

**HOW TO PICK  
A  
SAFE & EFFECTIVE**



**PEST CONTROL COMPANY**

**Richard “Bugman” Fagerlund**  
[www.askthebugman.com](http://www.askthebugman.com)  
Twitter @askthebugman  
askthebugman2013@gmail.com

**All rights reserved including the right of reproduction in**

**whole or in part in any form.**

## **TABLE OF CONTENTS**

### **INTRODUCTION**

#### **Chapter 1 – Pesticides**

#### **Chapter 2 – The Early Years**

#### **Chapter 3 – Scary Pest Control**

#### **Chapter 4 – How to Pick a Pest Control Company (Household Pests)**

#### **Chapter 5 – How to Pick a Termite Control Company**

#### **Chapter 6 – The Good Companies**

#### **Chapter 7 -Multiple Chemical Sensitivity (MCS)**

#### **Chapter 8 – Bed Bugs**

## INTRODUCTION

I have been in the pest control industry since 1969 when Richard Nixon was president. That is a long time ago. I started working for King Pest Control based in Hollywood, Florida as a route man. I knew nothing about bugs at that time. I probably couldn't tell a cockroach from a caterpillar. My training lasted about 2 days and then I was on my own. I was told to go into the home and spray the baseboards with a pesticide. I was using a B & G sprayer, which is still the one most often used in the industry.

In the early years, I was in sales and service for several companies in Florida. I moved to Texas and became a branch manager for Truly Nolen at their office. We moved to New Mexico where I worked for several more companies over the years, including Orkin and Terminex. I also did pest management at the University of New Mexico for 12 years until I retired. I became a Board Certified Entomologist while on campus. That actually doesn't mean anything, as all you do is take a test and pay a fee. I did teach several graduate courses in entomology in the Dept. of Biology, even though I don't have a degree. The university appreciated the knowledge I accumulated over the years. I also wrote a few scientific papers on campus. Here are several papers I wrote, two with co-authors on campus and one with an entomologist from the University of Texas in El Paso. The last one about fleas and lice has me as the second author, but I actually conceived the paper and wrote most of it. Since it was published by a government agency and one of their folks, Paulette Ford, was a co-author, they put her as the senior author. The two unpublished manuscripts are listed as references in other works, along with the notation "Available from the author." I hope nobody wants them because I sure don't have any copies.

Mackay, W. P., and R. Fagerlund. 1997.

"Range expansion of the red imported fire ant, *Solenopsis invicta* Buren (Hymenoptera: Formicidae), into New Mexico and extreme West Texas." Proceedings of the Entomological Society of Washington 99:758-759.

Fagerlund, R.A. 1999. The Antlions of New Mexico (Neuroptera: Myrmeleontidae). Unpublished Manuscript. Available from the author.

Fagerlund, R.A. 1999. The Bristletails (Archaeognatha) of New Mexico. Unpublished Manuscript. Available from the author.

Fagerlund, R.A. 2000. Preliminary checklist of the beetles (Coleoptera) of New Mexico. New Mexico Naturalist's Notes 2(1)1-66.

Fagerlund, R. A. 2000. Illustrated Guide to the Families of Diptera Known from New Mexico. Unpublished Manuscript. Available from the author.

Fagerlund, R.; Ford, P. L.; Brown, T.; Polechla, P. J., Jr. 2001.

New records for fleas (Siphonaptera) from New Mexico with notes on plague-carrying species. Southwestern Naturalist. 46: 94-95.

Ford, Paulette L.; Fagerlund, Richard A.; Duszynski, Donald W.; Polechla, Paul J. 2004.

Fleas and lice of mammals in New Mexico. Gen. Tech. Rep. RMRS-GTR-123. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 57 p.

I specialized in flies during my tenure as an entomologist at UNM. I am listed as a Dipterist (specialist in flies) in North America according to the Entomological Society of America.

When I retired from campus in 2006, I became a pest management consultant. I try to teach people how to do their own pest management, or how to pick a good company if they want one, which is the purpose of this book.

In this book I want to help people pick competent and qualified pest management specialists. I will discuss termites in detail as that is very important and will also discuss Multiple Chemical Sensitivity (MCS) which can be problematic if you are carelessly exposed to pesticides or other chemicals. I will occasionally make references to one of my other books, "Pests (or Guests) & How to Manage them Safely and Effectively". I will refer to that book as P(or G) in this book. That book is also available on my website absolutely free.

If you have any pest questions or need a pest identified, you contact me at [askthebugman2013@gmail.com](mailto:askthebugman2013@gmail.com). If you need a pest identified, put it in a vial with some cotton, pack it in a bubble envelope or box and mail it to me at 6804 4<sup>th</sup> St. NW, #134, Los Ranchos, NM 87107. Please include a check for \$10 as it takes time to process them.

I want to thank my best friend, Karen McSorley for drawing the cockroach on the cover. She is a wonderful person and a great artist.

I want to dedicate this book to my niece, Sandy Maddalino. Sandy has had a very rough early life and has really adjusted in a positive fashion. She is a wonderful mother and wife and I am very proud of her. She is a true Special Angel.

You can Like my FB page at [facebook.com/askbugman](https://facebook.com/askbugman) and follow me at Twitter [@askthebugman](https://twitter.com/askthebugman) or connect with me on LinkedIn at Richard Bugman Fagerlund.

## CHAPTER 1

### Pesticides

***“The EPA's Science Advisory Board concluded in 1990 that, when compared with dozens of other risks, pesticides presented one of the country's more widespread and severe environmental problems.”***

The pesticide industry defends the use of pesticides because pests in the United States kill 100 – 300 people annually. They claim people need to be protected from these hideous pests. There are over 325,000 certified commercial pest control applicators in the United States using pesticides. It is the National Academy of Science's estimate that pesticide poisoning causes over 10,000 cancer deaths every year and creates over 20,000 cancer cases. These figures don't include neurological damage, heart disease, lung damage, birth defects, miscarriages and other chronic exposure deaths.

A nationwide report has found that pesticide use in or near U.S. schools have sickened more than 2,500 children and school employees over a five-year period. The pesticide poisoning has resulted from pesticides being sprayed in schools or on nearby properties, and includes both insecticides and herbicides.

According to an article in *Epidemiology*: 12 (1):20-26, January, 2001, one of the largest studies of pesticides has found that pesticide use around the home can more than double the chance of a child developing neuroblastoma, which is a condition that accounts for about 10% of all childhood tumors. This is a very serious cancer as approximately 60% of children over age 1 who develop neuroblastoma do not live 3 years even when receiving radiation and chemotherapy treatments.

A similar study in *Cancer*: 89: 11, 2000 has shown that children who have been exposed to household insecticides and professional extermination methods within the home are three to seven times more likely to develop non-Hodgkin lymphoma compared to children who have not been exposed to pesticides. These two articles clearly demonstrate why we should never allow pesticides in schools or day-care centers.

Why are children at more of a risk than adults? There are many reasons. Children put their toys and other objects in their mouth and they often crawl on the ground and come in contact with pesticides. Children often wear fewer clothes resulting in dermal poisoning by many toxicants. Children breathe differently than adults. A one-year old child will breath 50% more air each minute relative to their body weight than adults do. This, of course, gives them the opportunity to inhale more pesticides. Children will pick up pesticides at home, at school, from their food and from being around pets who have been treated for fleas or ticks. Children, the elderly, pregnant women, and those who have allergies, asthma, chemical sensitivities or other immune, respiratory, or neurological impairments are especially vulnerable to the toxic effects of pesticides.

There can be no doubt that pesticides, including herbicides are associated with a number of public health risks. There are about 110,000 non-fatal human pesticide poisonings each year in the United States. In addition, pesticides have been linked with such human diseases as breast cancer, and extensive exposure can have adverse respiratory and reproductive problems, including asthma and sterility. Other problems can include blurred vision, dermatitis, reduced heart rate and even coma

and death. Do all pesticides cause these problems? In fact, the Environmental Protection Agency has identified more than 90 pesticides as possible or suspected carcinogens (cancer causers).

