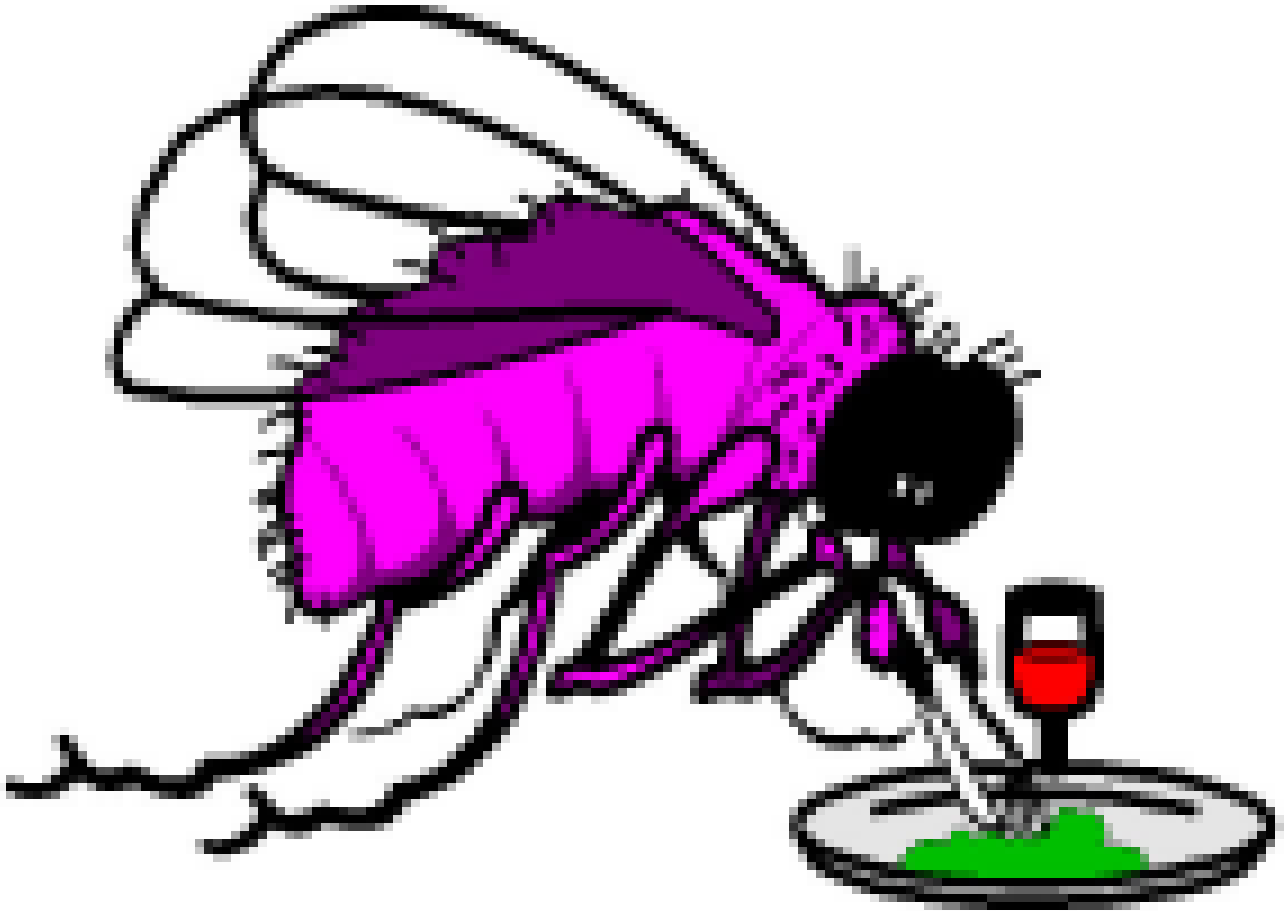


# CHAPTER 2



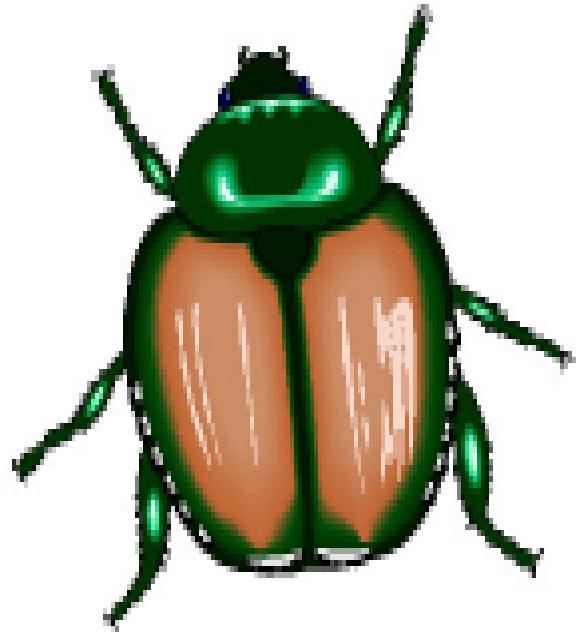
## **INTELLIGENT PEST MANAGEMENT® AND “COMPETITIVE CONTROL” OVERVIEW**

**(The beginning of a 10,000 mile journey begins with the first step.)**

**(Scientists estimate there are 30,000 times as many beneficial organisms on earth  
as there are harmful ones – Genesis 1:31)**

