been triggered.

**Tow** — Flax, hemp or jute fibers.

**Toxic** — Poisonous, deadly or injurious to living organisms.

**Toxic people** — The people that cause contamination and put down poison can be found all over the world; watch out for them and avoid them!

**Toxic tracking powder** — Tracking powder that contains a poisonous material that can be absorbed through the skin or outer body covering of pests or ingested through grooming.

**Toxicant** — A poisonous substance such as the active and/or inert ingredients in a pesticide poison formulation that can injure or kill plants, people, pets, animals or microorganisms.

**Toxicity** — The ability of a pesticide poison active ingredient to cause harmful, acute, delayed or allergic effects. The degree or extent that a chemical or substance is poisonous, or causes injury or damages an organ, system or disrupts or disturbs a biochemical or enzyme system. **The “inerts”, contaminates, etc. are not considered.**

**Toxicology** — Is that branch of medical science that deals with the nature, properties, effects and detection of poisons. It is by interpretation the “science of poisons”.

**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.

**Trachea (pl. tracheae)** — The small tubes of the insect’s breathing/respiratory system which open externally at the spiracles and which transport oxygen.

**Tracking powder** — A fine powder that is dusted over a surface to detect or control certain pests such as cockroaches or rodents. For control, the inert powder is combined with a pesticide poison; the animal ingests this powder and becomes poisoned when it cleans itself.

**Trade name (Trademark name, proprietary name, brand name)** — Name given a product by its manufacturer or formulator, distinguishing it as being produced or sold exclusively by that company.

**Translocate** — The movement of pesticide poisons from one location to another within the tissues of a plant.

**Translocation** — Transfer of food or other materials such as herbicide poisons from one plant part to another.

**Translucent** — Almost clear but slightly milky or cloudy.

**Trim** — (1) The finish materials in a building, such as moldings applied around openings (window trim, door trim) or at the floor and ceiling of rooms (baseboard, cornice, picture molding). These are almost always made of wood. (2) Of a door, sometimes used to denote the locks, knobs, and hinges.

**Trivial name** — Name in general or common-place usage; for example, nicotine.

**Trochanter** — The 2nd leg segment, located between the coxa and the femur.

**Trophallactic fluid** — A glandular fluid given by larvae to adults after being fed.

**Trophallaxis** — Food exchange of mutual benefit (esp. in social insects).

**Tropical regions** — Parts of the earth around the equator with hot temperatures all year.

**Tsutsugamushi** — a/k/a scrub typhus or Japanese river fever, it is caused by a microorganism, a *Rickettsia*, that is transmitted from rodents to humans by a chigger known as akamushi. During World War II this disease was second only to malaria as the cause of medical casualties.

**Tuber** — Underground, nut-like storage organ located at the tips of rhizomes.

**Tubercle** — A small knoblike or wart-like or rounded protuberance.

**Ultra low volume (ULV)** — sprays that are applied at 0.5 gallon or less per acre or sprays applied as the un-

diluted poison formulation.

**Ultraviolet** — Pertaining to light having a wavelength just beyond the violet end of the visible spectrum; such light is invisible to people, hence it is known as black light.

**Unclassified pesticide** — See **General use pesticide poison**.

**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. **You do not need certification if you do not use poisons.**

**Uropod (pl. uropoda)** — Any abdominal appendage of arthropods; in Crustacea, one of the terminal pair of abdominal appendages, usually lobelike.

**USDA** — United States Department of Agriculture.

**Use** — The performance of pesticide poison active ingredient 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 pesticide poisons and their containers in accordance with label requirements. Uses not needing certification are: long distance transport, long term storage, and ultimate disposal.

**Usnic acid** — A common lichen metabolite, usnic acid can be used to inhibit photosynthesis. Usnic acid bleaches plant leaves.

**Vacuum** — The simplest, quickest and safest way to remove most pest problems and their cause.

**Vapor barrier** — Material used to retard the movement of water vapor into walls or slabs and to prevent condensation in them. Also, a covering used over dirt in crawl spaces. Common materials: polyethylene film; asphalt paper.

**Vapor pressure** — The property which causes a chemical to evaporate. The higher the vapor pressure, the more volatile the chemical or the easier it will evaporate. (See **contamination**.)

**Vaporize** — To transform from a spray of droplets to a fog-like vapor or gas.

**Vascular plant** — A plant (macrophyte) with specialized conductive tissue.

**Vector** — The intermediate host or carrier, an animal or an organism (e.g. insect, nematode, mite) that can carry and transmit a pathogen from one host to another.

**Vein** — A thickened line in a wing, after darkened; a thin, tubular structure supporting the wing membrane.

**Venom** — A poison which often is deadly. Produced by many predatory insects and snakes for injecting into prey and/or enemies.