## **CHAPTER 2**

### **The Early Years**

As I mentioned, the first company I worked for was King Pest Control. My supervisor was Ralph Williams. He hired me for \$80 a week. We did monthly pest control by spraying baseboards in people's homes. There were no rules or regulations dealing with applying pesticides in those days. I asked Ralph why we sprayed baseboards and he said it was only to kill time in a customer's house, to make them think they are getting their money's worth. That was the reason to spray baseboards then and it is the reason some companies spray baseboards now. Here is how we did a typical cockroach clean-out in those days.

When we did a clean-out, the customer was required to empty their kitchen cabinets. Then we went in and sprayed all the cabinets where the food and dishes were kept with chlordane. After that we sprayed all of the baseboards in the house with malathion because it stunk and we wanted the customer to know we weren't using water. Then we fogged the kitchen with an oil-based pyrethrum using a electric fogging machine. The roaches would come out of the cabinets and get stuck in the oil on the counters. After that we dusted the attic with DDT dust and then put heptachlor granules around the perimeter of the house. We told the people the stuff was safe and they could put their food back in the cabinets when they dried. I have no idea how many people we made sick in those days but I do know a lot of people who were in the industry that got cancer at an early age. We didn't use any safety equipment back then and we drove cars with all the chemicals in the back seat. And in those days I smoked cigarettes. It is a wonder I am still alive!

I remember one call we got about mice in a butcher shop in Miami. They sent me down there to take care of it. We were told that DDT is a good tracking poison for mice, they walk through it, lick themselves and die. So when I got to the butcher shop I noticed they had wooden pallets for a floor and the mice were running around under the pallets. The store was open and they had customers but the owner said to go ahead and treat. So I got my power duster out of the back seat of my car and proceeded to dust the floor of the store with DDT. The dust was flying everywhere, getting on customers, on the counter, everywhere, but I kept dusting. Finally the store was full of DDT dust and I was sure all the mice would die. So I collected my \$20 fee and went back to the office. The manager said I did a great job.

Eventually I got promoted to spraying lawns. We used to spray the lawns with dursban, an organophosphate pesticide. We wore shorts and went barefoot as we were told the pesticides were harmless. I remember one time I was spraying a lawn and when I went around to the backyard, there was an alligator basking in the sun. Since I had to spray the grass, I needed the alligator to move, so I sprayed him with the hose. It didn't work. He chased me back to my truck. The backyard never got sprayed.

I got promoted again to the termite section. I remember one house that had a crawl space but we couldn't find the entrance and the customer wasn't home. My supervisor said we had to get under the house. So we used our jackhammer and drilled a bunch of holes in a circle in the foundation wall. We then knocked the chunk of cement out and went under the house. Oddly enough we saw daylight coming in from the other side. Apparently nobody noticed the entrance to the crawl space was behind a bush. In those days we treated termites in crawl spaces by power spraying chlordane all over the ground. I did that for an hour or so and then came out for a cigarette break. Went back under and finished the job and came out smelling a lot like chlordane. I never found out what they ever did about the foundation wall we destroyed, if anything.

On another occasion, I had to go into a crawl space to do a termite inspection. The house was near a canal. After I made several turns in the crawl space, my flashlight died and I couldn't see the opening or daylight anywhere. I started crawling toward where I thought the opening was when I heard a low growl. I never heard a noise like that and thought there was a dog under the house with me. I fished out my cigarette lighter (good thing I smoked in those days) and lit it and discovered I almost crawled over six foot alligator sleeping under the house. Needless to say I dropped my lighter and crawled in the opposite direction as fast as I could. It only took a few minutes to see the daylight coming through the crawl space opening. I told the lady I couldn't find any termites, but she had an alligator under the house. Actually I don't know if she had termites as I never finished the inspection. She said the alligator lived under her house when it wasn't in the canal. She just forgot to tell me about it.

I left the company I was working for over some other issues. We were told that if we read Rachel Carson's book, "Silent Spring", we would be fired. I did and I was.

One of the most embarrassing situations I have had to deal with in the pest control industry took place in Houston around 1975 when I was branch manager for Truly Nolen. I got a call about lice or something, they weren't sure. When I got to the house, the lady of the house let me in and told me she was being bitten by something. She wanted me to identify the pest and treat for it. I should have suspected something was wrong because her husband was sitting on the couch smoking a joint and when I introduced myself, it was evident he was totally stoned.

The young lady asked me to look through her hair for lice. Feeling a bit uncomfortable I ran my fingers through her hair with one hand while shining a flashlight on her head with the other. It was a little nerve wracking, especially since I couldn't find anything. She then stepped back and dropped her shorts (no underwear), and asked me to examine her pubic area for bugs, as she was also itching in that area. Feeling very foolish, I dropped to my knees and focused my flashlight on her pubic area, trying to figure out how to move the hair around without actually touching her. Finally I pulled a pen out of my pocket and started searching through her pubic hair. After what seemed like two hours, but was probably only two minutes, I stood up and said I didn't see any bugs. I was totally embarrassed and turned around quickly so she could redress without me watching, which was probably silly considering what I just saw. Her husband was on the couch laughing himself silly, probably because of my obvious embarrassment. I obviously didn't treat for anything even though they wanted me to spray their whole house. I had to get out of there as fast as I could. I am not a prude by any stretch of the imagination, but I was totally unprepared for that service call and didn't know how to react.

## **CHAPTER 3**

### **Scary Pest Control**

The problem with the pesticide industry is that a large number of pest control operators (PCOs) are poorly trained and not well regulated. Many of them are not familiar with the label or Material Safety Data Sheet (MSDS) of the chemical they are applying.

If a PCO tells you the pesticide he is spraying is perfectly “safe”, you may have a problem. It would be a federal violation to make that kind of statement. If he says it is so safe you can drink it, offer him a glass! If the PCO is spraying your baseboards with a pesticide, it means he doesn’t know what he is doing and you need to be concerned. If you see a pest control truck on the street and it has hand sprayers and other small equipment loose in the back so anyone can grab it, stay away from that company. If they haven't got enough sense to lock up their equipment, they are in the wrong business.

One of the most egregious incidents of pesticide misbehavior occurred in Mississippi in 1996. Two unlicensed and untrained boneheads sprayed 300 homes and businesses with methyl parathion, an agricultural pesticide intended for outdoor use only. There were complaints of foul odors, staining of walls and carpets and pets dying for no apparent reason. Many residents fell sick with flu-like symptoms. These so-called “pest management professionals” sprayed the walls and floor with this pesticide. Tests confirmed that the levels of contamination were at least five times the level that requires immediate evacuation of humans and animals. Hundreds of families were evacuated from their homes and several businesses had to be shut down until all the sites were decontaminated. This episode of pest control negligence cost the taxpayers of Mississippi over \$50 million and put thousands of people in a very serious situation. Fortunately the people who perpetuated this act were tried and convicted for their crimes. Methyl parathion had a DANGER label and is no longer permitted to be used in the U. S. It was used as a foliar spray on cotton as well as an insecticide and miticide on many other plants.

I got a letter with some bugs in it from a lady in Alto, NM. She said she had the local exterminator out four times at a cost of over \$1000 to control them and she still had them. He said they were the larvae of some sort of flying beetle. The specimens she sent were actually duff millipedes, a completely harmless little millipede that will shortly die of dehydration once it enters the home. No pesticides were necessary to control it. In fact this fellow tried every pesticide in his truck and failed to control it because he didn’t know what it was. The only thing he succeeded in eradicating was the lady’s bank account.

There was another instance where one of the major companies treated a home several times for carpet beetles, without success. Actually they mistook duff millipedes for carpet beetle larvae. The misidentification of pests is common in this industry and the results can be devastating in the money spent and the pesticides incorrectly used.

Then there was the fellow who went out to a house and identified the pest as fleas and did a flea job, which consisted of spraying the carpets and furniture and fogging the house. He did it three times and was unsuccessful each time in controlling the bugs. The customer called another company who properly identified the pests as harmless springtails that did not need control. Fortunately, the owners of this house were attorneys and they sued the first guy out of business.