## CHAPTER 2 PEST MANAGEMENT AND CONTROL OVERVIEW

**WHAT ARE PESTS?** Pests are not pests because of what they are (bedbug, yellowjacket), but because of what they do (suck blood, sting). According to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), a pest can be any insect, rodent, fungus, or weed as well as other organisms. Most simply defined in The Dictionary of Pest Control, a pest is “An unwanted organism. ...” Urban pests can be generally characterized as organisms (excluding parasitic microorganisms) which have human health or aesthetic implications, or which damage wooden support structures of buildings. These pests can be contrasted from agricultural pests that cause direct economic damage to products. For instance, while roaches or rodents may cause an economic hardship, when restaurants or food packing plants are closed by the legal action, the action is taken for reasons of human health. Likewise, carpet beetles in woolens or museum tapestries degrade clothing or works of art, but the reduction of value of the pieces is primarily for aesthetic reasons not due to consumption of woven wool. There are probably more than 30 million insects on earth; we have only named about 1 million and we consider only about 1000 insect species to be pests; of the thousand species of insect pests, over ½ are already resistant to synthetic pesticide poisons.



**Ecosystem** - Defined by the way they behave in an environment, or ecosystem, pests occur as a group, or population of individuals of a particular kind, e.g., German cockroaches. Different populations that exist together are called a community. One community may be fleas, pets, and people. A community together with its physical and biological supporting factors makes up the ecosystem, e.g., German cockroaches, fleas, people, pets, harborage (areas with food, water, and shelter). You can not look at the pest infestation alone but you must consider all elements in the ecosystem to design the safest and best control and management techniques.

**METHODS OF PEST CONTROL** - There are many variations and combinations of toxic and least-toxic and/or nontoxic methods used to control pests, but the sequence of these methods basically follows a simple pattern: inspection, habitat alteration, sanitation, exclusion, control and follow-up or monitoring.



**Inspection** - Pests do not infest uniformly; they focus on specific areas. These sites must be located and changed. Training and experience in conducting inspections are important for successful location of infested areas.

**Habitat Alteration** - Since infested areas provide harborage for pests (one of the elements along with food and water needed by pests to thrive), changing or eliminating some of these favorable elements will make survival less successful. Such changes commonly include increased sanitation, moisture reduction, and the elimination of clutter.

**Control** - While successful habitat alteration, can reduce or often totally eliminate populations, it may be less than complete, and vacuuming, caulking, screening, exclusion, sanitation, pest proofing, cultural controls, enzymes, soap and water, salt or other Pestisafes® and/or spot application of least-toxic pesticides may be needed as a last resort, and, by law, only according to labeled instructions. The key to proper Intelligent Pest Management® usually is a successful combination of several of these methods.

**Follow-up or Monitoring** - Continue to routinely inspect in order to find new infestations, evaluate controls, find potential food sources, moisture problems, pest access points and to determine the need for different controls.  
**STYLES OF PEST CONTROL** - In the urban setting, current industrial or structural pest control activities can be basically characterized by four styles: prevention, reaction, elimination and integrated pest management.

**Currently federal law only requires applicators of restricted-use pesticides to be certified.**

**Preventive Pest Control by Pest Control Companies** - In preventive control, a technician follows a pre-established schedule, or route, to collect his service fee:

- make expected appearances,
- make inspections,
- routinely apply “registered,” synthetic pesticide poisons (usually a spray),
- may talk with the tenant or manager, and
- record only the information required by law.

While the inspection can sometimes indicate where pests occur, with this style, “registered” pesticide poisons are usually applied regardless of whether pests are observed or not. Those who practice this style believe mistakenly that pests will be killed as they contact the “registered” pesticide poison residue/contamination.

**Advantages:**

- Technicians can be *trained* in less than an hour.
- Work can be set up easily.
- Occupants are often satisfied if they see someone spraying.

**Disadvantages:**

- It does not prevent or control pests - or why come back?
- Boredom from repetition affects the technician.
- “Registered” pesticide poisons are used regardless of whether or not there is an infestation.
- There is no evaluation.
- It is the cheapest way to attack pests.
- Records are brief. No long-term solutions. Chronic contamination. Liability.

**Discussion:**

The least technical expertise is needed for preventive pest control and the brevity of the activity and interaction gives occupants the incorrect idea that controlling pests is elementary, and that “registered” pesticide poisons are “necessary safe and good”.

**Reactive Pest Control by a Pest Control Company** - In reactive pest control, a technician responds to special, unscheduled calls and

- talks with occupants,
- makes an inspection,
- identifies infested sites,
- applies “registered” pesticide poisons to pests or sites,
- records necessary information required by law.

**Advantages:**

- Response is relatively quick.
- The occupants may be satisfied by the fast response and that some pests are seen to die.
- Situations are more interesting for technicians, and boredom is reduced.