**Venter** — The ventral side.

**Ventral** — Pertaining to the belly or underneath; lower or underneath.

**Vermin** — Pests, usually rats, mice, or insects.

**Vertebrate** — The group of animals that have an internal skeleton and segmented spine or backbone, such as fish, birds, reptiles, and mammals.

**Vertical** — Oriented or going up and down; top to bottom; being upright or perpendicular to the horizon.

**Vesicular dermatitis** — Small blisters on human skin.

**Vestigial** — A structure with no apparent function that appears to be left over from an earlier stage of evolutionary development; greatly reduced in size from what is typical or normal for that structure; poorly developed.

**Vibrissae (pl. vibrissa)** — Long whiskers; stiff tactile hairs.

**Viricide** — A substance that inactivates a virus completely and permanently.

**Virus** — Ultramicroscopic parasites composed of proteins and genetic material. Viruses can only multiply in living tissues and cause many animal and plant diseases. An obligate intercellular parasite, often only a piece of genetic material surrounded by protein coat.

**Virustatic** — Prevents the multiplication of a virus.

**Vitelline membrane** — The cell wall of the insect egg; a thin membrane lying beneath the chorion.

**Viviparous** — Young are born live, e.g., scorpions do not lay eggs; they give live birth to their young.

**Volatile** — Able to pass from liquid into a gaseous stage readily at low temperatures and cover all surfaces.

**Volatility** — The degree to which a substance changes from a liquid or solid state to a gas or vapor at ordinary temperatures when exposed to air; the ability to become a vapor; that is, to evaporate or give off fumes. This characteristic is what causes synthetic pesticide poisons to contaminate the ambient air, people, pets, and the environment. The more volatile the poison, the greater the potential for movement/contamination/inhalation. **Do not use volatile organophosphates, carbamates, synthetic pyrethrins, etc.**

**Volatilization** — Is the process of changing a substance from a liquid to a gas or vapor. The likelihood of volatilization increases as the temperature increases. Volatilization is decreased with relatively low temperatures, high humidity and low winds.

**Volatilize** — To evaporate or vaporize. **See Contamination.**

**Voluntary cancellation** — Even if a pesticide registrant agrees with the EPA, their economic poison is too toxic to be available for sale, the registrant can ask (prior to 1996) EPA to withdraw registration, such as occurred in the case of chlordane, stopping the review process at that point. In such cases the EPA did not issue a final report because it did not want to incur the additional expense (min. \$250,000) for a chemical no longer under its regulation. The public would never learn of the dangers posed by the pesticide. Congress has now included Section 6(f)(a) voluntary cancellation that still allows withdrawal but requires publication in the Federal Register.

**Wainscoting** — Wooden lining of the lower portion of an interior wall, generally in panel form.

**Walk-the-Plank™** — A trademark describing a trap used by the Author to control rodents.

**Warning** — **Always test anything you wish to use on a small area before using it on the entire area. Wait and see (for several hours at least) if there are any problems before proceeding further!**

**Warning coloration** — The most common warning colors are bright red, yellow and black - these colors are used to warn predators that the wearer has an unpleasant taste, nasty bite or sting, or is poisonous.

**Warts** — can be removed simply by covering them with duct tape.

**Water bugs** — What people who do not want to admit they have them call cockroaches.

**Water repellent** — A liquid that penetrates wood, which, after drying, retards changes in moisture content and dimensions without adversely altering the desirable properties of wood.

**Water-repellent preservative** — A water repellent containing a preservative that, after application to wood and drying, accomplishes the dual purpose of imparting resistance to attack by fungi or insects, while also retarding changes in moisture content.

**Water soluble concentrate** — A liquid pesticide poison formulation that dissolves in water to form a true solution.

**Water table** — The upper level of the water saturated zone in the ground.

**Weathering** — The mechanical or chemical disintegration and discoloration of the surface of wood caused by exposure to light, the action of dust and sand carried by the wind, and the alternate shrinking and swelling of the surface fibers with the continual variation in temperature and moisture content brought by changes in the weather. Weathering does not include decay.

**Weed** — Any plant growing where it is not desired.

**Weep holes** — Artificial openings in mortar between bricks in lower courses to provide drainage for moisture which accumulates between the bricks and the sheathing.

**West Nile Virus** — Victims have been healed with vitamin C i.v.'s.

**Wettable powder** — A type of pesticide poison formulation consisting of an active ingredient or toxicant that will not dissolve in water combined with a mineral clay and/or other inert ingredients/dusts and ground into a fine powder. This powder is mixed with a wetting agent which mixes readily with water and forms a short-term suspension (requires tank agitation).