Consider the story of the Immovable Secretarial Object and the Irresistible Pesticide Man. She wouldn't get up from her desk when he arrived to spray the office. (*"He wasn't very nice about it. He just said, 'Lady, you have to get up for a minute. If he had asked me instead I would have moved...'"*). He sprayed anyway, "around" her feet. She was wearing sandals and ended up at the emergency room with welts on her toes, being one of the increasing numbers of the population that is allergic to synthetic pyrethroids.

Along the same line, my sister Linda, in Florida, told me their company exterminator came in the office and sprayed the baseboards and then sprayed all of their chairs! Was he spraying for some kind of butt bug? No one knows why as my sister ran him off and told him never to return.

During the outbreak of false chinch bugs in New Mexico a couple of years ago, the pest control companies' phones were ringing off the hook. One lady called one of the largest pest control companies in the country. A salesman went out, identified the pest as Johnson beetles feeding on her Johnson grass and wanted \$450 to control them. She called me to confirm the diagnosis. Of course it was wrong as there is no such thing as Johnson beetles and very few people have Johnson grass growing in their yard. She had false chinch bugs which required no control at all.

There was the case of a pest control company spraying a home for carpenter ants several times because he said he found carpenter ant poop on the floor. The "poop" didn't go away with the spray. Actually they were very small beetles that feed on mold and were present because the homeowner had a plumbing leak that caused some mold. The exterminator couldn't tell a beetle from ant poop.

In another case, a woman called because she had weird worms in her house, particularly on the kitchen floor. The pest control operator came out, identified them as boll weevils, said they would get in the closet and eat her clothes, so she needed the whole house fumigated. The lady was skeptical and got another opinion. It turns out they were blow fly maggots falling from the ceiling where a dead animal was being consumed. Now the question is; is the PCO a crook scamming this lady or was he just so stupid and uninformed that he really believed his diagnosis? In either case, that is Scary.

In a similar case a man was told he had codling moths in his clothes closet. Since codling moths only eat apples, that would only be possible if he had an apple tree in the closet. The customer was smarter than the PCO and didn't let him treat the house.

If you have pets, you should never use pesticides of any kind or use an exterminating service that sprays pesticides in the house. Recently a lady called me and told me she hired a pest control company to eradicate some crickets from her home. Rather than use bait, which would be safe if properly applied, the PCO sprayed the baseboards. He ended up killing \$2500 worth of her son's snakes, yet didn't kill any crickets. She successfully sued the company.

In another case a pest control (non)-professional sprayed the baseboards in a pet shop. The pesticide was sucked up into all the aquariums and he killed all the fish in the store.

There was a pest control company power spraying around a school in Chama, NM, when children were standing close by waiting for a bus. One kid got sick and passed out and was rushed to a hospital. He survived, but the company was correctly sued. This company is still in business and has their office in Santa Fe.

In another incident reported in *Proceedings, Association of Avian Veterinarians*, an organophosphate chlorpyrifos was used in a home where pet birds were bred and raised for six years. The target pests were cockroaches but after five applications, fledglings began to die off, followed by a cessation of egg production. Finally the adults deteriorated and died. The owner realized that this tragedy meant he was also in danger and that was the basis of his lawsuit against the pest control company. The final report read: "The case was settled to cover the cost of the birds and for creating a health hazard for the occupant of the house."

Of course who can forget the fellow who just finished up a termite job and had a little bit of the termiticide left in his tank. He offered to spray the family's cat and dog for fleas with the leftover chemicals and wouldn't even charge them.

In a case in California in 2001, a person who is now a pesticide lobbyist, treated a warehouse with pesticides and didn't post notification. Six policemen responded to a call and had to enter the warehouse. All of them got sick and had to go to the hospital. They all survived, but the pesticide lobbyist was fined \$1000. This fellow is still on the discussion boards telling everyone how safe pesticides are for bees and how dangerous automobiles are, as, according to him, they kill more bees than chemicals.

A lot of the horror stories that I related to you have one thing in common; the inability of the pest control person to properly identify the pests. Many of them use the Spray and Pray method. That is if you spray enough pesticides and pray it kills something, you won't get a callback from the customer.

Aluminum phosphide is an inorganic phosphide used to control insects and rodents in a variety of settings. While it is used primarily as a grain fumigant, it is also used as an outdoor fumigant for burrowing rodents and moles. This product is frequently misused. In one case that recently took place in Los Lunas, New Mexico, a pest control company fumigated a colony of prairie dogs on church property. They didn't follow normal procedure and inspect the burrows for burrowing owls, which are federally protected under the Migratory Bird Treaty Act and the Raptor Protection Act. A witness to the fumigation told the pest control person that owls were present in the burrows, but he continued gassing them anyway.

This fellow was reported to the proper authorities, but because of lack of physical evidence (dead birds, feathers, feces, etc.), he was not prosecuted but he was severely warned. I wrote to the church to get their rationale for hiring this fellow to gas the prairie dogs. If you have a healthy prairie dog colony nearby, it is plague free. This pastor's fear of prairie dogs, plus the incompetence of the pest control person lead to the gassing of federally protected birds if the witness was correct and there is no reason to think he wasn't.

Unfortunately, in New Mexico, you do not need a fumigation license to gas burrowing rodents with a fumigant. You would need such a license to fumigate a building, a truck or a vault, but for some reason, burrows don't count. It is clear the fellow that fumigated the burrows wasn't competent and shouldn't have been allowed to use the product. The odd thing is that this company specializes in the control of mammal pests judging by its name. They should change their name to Scary Pest Control.

How toxic is aluminum phosphide? It is highly toxic when ingested or through inhalation of the gas. Symptoms of mild to moderate acute aluminum phosphide toxicity include nausea, abdominal pain, tightness in chest, excitement, restlessness, agitation and chills. Symptoms of more severe toxicity include, diarrhea, difficulty breathing, pulmonary edema, respiratory failure, rapid pulse, and hypotension (low blood pressure), dizziness and/or death. Recently two children in a house in Utah were killed by aluminum phosphide that an exterminator used in their yard to control voles. The owner of the company apologized for the mishap.

Recently there was an article in a NM paper about how a pest control company injects pesticides into the walls of homes to control all the pests that hide in the walls. Someone asked me if this was something they should consider. The answer is NO.

First, there are very few pests that nest in our walls. Some ants will come in from the outside and if they find ample food and water in the home, they may nest in a wall. This would include odorous house ants (*Tapinoma sessile*), little black ants (*Monomorium minimum*) and one or two other species. All you have to do is get the ants properly identified and then put out a bait they like. They will take it back into the wall and kill the queen and colony. Pesticides aren't necessary. Who else nests in walls? German roaches in urban/ghetto areas may nest in walls, but the American and Oriental roaches we have here in NM prefer areas with access to water. A wall would be too dry for them to nest. Centipedes, scorpions, spiders and other pests may get into a wall, but they won't stay there very long. The only real pest that you will find in walls are subterranean termites, and the treatment method they use won't affect them. It may be possible to get a wasp nest in a wall, and if that is the case, this method may help. However it wouldn't be necessary to treat all the walls in the house.

Why else is this a bad idea? If there were bugs in the walls they could get into your house. If the bugs could get into your house, so will the pesticides. Do you really want someone pumping pesticides in your walls that will come into your home and threaten the health of your family and pets? Nobody may get sick right away, but the pesticides can build up in your body or your children's bodies and comprise your health.

So why would anyone want to pump pesticides into your walls if there aren't any pests there? The answer is the same as why we sprayed baseboards in homes for many years. It is perceived value. The industry sprayed baseboards to supposedly kill all the bugs that ran along the baseboard. Of course very few bugs actually ran along the baseboard. The real reason that baseboards were sprayed was to kill time in the customer's home to make it look like they were getting their money's worth. Most companies don't spray baseboards anymore, although a few still do. Power spraying the perimeter of a house was also widely used, but now is frowned upon as it has no real value and they tend to kill more beneficial insects than pests. It is particularly silly when the pest company sprays around your home in the middle of winter.