**Disadvantages:**

- Complete extermination is often assumed (mistakenly) by occupants and seldom obtained.
- Occupants are quick to anger when the problem recurs.
- Without a detailed inspection, failure is likely.
- “Registered” pesticide poisons are often still used as barriers even if pests are not found.
- This style is less economical than scheduled, route-type responses.
- Records are brief.
- People, pets and the environment are still unnecessarily poisoned and contaminated.

**Discussion:**

A higher level of technical expertise as well as better ability to interact with occupants is needed than for preventive pest control, but again people get the wrong idea controlling pests is easy and that “registered”

pesticide poisons are “necessary, safe and good”.

**Pest Elimination or Pest Extermination** by a Pest Control Company with Many Volatile, “Registered,” Synthetic Pesticide Poisons:

A senior technician, usually a supervisor, responds to an appointment, and

- interacts with occupants,
- makes an intensive inspection,
- recommends methods to reduce pest food, water and harborage, such as sanitation, maintenance improvements, habitat alteration, etc.
- applies the maximum rate of various “registered” pesticide poisons in a variety of formulations each time
- follows-up inspections, and
- records information on past inspection and recommendations as well as any information required by law.

**Advantages:**

- The client may get a good understanding of the problem and the changes needed for control due to significant interaction with the pest control supervisor.
- The pest control supervisor interacts directly with occupants.
- Longer-lasting control may result from changes made by the client.
- There is a high level of interest by technicians.

**Disadvantages:**

- Mistakes in inspection and recommendations to occupants, or subsequent lack of follow-through by occupants will result in control failure.
- The maximum amount of various “registered,” volatile, synthetic pesticide poisons are routinely used; potential misuse, misapplication, and the possibility of dangerous pesticide accidents and contamination and synergism are all increased.
- High “registered” pesticide poison and labor costs are sustained.
- Unexpected results are quickly noticed and questioned.
- The energy required to completely eliminate a pest population with “registered” pesticide poisons is much greater than that required to keep a pest population suppressed to a “tolerable” level.
- Tremendous poison pollution/contamination results adversely effecting people, pets and the environment.

**Discussion:**

A higher level of technical expertise is needed as well as superior ability of the pest control supervisor to get client cooperation. But, once again people are lead to believe the pesticide industry lie that “registered” pesticide poisons are “necessary, safe and great”. “Registered” pesticide poisons are toxic to both humans and the environment - if you avoid their use - you will be protecting yourself, your family, and your pets and our environment from unnecessary exposures to toxic compounds. Always remember “registered,” volatile, synthetic pesticide poisons were specifically made and designed to kill and/or injure - they are specifically created to be toxic and can obviously pose a serious risk to children, adults, pets, wildlife, beneficial insects and/or plants. For decades we have waged an all-out (but losing) war on bugs with volatile, synthetic pesticide poisons as our (only) weapon of choice, we have literally **soaked** our homes, offices, schools, nursing homes/hospitals, lawns and gardens with toxic chemicals in a vain attempt to create bug-free areas - but the bugs are winning and are still here destroying our crops, homes, clothing, etc. Our futile “registered” poison onslaught is contaminating our buildings, water, air and soil and endangering our health, while the bugs became ever more pesticide-resistant.

**Intelligent Pest Management®** by Get Set, Inc. and taught by the Institute of Pest Management, Inc. - A proper IPM true management program is first begun by interviewing all the occupants and making an extensive and very thorough inspection; then a detailed plan and schedule are designed and diagrammed that include:

- the designation of zones of probable infestation and sites of pest infestation within the zones, recommendations on various types of alternative, least toxic and/or nontoxic controls.
- recommendations for sanitation, maintenance improvements, habitat alteration,
- reduction of moisture and other conditions conducive to infestation, work procedure changes,

safe practices, vacuuming, etc.

- all occupants, parents, teachers, staff, etc. are appraised of what is about to happen, what Pestisafes® will be used, what to expect, what to do; all staff people are trained, etc.

Finally, pest management components are considered and integrated into an ever-changing, ever-improving pest management plan (see below). Warning: some “Professional” pest control companies call spraying poisons, IPM or “Integrated” Pest Management - but true “IPM” does not mean “include pesticides monthly” or “integrated pesticide management”! You need Intelligent Pest Management® or True IPM.

#### **Advantages:**

- Long-term pest control management is used.
- In-house personnel are involved.
- Pests, costs and contamination are drastically reduced.
- An elimination of toxic synthetic pesticide poison use is attained.
- A True IPM program is designed to protect people, pets and the environment.
- There is no need for notification because no “registered” pesticides are used/misused.

#### **Disadvantages:**

- Extremely few (if any) pest control types have the experience and the expertise to provide this type of **safe** pest management program and/or to use Pestisafes®.
- Costs may be higher than “low bid”, initially - **How do you “bid” intelligence or all-inclusive when the “bean counters” look only at what is expended to spray poisons for roaches and ants? What does a life or a lawsuit cost?**

#### **Discussion:**

Integrated pest management was first used in protecting agricultural crops; in recent years, it has proven effective in urban areas. At the writing of this book we had helped make over 350 schools pest and pesticide free! Synthetic pesticide poisons, e.g., organophosphates and carbamates, are in fact dangerous poisons and should never be used in occupied buildings. Note: Migrant workers can not legally reenter a field sprayed with these toxins for four full days, and yet children are allowed to enter an energy-efficient building contaminated with these very same toxins in hours!