**Wetting agent** — "Inert" compound that causes spray solutions to contact plant surfaces more thoroughly. **Not considered in the risk formula or "registration."**

**White rot** — Any wood decay attacking both the cellulose and lignin, while producing a generally whitish residue that may be spongy or stringy rot, or occur as pocket rot.

**Wing pads** — The encased undeveloped wings of nymphs which appear on the meso- and methorax as two flattish structures.

**Wood moisture content (WMC)** — The moisture content of the plant's cell walls.

**WPS** — Worker Protection Standard for agricultural pesticide poisons.

**Xylem** — The tissue in higher plants which transports water, dissolved salts and other materials from the roots to the aerial portions of the plant.

**Zei Gesund** — "To your health;" often said before a shot of schnapps. A Yiddish saying also means "Stay well."

**Zoonoses** — are diseases of animals that can be transmitted to humans. Most zoonotic diseases have the following characteristics: disease organism, arthropod vector, animal reservoir and human host (usually who is bitten). The disease is not normally transmitted to other humans through subsequent feeding of another arthropod. Some of the U.S.A. diseases include West Nile virus, Lyme disease and Rocky Mountain spotted fever.

**Zoospore** — A spore capable of moving in 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.

**Zone of inhibition** — A standardized test of microbicide effectiveness in keeping an area free from microorganism growth used to test the ability of *treated* cooling tower wood to resist fungal attack.

**For further definition of terms consult:**

- √The Federal Insecticide, Fungicide, and Rodenticide Act as amended. Public Law 92-516 October 21, 1972 as amended by Public Law 94-140 November 28, 1975 and Public Law 95-396 September 30, 1978.
- √Federal Register November 7, 1990 Part 11 Environmental Protection Agency 40 CFR Part 171 Certification of Pesticide Applicator; Proposed Rule. <http://www.gpoaccess.gov/fr/index.html>
- √Regional Offices of the EPA.
- √State Lead Agency for the State Plan for Commercial and Private Application.
- √Federal Agency Secretary's Office. (For federal employees using restricted pesticide poisons in performance of official duties.)
- √Indian Governing Body or Indian Reservation Recertification Plan Administrator.
- √Get Set, Inc. @ 1-616-677-1261.

**“...He was right, dead right, as he sped along,  
but he was just as dead as if he was wrong.” — Boston Transcript**



**To laugh often and much; to win the respect of intelligent people and the affection of children; to earn the appreciation of honest critics and endure the betrayal of false friends; to appreciate beauty; to find the best in others; to leave the world a bit better, whether by a healthy child, a garden patch or a redeemed social condition; to know even one life has breathed a little easier because you have lived.**



**This is to have succeeded. — Emerson**

**“If you are not outraged, you are not paying attention!” — Slogan from an anti-war/pro-peace sign**



**“Apathy is lethal. He who hates does not know God, but he who has love has the key that unlocks the door to the meaning of ultimate reality.”**

**— Martin Luther King, Jr.**

**“The real voyage of discovery consists not in seeing new lands,  
but in seeing with new eyes.” — Marcel Proust**



**“We can not know all the facts and it is necessary to choose those which are worthy of  
being known.” — French mathematician Henri Poincare**

**When spiders unite, they can tie down a lion  
— Ethiopian proverb**

**If G-d made it, I will use it. If man made it, I will avoid it. — S.L.T.**

**“Everything is in the hands of G-d, except for devotion to G-d.” — Brachot**

**“There will always be a better, safer, more economical control/alternative. If you let me know about  
one, I will share it with the world. — S.L.T.**

**Thomas Edison had a learning disability, making him unfit for school. Because  
Thomas Edison did not receive a standard “education,” in his mind everything was  
possible. He was not taught how to follow and accept things as they are, but to dream  
and change the course of mankind. Thank G-d Thomas Edison did not have a bunch  
of letters after his name to limit his horizon. — S.L.T.**



**“Baruch Ata Adonai, Mechayeh Hametim.”**

**2007/5767  
Ta da Raba!**

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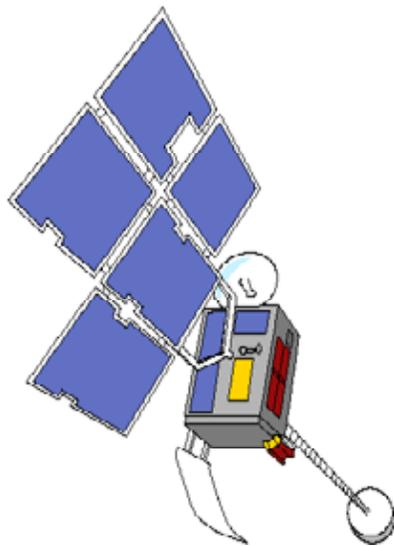
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**Remember: Call me Ishmael and this is but a work of fiction.**