If baseboard spraying, power spraying and pumping pesticides into walls isn't effective pest control, then what is? In reality, pesticides should never be used in a home unless you have an infestation of a pest. In many cases, pesticides aren't necessary then. If someone wants to spray your baseboards or pump pesticides into your walls, ask them to sign a paper stating that they will accept financial

responsibility if anyone in your family or your pets get sick from the pesticides. If they agree to that (and they won't), then you can consider it.

Never let a company use rodenticides to control mice. The reasons are clear in my book, P (or G). In the majority of cases, you can control your own mice using snap traps or Tin Cats. Rodenticides can kill non-target animals, including pets and if a rodent with a disease such as hantavirus dies and you can't retrieve the body, it can create a health hazard. Don't let them use glue boards either as a mouse will urinate and defecate for hours before it dies and that is how hantavirus is spread.

## **CHAPTER 4**

### **How to Pick a Pest Company (Household Pests)**

I have said many times that most people can control their own pests without using pesticides or a pest control company. Most of this information is available in my other book, P (or G). Of course there are many people who prefer to hire someone for this and that is fine.

Just be careful and get several companies to give you a proposal. First, make sure they can properly identify the pest you have when they inspect your home. If they are true professionals, they will know the scientific name of the pest and give it to you so you can Google it for more information. If the representative that comes to your home or business doesn't recognize your pest and offers to treat your home anyway, do not let him. If they offer to take the bug back to their office for identification, that is fine. Never accept a price over the phone. A doctor or a mechanic would never quote you a price without a physical or automobile inspection and neither would a professional pest management specialist. Amateurs who only plan on spraying pesticides will give you a phone price, as they treat all homes the same. This isn't at all professional. If the company is in a rural area and potential customer's are pretty far apart, it would be fine if they offered a price range, depending on the pests. At least if that price range is too high, the potential customer can say so and save them some time and gas. However, if they are in urban areas as most companies are, it is never professional to give prices over the phone.

A professional pest management specialist will inspect your home or business, identify any pests and offer to treat the infested areas safely and effectively. Most companies want to make regularly scheduled visits to your home. That is okay as long as they just don't spray pesticides inside and outside your home and call it pest control. It is, in reality, pesticide pollution. They should come to your house periodically and inspect your home or business for pests, for conditions conducive to pests and for possible entrance ways for pests to come into your home. If you have a crawl space under your home, they should go under your house and look for leaks or areas where pests can get into the main portion of your home. They should carefully inspect around the outside and look for wasp nests or other potentially dangerous pests near your home or business. They should even check any spider webs attached to your home to see if swarming termites are in the web. Pesticides should only be applied if there is a pest present that requires it. In the winter, they can inspect your house as they normally do and then also offer suggestions on how to pest-proof your home or business. Maybe install door sweeps, fix holes around plumbing and even trim branches from trees that are touching your home. This is IPM (Intelligent Pest Management).

Many companies and certainly all the larger ones have a clause in their contract that prohibits you from suing them. The clause reads something like this: *“Any dispute arising out of or relating to this agreement or the services performed under this agreement or tort based on claims for personal or bodily injury or damage to real or personal property shall be finally resolved by arbitration administered under the commercial arbitration rules of the American Arbitration Association.”* In 1995, the U. S. Supreme Court established that mandatory arbitration clauses could be used in contracts between companies and consumers. Since that time, the clause has been widely used by the pest control industry. One of the problems, and there are several, is that it is not free. It could cost the consumer up to \$2,000 up front in order to start the arbitration process. Very few people have that kind of cash lying around. If you are asked to sign a contract with a pest control firm, look for that clause. If it is present, you can cross it out and ask the company representative to initial it. If they refuse, don't sign the contract. There are plenty of pest control operators who do not require contracts to conduct their business.

There are basically three degrees of professionalism in the industry. There are the “antiquated” companies, who still go in homes and spray baseboards even though they have no idea what kind of pest the customer has or even if they have a pest. Mostly it is old-timers who still do this and it will eventually disappear. In the antiquated companies in the industry, all they know is they kill roaches and ants. One supervisor told me many years ago that there were only two kinds of ants, inside ants and outside ants! He was the service manager! That company didn't do well over the years. Other antiquated companies recognize sugar ants, grease ants and piss ants.

The next level of professionalism is the “mediocre” group of companies. They all have the same habits and follow the same routines, regardless of how unprofessional it may be. This is usually a result of lack of training. The folks start companies and develop their methods based on what they did in previous companies they worked for, even if those methods are no long viable. While this may work for many customers and is easy to do, it still puts them behind the true “Professionals”, who take this industry very seriously. Professionalism at the highest degree should be the mission of every company, but it is not even close.

The most common level of knowledge is represented in the mediocre companies around the country. They use common names for insects that make no sense. They refer to “crazy” ants. Why are they crazy? Have they been to an insect psychiatrist? They are called crazy ants because they run around in circles. Lots of ants do that. My kids did that. It is a ridiculous name. “Acrobat” ants do not swing from chandeliers in the customer's house and pavement ants don't live exclusively under pavement. I have never sniffed an “odorous” house ant, so don't know if they smell funny, but I am told they do. I have never met a customer with an ant problem who has squished and sniffed their ants. Of the 48 species of “field” ants that live in NM, only two of them actually live in fields! We have “carpet” beetles in homes without carpets. It goes on and on. Every company should strive to reach the upper level of competency and achieve true professionalism in the industry when it comes to technical knowledge and use the scientific names of the pests.

The antiquated companies will treat the baseboards of their customer's homes. Period. The mediocre companies will spray pesticides inside and out in a general manner, and will spray pesticides in

the dead of winter when bugs are hibernating. This is, of course, for show only, except all they are showing is their lack of technical knowledge.

The true professionals will only use crack and crevice materials in a building, or baits like Niban which works very well. They will treat around the outside using a pin-stream application so they can get the pesticide in cracks and crevices where potential pests hide. They will put Niban bait in water meters as they always have roaches. They will check spider webs they see for signs of swarming termites. In the winter, when there is no pest activity, they will inspect the house and offer to seal any cracks in the foundation, repair any vents, cut back any tree branches touching the roof and other things that can help prevent bugs from entering the house when spring comes around. This makes far more sense than spraying pesticides when the ground is frozen! Some so-called professionals will say Niban doesn't work. Actually it works very well, but since it is made from boric acid and available to the public, they don't want to use it as they think the customer may decide to do it themselves.

A true professional will post a pest control notification if they are going to treat any commercial account with synthetic pesticides, whether it is required or not. They will want to let the public know what they may be exposed to. Many years ago when I was in Houston, I always posted notifications when I was a Truly Nolen manager and it worked great. We had a lot of people call and ask for our service. There is nothing wrong with pesticide notification if you are using a legal product safely and according to the label.

If you do hire a company, ask them to give you a copy of the label and the MSDS of any pesticides they use. Read the label carefully. A professional will wear the proper gear as required by the label when applying pesticides. The mediocres will sometimes not wear the safety gear as they don't want you to think their products are dangerous.

In Summation:

As mentioned earlier, if you call a company and they give you a price on the phone, call someone else. If they haven't got the time to come to your house, inspect it properly and identify any pests, then they aren't very professional.

If they aren't wearing a uniform or neatly dressed, ask for identification and to see a copy of their license. Only amateurs would come to your home dressed in T-shirts or shorts.

If they don't thoroughly inspect your home, inside and outside and under it if you have a crawl space, then call someone else.

If they say they will spray your home regularly, inside or outside or both, send them on their way. You are looking for safe and effective pest management, not pesticide pollution.

If they don't recognize your pest to species or otherwise seem like they aren't aware of what they are doing, send them on your way. Some companies hire car salesman and other types of salesmen to sell pest control and that is not professional. Everyone in the company, salespeople, service technicians and managers should be properly trained in all aspects of pest management.

Choose your pest management professional carefully. Use the same criteria you would use in choosing

a doctor or any other professional.