### **TRUE INTEGRATED OR INTELLIGENT PEST MANAGEMENT® COMPONENTS**

Innovative pest management components are considered and integrated into an overall pest management plan, recognizing that no single protocol or procedure or chemical or trap etc. will ever be effective in dealing with even one pest in a specific situation, much less all pests in every situation!

**Monitoring and Record Keeping** - Inspection, correct identification, continuous sampling, and use of survey devices that will result in accurate recorded pest counts are emphasized. Monitoring goes on in identified zones of potential infestation and is intensified in infested target sites. Non-target areas are occasionally monitored.



Record books or logs are placed in central areas or management units. They should include a statement of the objective and the responsibilities of all concerned regarding access, sanitation, maintenance, treatments, modifications, preparation, notification and removal etc. Records contain the history and source of all infestations and treatments and/or bait/trap placement sites and/or monitoring counts; sanitation, maintenance and personnel practice problems; trapping, caulking, sealing, vacuuming and any other nontoxic controls used, any least-toxic pesticide usage, formulations and amounts. The ever-changing components, risks, problems, infestation(s), sensitive areas and conditions should all be carefully noted also. Create a diagram or map of the physical layout of the structure and its surroundings; its key problem areas, critical control points and any/all conditions conducive to infestation/entry. These Intelligent Pest Management® permanent records should be easily accessible to all pest management technicians and client supervisors for evaluation and discussion.

**Education, Training, and Communication** - All must be an ongoing activity. **To be effective, safe pest management must be desired by all of the occupants.** Pests should be reduced to a level acceptable to them. To achieve these goals, the pest technician interacts actively with all of the occupants. Ongoing informal training or instructive communication is important. Formal training is provided by pest management supervisors, technical representatives, and/or consultants. Everyone concerned must understand and work to correct all of the factors that favor pest entry, survival and dispersal into the building, e.g. landscaping, sanitation deficiencies, building maintenance problems, improper storage procedures, pest proofing, habitat reduction, changing the conditions conducive to infestation, internal construction problems, lighting, humidity, location of all food and water sources, nature and timing of the operations within the structure, temperature, restricted areas, and sensitivities, etc. No one must be allowed to “help” by bringing their own poisons! There must be a zero tolerance for all volatile, synthetic pesticide poisons!

Client on-site supervisory personnel and technicians yearly review all of the records, problems, and control programs together and then coordinate all the efforts needed for the success of any program.

### **True Integrated Control Methods Must Be Specifically Designed for Each Situation and Site.**

All practical measures to permanently suppress the pest population to a tolerable level in the entire structure, including all conditions, systems and/or remediations to all areas both inside and outside should all be considered:

- source elimination, cultural controls, e.g., sanitation, moisture/food habitat reduction, regular cleaning schedule, garbage elimination, changes in worker procedures)
- physical modifications and maintenance changes, e.g., screening, caulking, etc.
- trapping, exclusion, caulking, cleaning with enzymes, vacuuming and other nontoxic controls
- **the main focus must be on pest prevention**

### **Some Suggested Tips for Discouraging Pests:**

#### 1) Bedroom

- vacuum carpeting, drapes and mattresses
- store away only clean clothes
- dust behind pictures and under and behind furniture
- make sure doors and windows fit tightly (all rooms)
- caulk or weather-strip around windows to fill cracks (all rooms)
- clean with Safe Solutions, Inc. Enzyme Cleaner

#### 2) Bathroom

- fix leaks in faucets and under sinks
- seal all cracks and crevices, especially where pipes enter the wall
- insulate water pipes to prevent condensation
- remove wet towels
- squeegee the shower walls when through showering, and spray enzymes
- clean with Safe Solutions, Inc. Enzyme Cleaner and/or borax

#### 3) Kitchen

- don't leave dirty dishes in the sink or in the dishwasher at night
- tie tops of plastic garbage bags in kitchen containers at night, or take them outside
- fix leaks in faucets and under sinks, and put enzymes in the drains
- seal openings where pipes enter the wall
- keep flour, cereals and spices in tightly sealed containers or in the refrigerator
- caulk cracks in cabinets, moldings and along baseboards
- insulate water pipes to prevent condensation
- clean food-preparation and eating areas daily with Safe Solutions, Inc. Enzyme Cleaner and/or borax

#### 4) Living Room

- vacuum carpeting and upholstered furniture once a week
- dust behind pictures and under and behind furniture
- keep baseboards clean
- clean up food spills with Safe Solutions, Inc. Enzyme Cleaner

#### 5) Utility Room

- repair water leaks and any moisture problems
- seal openings where pipes enter wall
- increase light and ventilation - decrease humidity