## **CHAPTER 5**

### **How to Pick a Termite Company**

The first part of termite control is hiring a competent wood destroying insect inspector to see what kind of pests you may have. Proper identification of the pest is essential if control is going to be successful. They absolutely have to know exactly which species of termites are infesting your home, not just the general description of either “subterranean” or “drywood” termites. Different species have different habits, different size colonies and do varying amounts of damage. If you are going to pay a lot of money to control these pests, you should know exactly what they are. If your inspector doesn't know what they are, then hire someone else. There was a case in Albuquerque where a termite inspector walked over drywood termite pellets while inspecting the house. He wasn't familiar with drywoods so didn't make a note of them. It was a real estate inspection, so he was liable for missing the drywoods and had to pay for the subsequent fumigation. He went out of business and the last I heard he was in Alaska panning for gold. Hope he is better at that than he was at inspecting homes for termites.

In another case, an inspector checked a home in Clovis, NM and didn't find any termites. He didn't realize there were powder post beetles in the ceiling. When the buyer went into the attic, he fell into the kitchen through the ceiling. The inspector was liable as he should have been.

In a similar case, a company inspected a wooden cabin in Cimarron, NM and didn't find termites. He didn't see all of the bostrichid beetles on the window sills and ended up paying for a fumigation.

#### **Subterranean termites:**

If you have a home built on a slab and you have had a termite job performed recently, you may want to read this carefully and also make sure your guarantee is still available. Subterranean termites live in the soil and enter homes through the expansion joint between the foundation and the main slab or through a crack in the slab or around plumbing that penetrates the slab. Up until a couple of years ago, a termite crew would drill holes in the slab along the inside of the house and then treat the soil around the outside of the house. The purpose was to prevent termites from entering from the expansion joint or from coming up the outside of the house under the stucco. Recently, two termiticides, Termidor and Premise, have put out labels that allow the outside of the house to be treated as well as the area inside where the termites are active. They no longer have to drill the inside slab which often involves pulling carpet and drilling through tiles.

This all sounds good, right? Not so fast. All the companies I have talked to that do termite work told me that when they drill holes in sidewalks, patios and other concrete areas that are next to the home, they use a sub-slab injector to pump the termiticide into the holes. This is contrary to what the label says and the label is that law. Also it does not effectively protect your house from termites. The Termidor label says:

*Where physical obstructions, such as concrete walkways adjacent to foundation elements, prevent*

*trenching, treatment may be made by rodding alone. When soil type and/or conditions make trenching prohibitive, rodding may be used with rod holes no more than 12 inches apart. Exterior drilling and treatment of sub-soil is necessary for concrete structures adjoining the foundation such as patios, porches and sidewalks, to complete the exterior perimeter treatment zone. For driveways, exterior drilling is necessary only around building supports or wall elements that are permanently and physically located at driveway joints. Rod holes must be spaced so as to achieve a continuous treatment zone and in no case be more than 12 inches apart.*

I think the label is pretty clear that these areas have to be rodded and the termite folks should be making holes large enough to insert their ground rods. Otherwise they aren't going to be able to get the material to the footer as the label specifies. They are basically spraying the top of the ground beneath the concrete slab. If the material would leach down to the footer there wouldn't be any reason to trench and rod, they could just spray the surface around the house.

Treating outside concrete slabs with a sub-slab injector is similar to spraying baseboards, It is for show only and doesn't really do any good. The only way to effectively treat a slab would be with a four foot ground rod inserted into the drilled holes. The purpose of getting the termiticide down to the footer is to prevent termites from coming in contact with it and then climbing up the inside of the footer and entering the home. If you only use a sub-slab injector the termites can and will crawl under the termiticide and be able to enter the home.

When you get a bid for termite control, make sure that the representative has determined the depth of the footer on your house. They cannot calibrate the amount of termiticide they will use if they don't know that information. If they give you a bid without knowing the depth of the footer, they are using the 4 gallons per 10 linear foot formula. However that formula is for one foot of depth of footer. If the footer is 2 feet deep, then they have to use twice as much termiticide or 8 gallons per 10 linear feet. In other words, they will use the one foot depth formula no matter how deep your footer is if they don't measure it. That is contrary to the label and illegal. If you have to remind them to measure the depth of the footer, then you probably ought to call another company.

### **Drywood termites:**

Drywood termites are a major wood destroying insect that cost consumers many millions of dollars in damage and control. One estimate suggested Californians alone spend \$250 million dollars a year on this insect.

For many years the primary method of controlling drywood termites was to use sulfuryl fluoride (Vikane) as a fumigant. The house had to be wrapped and sealed and the gas injected. It was and still is a major inconvenience for homeowners as they had to do a lot to prepare for the fumigation as well as stay out of the house overnight. It was thought that once the house was cleared that the fumigant would dissipate harmlessly into the atmosphere. A recent study by the University of California at Irvine has destroyed that myth. It turns out that sulfuryl fluoride is a major greenhouse gas that can last about 30 years in the atmosphere and may last up to 100 years. This study can be found at (<http://www.sciencedaily.com/releases/2009/01/090121144059.htm>). Another study by the Scripps Institute



of Oceanography confirms Irvine's findings. It can be found at (<http://scrippsnews.ucsd.edu/Releases/?releaseID=965>). The Scripps study says researchers calculated that one kilogram of sulfuryl fluoride emitted into the atmosphere has a global warming potential approximately 4,800 times greater than one kilogram of carbon dioxide. That is pretty impressive. With the amount of carbon dioxide in the atmosphere now and helping cause global warming,

Also homes and commercial buildings are built differently now than when sulfuryl fluoride was in its prime. The homes made today are constructed much tighter to control energy and that can impede the flow of gas throughout the building leaving some areas untreated. This is one reason why fumigation has a higher re-infestation rate than orange oil treatments.

Vikane is the trade name for sulfuryl fluoride gas. Vikane is extremely hazardous and carries the skull + crossbones poison label.

There are some incidents worth mentioning. The San Diego Union-Tribune, on March 10, 2005 reported that a 39 year old woman was in a tented building that was fumigated with sulfuryl fluoride. She screamed for help and was removed from the building but she died.

In another case two families (eleven people in total) in an adjacent house to the fumigation were not evacuated in advance of the fumigation and had no reason to suspect anything was amiss as sulfuryl fluoride, the highly toxic gas used, is odorless and colorless. The only person to have remained at home throughout the duration of the fumigation started to feel ill by the evening, experiencing nausea, vomiting, diarrhea, and itchiness. The 39 year old father of three was admitted to hospital the following day but after three hours stopped breathing and died of heart failure shortly after. The remaining ten people who had been in the adjacent building all experienced symptoms of poisoning.

Finally two fatalities occurred when the owners of a home re-entered after the dwelling had been fumigated with 250 pounds of sulfuryl fluoride. The concentration to which the occupants were exposed was not determined. The man died within 24 hours, and the woman expired 6 days after exposure. Signs of intoxication included severe dyspnea, cough, generalized seizure, cardiopulmonary arrest (in the man), and weakness, anorexia, nausea, repeated vomiting, and hypoxemia.

These three incidents occurred over a number of years and only one was in California. However, the common denominator in all incidents was the use of sulfuryl fluoride to control drywood termites or a wood boring beetle. Sure the incidents are rare, but why would anyone want to take a chance on having their family exposed to this kind of extremely dangerous product when safer and effective alternatives are available? To me it is amazing that the use of sulfuryl fluoride is even permitted in California or anywhere else.

If you are still having trouble making up your mind, please read this letter I was given by a newspaper. The fellow who wrote the letter is the manager of a national pest control company. He wrote the letter to a colleague and copied it to the paper. I assume he wanted it printed. I was going to run it in my column but the paper didn't want to because the letter is so incoherent. They were right of course. However, I believe it is necessary for anyone thinking of having their house fumigated to read it. It is so poorly written it is funny (and scary). I won't mention the writer's name or the name of his company. Here is the letter with my comment following it:

*"I believe when the hype dies down, and in a few years the swarms come again; it will be different, We even use traditional methods very well - Termidor etc; of course I could use a little Orange Mist Spray : Aerosol with citrus odor along with ProCitra-DL a botanical-based insecticide but why when Termidor is doing all the work.....That is what some companies do they use Termidor or a non repellent, along with the Orange Oil.*

*How can one kill all infestations That are hidden ?? I am just honest and sell with integrity and don't worry. But this false and misleading concept must stop. It is even in the Rules ad Regs at the (Structural Pest Control Board) SPCB and they have not fined anyone or have they? I think People That write these articles should also do their own research, maybe the fume industry can use the press to their advantage??*

*There is a time and place for a local treatment and a time and place for a fumigation with Vikane, the consumers read and hear this and if t is out of sight it is out of mind. What about behind the walls that a humane being cannot reach? Lets say a 5 Story building with lots of hidden wood ? with sub floors, roof sheathing and it is all buttoned up how do you kill anything with Orange Oil"*

My comments: That letter is hard to follow. I am not sure what the writer means in the first paragraph as it is pretty much incomprehensible. If a homeowner has subterranean and drywood termites the company would use Termidor and orange oil. That makes sense so I do not know what point he is trying to make.

The next paragraph is more serious. The fumigation industry has been trying to put the orange oil industry out of business and they even had a regulation put in place that prohibits the orange oil folks from comparing orange oil treatment to fumigation or from saying that orange oil is a viable alternative. They obviously want the SPCB to become more involved in protecting their industry. Of course that regulation is nonsense as orange oil is a perfectly acceptable alternative to fumigation.

The last paragraph is characteristic of the misinformation they put out. A good orange oil treatment will work in a five story building. Imagine the cost of tenting and fumigating such a building. I showed this letter to one of the orange oil companies in California. The owner told me that when they treat such buildings, they inspect everywhere. He said: *"The inspection on a 40,000 sq. ft. commercial building we treated took 8 hours and a 200 unit apartment complex took 3 days! Essentially, an effective and complete inspection relies on a very experienced inspector who knows what to look for and where to look. With re-infestation rates running at a quarter of the industry average, we are clearly able to both find every infestation and eliminate it"*. Imagine the hassle of tenting and fumigating a 200 unit apartment complex and uprooting all those people.

Finally it is pretty clear that this fellow is a spokesperson for the fumigation industry (maybe self-appointed). If he represents the fumigation industry then there is nothing I have written or could write to make that industry look worse. How can you trust an industry that is supposed to check your home prior to fumigating it and then check it afterward to make sure it is safe if they can't even run spelling and grammar check before sending a letter to a newspaper?

There have been other methods of control tried but most only allow spot treatments. Microwaves, heat, cold and electro guns are a few. Heat has actually progressed to where it is considered sufficient to control termites in the entire house. There is a lot of preparation needed for heat treatment and

the time and labor cost is reflected in your bill for the treatment. It takes six to eight hours to heat a piece of wood internally to 125° Fahrenheit. In addition, the pretreatment preparation required of the homeowner is extensive and, if not completed properly, heat can be extremely damaging to property, such as plastics, electronics, and many other items. and there was at least one instance of a house exploding because of the heat and propane gas. I can't recommend this treatment.

Approximately a dozen years ago orange oil became a player in the termite control game and a very good player indeed. While there are several kinds of orange oil available to the pest control professional, one brand, XT-2000 stands out. It is the only orange oil formulation that can be used to treat entire homes. The others are only good for spot treatments. Orange oil is unique in that the capillary action of the product works in many ways like fumigation, but without the same risks! XT-2000 Orange Oil moves through wood like a gas, along the path of least resistance, filling up the treated piece of wood until the termites have no place to hide. Unlike fumigation, XT-2000 Orange Oil treatments are specifically targeted to the area of infestation, so you do not need to move out of your home during the treatment. Because of sophisticated optical equipment such as the borescope, inspectors have the ability to locate otherwise hidden termite problems and treat them. Since orange oil has come on the scene, over 500,000 buildings have been treated. This includes homes, churches, schools, apartment complexes, and assorted commercial buildings. There has been a very low callback rate with this treatment which demonstrates the effectiveness of the orange oil.

As for XT-2000, the company that distributes it is very selective as to where it goes. Any company that wants to use it has to go through a vigorous training program first and have annual training updates. Very few pest control products are as vigorously controlled by private industry.

Years ago we had DDT, chlordane, aldrin, dieldrin and many other pesticides that were thought to be ideal in how they controlled pests. I have used all of those products myself and I have fumigated many homes with sulfuryl fluoride. As time went by these products were determined to be far more detrimental to use than previously thought and they were eventually removed from use. Sulfuryl fluoride is in that category. It has been used in thousands of fumigations, most of them successfully, but we now know that sulfuryl fluoride is a serious greenhouse gas as noted earlier. The chemical's annual use in California creates emissions equivalent to the carbon dioxide produced by 1 million cars and California accounts for 60% of the sulfuryl fluoride used in the world.

Another important fact about sulfuryl fluoride is that when it breaks down it leaves fluoride in the soil, your home and on your food. Fluoride has been linked to a number of deaths, particularly to children and the elderly. Inhaled fluoride has been implicated in acute respiratory failure.

It is about time that Dow Chemical pulls Vikane off the market. Dow is not a bad company. They have a lot of very good products and services, yet like any company they have made mistakes. They would be doing their customers, society and the environment a service by removing sulfuryl fluoride from use and putting it in the museum alongside DDT, chlordane and the others. Sulfuryl fluoride is the past in drywood termite control using orange oil is the future.

I got the following letter from a reader. It demonstrates that the fumigation industry is not to be trusted:

*"When we bought our house and while it was still empty we had the fumigation done. As a first time homeowner and because I worked near our new home I stopped by often to see how things were going.*

*We also had the wood floors redone, etc. So I stopped by one day and there was a small pickup truck from the pest control company out front. The tent was taken down and had been down for a while. I went in the house and there was a guy from the pest control with a little pouch on his side. He hadn't heard me come in since all the doors and windows were open.*

*Before I said anything I saw him reach into the pouch and toss something on the floor. He was startled when I asked him what he was doing. I'll tell you what he was doing. In his pouch he had an assortment of dead bugs. He was throwing them here and there! He left quickly after trying to tell me the house wasn't safe to occupy. I told him "B S". My guess is that they didn't use any Vikane or anything else. They just did the bare minimum"*

If you think you have drywood termites, find a company that uses orange oil to inspect your home and treat it. It is much safer and more effective than fumigating your home.

In Summation;

If the termite inspector doesn't go into a crawl space and/or attic when inspecting your house, don't let them bid on the work.

If they don't make a clear and thorough graph and fail to give you a copy if they do make one, don't use them.

As mentioned earlier, if the inspector doesn't measure the depth of your footer, then call another company. They can't determine the amount of termiticide they need without that information.

And, if the inspector isn't dressed respectfully, I would recommend calling someone else as he doesn't have respect for his company, the industry or you, his client.

Never let a company, no matter how "nice" the representative may be, fumigate your house with sulfuryl flouride. It is not safe, it is a major greenhouse gas contributor and it puts more carbon dioxide into the atmosphere than automobiles. Go with XT-2000. It is safe, it is effective and it is environmentally friendly.

## **CHAPTER 6**

### **The Good Companies**

Obviously I don't know all the companies in the country. Not even close. The few companies I mention below I do know personally. I get emails from all over the country and I have a long list of companies I get complaints about, but very few people contact me and tell me how good a company is. There are undoubtedly many other good companies, but the best way to determine who they are is to follow the suggestions in the chapter that covers picking good companies. It wouldn't hurt to ask for and check references of anyone you call.