- pick up pet water and food bowls at night
- sweep up pet food scattered on the floor
- wash pet bedding regularly and pets as needed with Safe Solutions, Inc. Enzyme Cleaner
- remove clutter, especially papers, cardboard, boxes and bags

#### 6) Outdoor Perimeter

- make sure garbage cans are tightly sealed and elevated above the ground
- trim dense, pest-harboring vegetation and/or branches that touch or overhang the house
- store firewood away from the house and elevated above the ground
- provide for drainage of standing water away from the house
- clean up animal waste and/or fallen fruits in the yard
- remove debris from the crawl spaces beneath elevated houses and ventilate properly
- use yellow bug lights or sodium vapor lamps or turn off lights at night
- check for cracks in walls and foundations, and fill with a patching material
- wash the garbage cans once a month with Safe Solutions, Inc. Enzyme Cleaner
- clear gutters and downspouts and drain water away from the foundation
- install door sweeps; make sure all seals on windows and doors are in good repair.

**Thresholds - Pest management is site specific.** The number of pests that can be seen in each target site is determined. Setting thresholds, eliminates preventive poison spraying, curtails excessive pesticide application, and encourages good inspection and monitoring techniques.

**Evaluation, Quality Control, and Reporting** - No gains in pest management are made without evaluation. Interviews, surveys, and record examinations are made at scheduled times. Evaluations are conducted by your own personnel rather than by biased applicators. Formal written and verbal reports are made at scheduled intervals and then mutually discussed if necessary.

#### JUST ONE CASE FOR TRUE IPM: RESISTANCE

Over one-half of the insect species are already resistant to many synthetic pesticide poisons, and the most complete, or even improper volatile poison application cannot achieve acceptable control. Of the urban pests, the house fly and the German cockroach lead in resistance to pesticides.

**How Pests Become Resistant or Immune to Pesticides** - Most volatile, synthetic pesticide poisons are put together by combining chemical elements. Large pest populations have some individuals whose internal systems or enzymes can reduce the pesticide poison into harmless elements for them. When the pesticide poison is applied, some of these pests live. They produce some offspring that can also reduce or resist the pesticide poison even better. With each generation, more and more offspring inherit and/or increase the ability to resist the synthetic poison. If applicators **still** continue to apply that pesticide poison, more and more pests will be eventually able to render that pesticide poison totally ineffective. Once present, genes for resistance will always be carried by some members of the population. Man and his pets are not so fortunate; we still can be poisoned by a *proper* poison application. Most volatile, synthetic pesticides have failed as agricultural poisons or have become “outdated” poisons before they are given to pest control companies.



**The Best Way to Prevent Pesticide Resistance and Contamination** - Use Pestisafes® and/or a multicomponent approach, such as our true integrated pest management, prevents pest resistance that occurs when a single pesticide poison, or even multiple classes of insecticides, are consistently applied. When synthetic pesticide poisons are used in a routine way for pest control, the resistant pest population quickly rebuilds between *treatments*. With repeated applications after population recovery, all of the more susceptible or immune individuals are killed and only those that are less susceptible or immune become the parents of the next generation. **Real control can only be achieved if you eliminate the cause of the infestation and/or control or change the environment rather than controlling the pest with poison.** Note: Resistance is further discussed at the end of Chapter 27, Roaches and elsewhere throughout this book.

## The Main Reason for True IPM: Health Problems

“Euthenics” means the process of improving the human condition by controlling the environment. The pest control “industry” does this by applying prophylactic “treatments” of dangerous, volatile, synthetic pesticide poisons - no one with a sane mind would say poisons and their resulting contamination will “improve” the human condition. Spraying volatile poisons also kills all the beneficials and usually makes the pest problem worse. The use of non-chemical controls creates an environmental balance that naturally provides free and longer lasting, safer pest control.

A study published in the American Journal of Public Health stated home-use of synthetic pesticide poison may cause some cancers. About 8,000 U. S. children get cancer each year and 1,600 die. The study by University of North Carolina researchers compared synthetic pesticide poison use in the homes of 252 Denver children diagnosed with cancer between 1976 and 1983 with those of 222 healthy children with similar demographic characteristics. Parents were asked whether their homes received professional extermination; any yard herbicide or insecticide use, professional or do-it-yourself; and any use of hanging pest strips that emit bug poison into the air. Children, from birth to age 14, whose yards were *treated* had four times the risk of soft tissue sarcomas and/or malignant tumors of the connective tissue as their healthy counterparts. Fetuses exposed to home pest strips during the last three months of pregnancy had three times the risk of leukemia. Children exposed after birth had twice the risk. The study is similar to a handful of others that noted possible cancer links. Obviously, this study only looked at the increase in cancer of children exposed to synthetic pesticides and not any of the other related health problems caused by exposures to synthetic pesticide poisons.

**Brain Tumors** - Children diagnosed with brain tumors in the Baltimore area were more than twice as likely to have been exposed to insecticides during household exterminations than children without cancer, per the American Journal of Epidemiology, Vol. 109, 1979. A 1993 study documents a relationship between childhood brain cancer cases in Missouri children and the use of pesticides in and around the home. Compared to healthy children, brain cancer was nearly five times more likely for children treated with Kwell shampoo, which contains the cancer-causing insecticide lindane, to control head lice; five times as likely if parents used pest strips containing the insecticide DDVP; and five times more likely if they used flea collars on pets, per Archives of Environmental Contamination and Toxicology, Vol. 24, 1993.

In a study of cancer incidence among the offspring of parents engaged in agriculture production in Norway, children had a tripled risk for certain types of brain tumors associated with pesticide use per the International Journal of Cancer, Vol. 65, 1996.

**Sarcomas, Lymphomas and Wilms' Tumors** - In a San Francisco Bay Area study, children whose fathers were occupationally exposed to pesticides were found to be six times more likely than other children to develop Ewing's sarcoma, a rare bone tumor. Having fathers with agricultural occupations was found to increase a child's risk of contracting this cancer by ninefold. American Journal of Epidemiology, Vol. 135, 1992. A study of children diagnosed with cancer in the Denver area found a strong association between parents' application of pesticides in the yard and the development of soft tissue sarcomas. This same study found that children with lymphomas (cancer of the lymph system) were twice as likely to have been exposed to insecticides during household exterminations compared to healthy children. American Journal of Public Health, Vol. 85, 1995. In study of Wilms' tumor (malignant tumor of the kidney) among children in Brazil, consistently elevated risks of Wilms' tumor were associated with parental exposure to pesticides through farm work. American Journal of Epidemiology, Vol. 141, 1995.

People who suffer from Multiple Chemical Sensitivity (MCS) are especially sensitive to volatile, synthetic pesticide poison applications. These dangerous toxins are routinely applied to yards, fields, homes, offices, hospitals, schools, stores, restaurants, etc. to such a degree it is virtually impossible for anyone to avoid daily exposures to these poisons; often these poisons are applied early in the morning or late in the evening or on weekends, and there are no signs posted to indicate a recent application.

Chronic exposure to extremely low levels of volatile, synthetic pesticide poison creates an extreme list of health problems, e.g., headache, nausea, diarrhea, memory loss, visual impairment, breathing difficulties, fatigue, weakness, dizziness, moodiness, restlessness, nervousness, loss of appetite or weight, thirst, soreness, irritations of eye, ear, nose and throat, cramps, confusion, weeping, cough, rapid pulse, pulmonary edema, changes in



heart rate, muscle twitches, convulsions, respiratory paralysis, unconsciousness, coma and ultimately death in healthy ("normal") people, but are even more quickly dangerous to those of us who are over 60, under 1, pregnant, have breathing problems, allergies or MCS!

Few pesticides have been evaluated for their ability to cause chronic, permanent damage to immature, developing nervous systems. Additional research is critically needed due to the vulnerability of the central nervous system, which continues to develop until puberty. Available evidence, however, suggests that deleterious effects should be expected. Infants exposed before and after birth to residues of the fungicide methyl mercury in contaminated wheat suffered severe impairments of motor and mental development. Another fungicide, hexachlorobenzene, was found to cause muscular weakness, numbness and convulsions in children exposed immediately after birth. The Effects of Pesticides in Human Health.

A study published in the American Journal of Public Health examined air and surface residues following indoor treatment for fleas with the insecticide, chlorpyrifos (under the trade name Dursban). Three to seven hours after application, insecticide concentrations were found to be much higher in the infant breathing zone nearest the floor than in the more ventilated adult breathing zone. In addition, insecticide residues were found on the carpet 24 hours after application. Researchers estimated that the total amount of insecticide that infants would absorb (primarily through their skin) up to 24 hours after application was 10 to 50 times higher than what the EPA considers an acceptable exposure for adults!

In the March/April 1992 "Archives of Human Health" issue, Hebrew University School, Jerusalem and Tel Aviv Ministry of Health, et al published a study wherein they documented many such pesticide poison related illnesses and that organophosphate metabolites are excreted by "normal" people for over 4 months after a typical onetime application for cockroach control. Obviously, avoiding a *treated* area for a few hours or even several days will not avoid the dangerous health problems and contamination these toxins cause.

To give you some perspective of how much contamination is out there, Dow Elanco estimated that just homeowners "apply" Dursban® (chlorpyrifos) products 7 million times each year! (Consumers use about 6% of the national total pesticide use.) **The average home today contains more chemicals than were found in a typical chemistry lab at the turn of the century.** In the 1990s, the Pest Control Operators of California, said they are armed, dangerous and have a license to kill, estimate that they *professionally* generate \$683 million in annual revenues just in California. It is no wonder that almost 90 pounds of synthetic pesticide poisons are yearly applied (and misapplied) for every man, woman and child in the U. S.!