#### **Preventive Pest Control;**

Preventive is owned by Greg Hunt and Kevin Oleson and they are very good people. They have branches in California, Arizona, Utah, Nevada, New Mexico and Texas. I would like to see them

expand to every state in the union, but that probably won't happen. Not that many bugs in North Dakota. Wherever they are, they set the standard for ethics and competency in the industry. There are very few companies in this country that put the customer first and profit second, and Preventive is one of them. Almost every other company first looks at the status of their bank accounts and then controls the pests. I mean they will charge exorbitant amounts of money to control some pests simply because they can. Many companies get hundreds of dollars for treating a room for bed bugs. Many companies charge thousands of dollars for a termite job worth a fraction of that. Many companies won't even do a job because it wouldn't be profitable. Preventive Pest Control isn't like that. They will donate their service in some instances. I know of a non-profit organization that had termites in Bernalillo, NM and Chesley, the local Preventive manager told me they wouldn't mind helping these folks out for free if necessary. I don't know very many pest control companies that would do that. I have known Greg, Kevin, Allen, Chesley, Nathan, Stu and many other of their employees over the years and to a person, they have exceptional human values. If you have a pest problem and there is a Preventive branch near you, you absolutely can't go wrong. Their website is [www.preventivepestcontrol.com](http://www.preventivepestcontrol.com)

### **XT2000 Inc. and XT2000 Termite**

I have, in my pest control career, fumigated many homes with sulfuryl flouride (Vikane) for controlling drywood termites. It was extremely hard work both for the pest control company and the homeowners. They had to move out of the house for a few days, find lodging, pay for meals, board their pets, and often had to replace food left out. There was frequent damage to shrubbery around the house from tenting the house. There was no viable alternative in those days. About a dozen years ago, Michael Folkins of San Diego, California developed an product that was not only effective against drywood termites and wood boring beetles, it was absolutely safe. You didn't have to leave your house, board your pet or worry about the landscaping. He developed XT-2000 Orange Oil which is 95% orange oil (also known as d-limonene). It is derived from the rind of the orange. You can't get any more organic than that. XT-2000 Orange Oil will quickly kill drywood termites on contact and will kill their eggs as well as it travels through the wood very effectively. Over 100,000 homes and businesses have been treated with XT-2000 Orange Oil since Michael developed it. It is much safer and much more effective than sulfuryl flouride and you get a guarantee that is just as good as any.

Not only is XT-2000 widely used in California and some other states, but it is starting to be recognized in other parts of the world. Recently a termite epidemic was sweeping through the Azores Islands. These islands are about 900 miles off the coast of Portugal in the Atlantic Ocean, and they have termites also. An entire city was being attacked by drywood termites on the island of Terceira. They didn't want to tent and fumigate because of the close proximity of the buildings to each other. They contacted Michael at XT-2000 Inc. and he and his crew successfully treated five sites in the city, including three homes and two museums. There has been no reinfestations in any of the buildings treated.

It is not only effective in homes and commercial buildings, it is very effective in condominiums and apartment complexes. Think of the cost and inconvenience of moving multiple people out of a building before you can fumigate it. That isn't necessary when XT-2000 Orange Oil is used. XT-2000 is perfectly safe. It has an FDA GRAS rating (Generally Regarded as Safe). While it is safe for people it is dangerous for insects. D-limonene has been used to kill insects since 1958.

When you fumigate with sulfuryl flouride you will have an invisible residue of flouride on everything in your house. Sulfuryl flouride is also a major greenhouse gas. XT-2000 will leave your house

smelling like oranges and it won't disturb the atmosphere in any way.

Michael Folkins continues to contribute to the well-being of our planet by promoting XT-2000. He also makes sure that anyone who uses it is completely certified in how to apply it. His wife Anna runs Xtermite, Inc., their termite treatment company in San Diego. The two of them are doing a great job of effectively controlling drywood termites, maintaining the safety of the public and protecting our environment. I am very happy to be associated with them and the other companies that are certified to use XT-2000. Their website is [www.xt2000.com](http://www.xt2000.com)

**Planet Orange:**

Planet Orange is owned by Nathan Coccozza, Mathew Warwick and Nathan Vogel. They started in 2006 and it is the largest company in California that uses XT-2000. They have over 60 employees. They service the San Francisco Bay Area and nearby communities.

When I meet new companies I have no problem recommending them if I agree with how they service accounts. Then if I get complaints, I will no longer recommend them. I have been recommending Planet Orange since the summer of 2008. In the time since then I have never received a complaint on their service. I have received hundreds of compliments on how professional their personnel are, so I will continue to recommend them. I never met them in person, although I would like to, but I do know from the general public that they are absolutely honest and competent. That is very rare in the pest control industry. This company has the capability, morally and ethically, to dominate the drywood termite industry in any state they choose to do business. I look forward to seeing their branches in Florida and Hawaii along with the rest of California. The folks in those areas will be truly blessed. I don't know if they are going to expand like that, but we can only hope. Their website is [www.planetorange.com](http://www.planetorange.com)

**Orkin:**

I have worked for Orkin a couple of times. I was a technician in the Hill Country of Texas and as a salesman in Albuquerque. The manager in Albuquerque at the time was Joe Harlow and he was an excellent manager. Orkin is a good company and the main reason I mention them here is that they pulled all of the B & G sprayers out of all their branches. They restrict their use of pesticides indoors to crack and crevices treatments with aerosols. This is much safer than spraying pesticides with a B & G. Also, they pulled all of the sub-slab injectors from all of their branches and just use the ground rod when treating for termites. This is much more effective and I would like to see all termite control companies do this. Their website is [www.orkin.com](http://www.orkin.com)

**ABC Pest Management:**

ABC is a small company in Albuquerque, NM. The owner, Colin Fitzgerald, is a very conscientious and honest person. Along with his pest control company, he sells pest control products to the public, including Niban Bait which I recommend all of the time. His website is [www.pestcontrolsupplies.com](http://www.pestcontrolsupplies.com).

**Holdfast Enviro Pest Solutions:**

Josh McCloud owns this very good company. They are based in Missoula, Montana and serve most of the western half of the state. Josh is very conscientious about practicing safe and effective pest management. Their website is [www.holdfastpestsolutions.com](http://www.holdfastpestsolutions.com).

## **Greenbug;**

Greenbug isn't a pest control company in the strict sense, but they provide excellent products made from cedar that are very safe to use and very effective in controlling pests. They are based in South Carolina and their website is [www.greenbugallnatural.com](http://www.greenbugallnatural.com). I recommend using their products in controlling bed bugs. I have never had a call back and Greenbug is absolutely safe, unlike the pesticides frequently used in bed bug control.

I can't promise that the companies I recommend do all of the things I suggested you look for, but they are all honorable people and I am sure they will work with you. There are no perfect companies in this industry. I would say a small percentage of the companies are antiquated, as defined earlier. Most companies are in the mediocre arena and some are true professionals, certainly in their attitude. The companies above are all in the true professionalism category.

## **CHAPTER 7**

### **Multiple Chemical Sensitivity (MCS)**

Joel Paul, a spokesman for the National Pest Control Association, contended in 1988 that many people who claim they are “chemically sensitive” are actually allergic to the pests that the chemical (poison) is supposed to control. Others, he says, have “*delusory parasitosis, a distinct fear of insects. It’s a neurotic disorder of people that can never be controlled.*” What do you want to bet that this person never got a medical degree?

Multiple Chemical Sensitivity (MCS) is a real disease that affects a large segment of our society. Many more people may not know they have MCS until they are exposed to pesticides or other chemicals. Sharyn Davidson worked for a veterinarian clinic and was exposed to pesticides used on our dogs and cats. This exposure triggered MCS in her. She can describe in her own words her battle with Multiple Chemical Sensitivity.