Volatile, synthetic organophosphate and carbamate pesticide poisons are toxic substances deliberately added to our environment to kill or harm living things, so they are inherently toxic to people; they do not and can not "protect" us - they can and do attack our enzymes, our central nervous systems and other vital body centers. Poisoning symptoms are often mistaken for flu and other illnesses and can vary greatly with each person from a slight reaction to death. Over 4.5 billion pounds of volatile, synthetic pesticide poisons are added to the U. S. environment every year! The National Academy of Sciences estimates 1 out of 7 of us nationally are already significantly impaired by pesticides and other toxic chemicals. The National Cancer Institute studies show children get leukemia 6 - 7 times more often when pesticide poisons are used in and around their homes. 99% of the population has one or more toxic chemical (poisons) stored in their fatty tissue. Many of these chemicals are linked to cancer. (EPA) 70% of all pesticide poisons still in use have fraudulent reports of animal safety tests. Only two companies and responsible employees have been convicted of fraud (EPA & EDF). 98% of all cancer is caused by chemicals (NCI).

In the 1990s Texas, Ohio and Michigan lead the nation in air pollution and they lead the nation in birth defects. Currently, only 2% of the doctors in the United States are qualified to diagnose chemical/pesticide poisoning and its related health problems. Neurodegenerative diseases such as Parkinson's Disease and Alzheimer's Disease have also been linked to toxic chemical exposures. There are 183 chemicals that cause convulsions, 62 that cause paralysis, 177 that cause tremors, 179 that cause weakness, 135 that cause equilibrium changes, 121 that cause vision disorders, 34 that cause confusion, 33 that cause memory problems, 131 that cause central nervous system depression, 125 that cause narcosis, 25 that cause delirium, 40 that cause depression, and 119 that cause sleep disturbance. These chemicals are found in such common things as pesticides, rubber cement, paint, photography chemicals, grout, cleaning products, gasoline, adhesives and textiles. (NIOSH) No toxicity data is available for 80% of some 49,000 chemicals in commercial use. Of the more than 70,000 chemicals in

daily use, complete toxicity data is available on only 2%. (NRC) The Journal of Agriculture and Environmental Ethics in 1995 noted: Worldwide less than .01% of the 2.5 million tons of pesticide poisons used each year actually reach the targeted pests. That even with the newer application methods, only about 25% of the pesticide poisons reach the targeted crops. The rest of the poison drifts elsewhere. **It is no wonder some of us are finding it more and more impossible to cope in such a contaminated world and that cancer now strikes 1 in 2.5 (some say every 2) Americans!**

**The Northwest Coalition for Alternatives to Pesticides** collected information about childhood illnesses related to pesticide exposure in schools. In some instances, illnesses resulted from applications made in accordance with label directions.

- In 1993, chlorpyrifos and dichlorvos were applied for ant control in North Powellhurst School in Oregon. Soon after, at least 65 individuals, including infants, children, pregnant teenagers, teachers and school staff reported nausea, vomiting diarrhea, massive headaches, rashes, dizziness, itching eyes, sore throats and other symptoms. The school was closed, cleaned and reopened, and eventually closed early because students and staff continued to experience health effects.
- In 1992, children, teachers and staff at New York's Eastchester High School suffered headaches, eye and respiratory irritation and nausea following their return to school after it had been sprayed for roach control with the pesticides chlorpyrifos, diazinon and resmethrin. The school was forced to close for three weeks to clean up the pesticide residues.
- In 1989 in Yakima, Washington, a First-grader mistakenly ate several granules of the toxic insecticide Di-Syston. This exposure almost killed the Boy and left him permanently sensitized to minute pesticide exposures.
- In West Virginia, students and staff at an Elementary School were found to suffer from persistent fatigue, nausea, respiratory problems and numbness in their limbs over a four-year period because the school was contaminated with the now banned termiticide, chlordane. Federal investigators finally closed the school in 1989 after concentrations of chlordane were found 11 times the evacuation threshold.
- Close to 300 students and 4 teachers at Homer Davis Elementary School in Tuscon, Arizona in 1987 became nauseated in class and were evacuate to hospitals after the organophosphate insecticide, malathion was sprayed by a neighbor and then sucked in the building ventilation ducts.
- In 1986, 28 students and 2 faculty members at Waianae Elementary School in Hawaii developed headaches, stomachaches, breathing difficulties and nausea after their school was treated with a flea spray containing chlorpyrifos. It was subsequently discovered that the children became sick from exposure to the *inert* ingredient, xylene, not the active ingredient, chlorpyrifos.

#### **SUMMARY - The "registered" pesticide poisonspray wand is, obviously, not a "magic" wand!**

In January, 1997 Laura Dye of EPA's Office of Prevention, Pesticides and Toxic Substances noted that 5 different surveys in the past 15 years have all found that most pesticide users never read the label directions! Besides the large financial cost of synthetic pesticide poisons, the *industry's* and homeowners' *use* and misuse of synthetic pesticide poisons means virtually everyone in our Country is daily exposed to the toxins used in their "normal pest control efforts". It is now considered "normal" for a person's blood and adipose tissue to contain *some* levels of synthetic pesticide poison contamination! The San Francisco Examiner on July 4, 1995 noted the Sierra Club was threatening litigation against the EPA for violating the Endangered Species Act - over 100 eagles have recently been killed as a result of synthetic pesticide poisoning. Pests are unwanted organisms - unwanted because their activities run counter to those of the people living in the same ecosystem. This ecosystem is made up of a number of animal populations - just two of which are "pests" and humans.

**The May 2000 issue of Pest Control noted on page 22 that "On a warm day, a high-pressure spray through a fine nozzle can produce small droplets that remain suspended in the air for many minutes (even hours, in some conditions), drifting with air currents and falling who-knows-where."**

The object of **The Best Control I®**, **The Best Control II®** and **Intelligent Pest Management®** and **Pestisafes®** are to remove the “pests” without harming the humans, their pets and/or the environment. Together, these populations are called a **community**. The community along with biological (pests, food, hosts, prey, plants, etc.) and physical (hiding places, temperature, humidity) supporting factors are the components of an ecosystem — a basic, self sustaining natural unit. Pest control takes place within this unit; to be effective it acts on the parts of the ecosystem. Pest control styles are set up to prevent, react to, remove, repel, injure, eliminate, or manage pests. Each style has some advantages and disadvantages; the most complete style is Intelligent Pest Management® or True IPM which involves the coordination of many elements depends on the nature of the infested site. Since pests are not evenly distributed in an ecosystem, an adequate inspection is needed to locate them. (90% of the pests will be in 10% of the area.) To manage all of pests, all of the supporting factors of their population need to be identified and altered. When alteration alone is not sufficient, other techniques and/or Pestisafes® can be used other than the use of any volatile, synthetic pesticide poisons to reduce the pest population to a tolerable level [this level may have to be zero]. Finally, an evaluation or follow-up assessment makes the control efforts last longer and tells you, the pest control professional, how well the job was done.

Removing the cause and/or using True IPM controls, e.g., exclusion, habitat reduction, sanitation, plant selection, crop rotation, biological parasites, enzymes, negative ion plates, heat, ammonia, cold, fans, dehumidifiers and other Pestisafes®, etc. instead of dangerous, volatile, synthetic pesticide poisons to *treat* unwanted insects that plague agriculture and homeowners, is the only safe, long term control that will work. If we continue to rely only on dangerous, volatile, synthetic insecticide poisons, we are going to continue to have even more pests, contamination and many resulting health problems that will continue to plague us indefinitely. Nature has created many good insect parasites to safely control nearly every pest you will come in contact with, and these parasites do not harm people, pets, animals or anything else. Using dangerous, volatile, “registered” poison sprays not only creates many health and environmental problems, but also destroys these beneficial insect predators and really does not even temporarily “control” much less eliminate the pests that concern you. Check out the other True IPM controls in Chapter 5 and Chapter 11.

**S.O.S....S.O.S....S.O.S....Seek out the source...S.O.S....S.O.S....S.O.S.!** Don't overlook anything! It has been said there are only two types of concrete; concrete that is cracked and concrete that is going to crack. Don't skip any crack or crevice. Look, then look again. Ask, and then ask again! It has been repeatedly proven that once any pest, e.g., cockroaches, selects a preferred harborage/site, it or another will continue to return to that same site no matter how many times the site is *treated* with pesticides, so caulk/seal all these areas. Both the pest and their aggregation pheromones will then be permanently sealed in.

**The Greatest Tool** that you will ever use in pest control is your mind — If you use your mind you will have an unfair advantage over your pest problems. The second greatest tool is proper sanitation. The third greatest tool is proper exclusion. Do not wait for you to become sick or your property to become infested — prevention is a lot cheaper and safer.

The earth is covered by 75% water, 10% ice and 6% desert. We must care for the remaining 9% and not pollute it with useless and/or dangerous synthetic fertilizers and pesticide poisons! — S.L.T.

Nothing burns in Hell but the self - A wicked woman had only done one good deed in her whole life - she had given an onion to a beggar. As she lay in torment in Hell - she saw the same onion being lowered down to her from heaven by an angel; she caught hold of the onion and the angel began to pull her up to heaven - the other damned souls saw what was happening and caught hold of the onion too - the woman was indignant and cried out “Let go - it is my onion” - so the angel did and she fell back into the flames. — Theologia Germanica

Just because something is organic does not automatically mean it is safe; a rattlesnake is organic as is poison ivy and poison oak. If a cat bites an Easter lily. it can quickly die of kidney failure. If you eat a toxic plant, e.g., oleander, you can die. Some people are allergic to peanuts, so be very careful whatever you do to “organically” control pest problems. — S.L.T.

**“It often happens that I wake at night and begin to think about a serious problem and decide I must tell the Pope about it. Then I wake up completely and remember that I am the Pope. — Pope John XXIII**



**Some scientists believe there are 1.6 billion insects for every single human being on earth. Insects were here for about 250 million years before man arrived. There may be as many as 50 - 60 million different insect species on earth, but we have only named about 1 million of them and we only consider about 1000 species to be pests. The rest of these insects are beneficial and necessary for our survival.**

<http://www.getipm.com/personal/debate.htm>

**“Learning is not attained by chance. It must be sought for with ardor and attended to with diligence.” — Abigail Adams**

**“The only person who is educated is the one who has learned how to learn - and change.” — Carl Rogers**

**“He who learns but does not think is lost. He who thinks but does not learn is in great danger!” — Confucius**

**“By perseverance the snail reached the ark.” — Charles Haddon Spurgeon.**