*People with Multiple Chemical Sensitivity (MCS) often refer to themselves as canaries, or biological sentinels, who signal impending danger from toxic exposures. Recent epidemiological research revealed that as many as 16% of the population considers themselves sensitive to some chemicals. MCS has become like a half-ton canary that no one can any longer ignore. Many people with MCS are intolerant of pesticides, solvents, and many other synthetic products that never existed until humans created them.*

*Some would have you believe that there is nothing wrong with these synthetic products, but that there is something emotionally wrong with those who report reacting to these products. Can thousands and thousands of people who report intolerance to toxic chemicals be suffering from mass psychogenic illness? The opponents of MCS would like you to believe that. If designer poisons interfere with the life processes and kill life forms lower on the food chain, why is it a stretch of logic to understand that these same chemicals interfere with the life engendering metabolism of humans and make them ill?*

*Most people with MCS do not have antibody mediated allergies. Most toxic chemicals are not allergens. They are chemicals that interfere with the natural metabolic processes. Immune*

*suppressives toxins have been found in the fats of dead whales in Puget Sound and in the fat biopsies of humans with MCS, cancers and other toxic induced disorders. Unlike the highly impacted wildlife, those of us with chemical sensitivity can verbalize the emotional and physiological distress triggered by the many synthetic toxins. These supposedly "safe" synthetic chemicals created by man have reached the top of the food chain and are now creating a health crisis. Although many people appear to tolerate many of these synthetic products, there are many of us who are made ill by them.*

*Although we don't completely understand the mechanism of MCS, we are getting closer. We would like those who do not experience chemical sensitivity but who understand that the fragile web of our common environment has now been diminished to advocate for research to shed greater understanding of this issue. There can be no resolution of any problem without first acknowledging and understanding the problem. Please become informed about the impact of toxins on the quality of your life. The most important thing we can do is to find understanding through research and explain the mechanism of the disorder so that the problems can be resolved*

*My chemical sensitivity this past 19 years has been like a bad dream in which the Emperors have all their clothes on but they cannot see, hear or think clearly. In this nightmare, a small canary is yelling wake up Bellingham, dioxins are dangerous!. Wake up Washington State, pesticides are poisons . Wake up America, your canaries are ill! Wake up Earth, toxic chemicals impair life! Are those of us with MCS the only ones who can see, hear, and understand the canary?*

Sharyn's case clearly demonstrates that MCS is real. The following article was written by Ann McCampbell.. Ann suffers from Multiple Chemical Sensitivity. She gave me permission to use this information. Ann wrote:

Movies like *Erin Brockovich* and *A Civil Action* depict the true stories of communities whose members became ill after drinking water contaminated with industrial waste. Their struggles clearly show how difficult it is for people to hold corporations responsible for the harm they have caused. Whether individuals are injured by exposures to contaminated air or water, silicone breast implants, cigarettes, or other chemicals, their quest for justice is usually a David versus Goliath battle that pits average citizens against giant corporations.

When confronted with the harm they have caused, corporations typically blame the victims, deny the problem, and try to avoid responsibility for the harm caused. The corporate response to people with multiple chemical sensitivities (MCS) has been no different. People with MCS are made sick from exposures to many common products, such as pesticides, paints, solvents, perfumes, carpets, building materials, and many cleaning and other products. But the manufacturers of these products would rather silence the messenger than acknowledge the message that their products are not safe. To that end, the chemical manufacturing industry has launched an anti-MCS campaign designed to create the illusion of controversy about MCS and cast doubt on its existence.

It is a credit to the chemical industry's public relations efforts that we frequently hear that multiple chemical sensitivities (MCS) is "controversial" or find journalists who feel obligated to report "both sides" of the MCS story, or attempt to give equal weight to those who say MCS exists and those who



say it does not. But this is very misleading, since there are *not* two legitimate views of MCS. Rather, *there is a serious, chronic, and often disabling illness that is under attack by the chemical industry.*

The manufacturers of pesticides, carpets, perfumes, and other products associated with the cause or exacerbation of chemical sensitivities adamantly want MCS to go away. Even though a significant and growing portion of the population report being chemically sensitive, chemical manufacturers appear to think that if they can just beat on the illness long enough, it will disappear. To that end, they have launched a multipronged attack on MCS that consists of labeling sufferers as “neurotic” and “lazy,” doctors who help them as “quacks,” scientific studies which support MCS as “flawed,” calls for more research as “unnecessary,” laboratory tests that document physiologic damage in people with MCS as “unreliable,” government assistance programs helping those with MCS as “abused,” and anyone sympathetic to people with MCS as “cruel” for reinforcing patients’ “beliefs” that they are sick. They also have been influential in blocking the admission of MCS testimony in lawsuits through their apparent influence on judges.

Like the tobacco industry, the chemical industry often uses non-profit front groups with pleasant sounding names, neutral-appearing third party spokespeople, and science-for-hire studies to try to convince others of the safety of their products. This helps promote the appearance of scientific objectivity, hide the biased and bottom-line driven agenda of the chemical industry, and create the illusion of scientific “controversy” regarding MCS. But whether anti-MCS statements are made by doctors, researchers, reporters, pest control operators, private organizations, or government officials, make no mistake about it – the anti-MCS movement is driven by chemical manufacturers. This is the real story of MCS.

## CHAPTER 8

### Bed Bugs

A friend of mine, Jenella Loye, asked me to be sure to include bed bugs in this book. Of course they are included, because the pest control industry is making a fortune dealing with them. The good news is that anyone can control their own bed bugs at home without using toxic pesticides or a pest control company. This section is also in my other book, P (or G).

It is thought that bed bugs originated with man and bats when all three lived together in caves in the Middle East. The bed bugs later adapted to man-made and spread throughout the world, while bat bugs stayed in the caves with the bats. There are actually three species of “bed bugs” around the world. One species, *Leptocimex boueti* feeds on bats and humans in West Africa. The other two species are more widespread. *Cimex hemipterus* is found throughout the tropics around the world and feeds on humans, chickens and occasionally bats. The most common and widespread species is the one we will be dealing with. It is *Cimex lectularius* and it will feed on humans, chickens, bats and occasionally domesticated animals. It is found throughout the world as it is great at hitchhiking in luggage, bedding, clothing and furniture.

Although bed bugs are a major problem in some urban areas and hotels, the good news is that they don’t carry any diseases. Some people don’t even know they are getting bitten. When my wife gets bitten she breaks out in a pretty impressive rash. When I get bitten, there are no marks at all and I

don't feel anything. Everyone reacts differently to bed bug bites. This is one reason it is impossible to diagnose them as a problem based on bites alone.

Bed bugs have been in the news quite a bit in recent years. Stories that they are increasing in numbers and becoming more widespread are common. In reality, they have always been around and always will be. The reason they are getting so much press is because we have so much news media. They were just as common before CNN and all the cable stations came into existence as they are now, but they weren't getting the press. Also, living in a litigious society, we are more prone to sue hotels and motels that have these "dangerous" pests present. As a result of this, bed bugs have become the No. 1 structural pest in the country for making a profit. They have almost created an industry by themselves as many pest control companies are charging ridiculously exorbitant fees to control them, usually using toxic pesticides. Bed bugs are all over the internet and are getting pretty well known. They may be the best known bug in the country next to the cockroach. In reality, if you made a list of the 100 most dangerous pests in the world, the bed bug wouldn't make the list.

Bed bugs are, as stated earlier, true bugs. They belong to the Order Heteroptera and family Cimicidae. They have piercing mouthparts that they use to suck blood out of its prey. Sometimes they get a little excited and will climb on the back of another bed bug who is engorged with blood, pierce it and suck out the blood from that bug. The bottom bug will keep sucking on the person as if nothing is going on and both bugs will let go when they are both engorged, although the bottom bug may leak a little. Like most blood-sucking insects, bed bugs inject an anti-coagulant into the bite site during feeding to prevent the blood from clotting while they are dining.

They are attracted to sleeping people by the warmth of the person and the carbon dioxide given off. They almost always feed at night and hide during the day, but they will feed during the day if they are starving. They are a secretive insect and will hide in areas close to the food source, mostly where people sleep but sometimes in furniture. They will live under mattresses, in voids in wooden floors, behind paintings, along baseboards under the carpet, various cracks and crevices in walls, behind pictures hanging on walls, in furniture near the bed and behind loose wallpaper. They do like to congregate and you will often find several or more together depending on the size of the infestation. You will also see small black specks on the mattress (fecal matter) or blood spots on the sheets.

Bed bugs are wingless, oval in shape and 4-5 mm long when grown. They are brown in color but change to a deeper reddish brown after feeding. They are flat from top to bottom which makes it easier for them to hide in cracks and crevices in your home or hotel room. They are fairly prolific in that the female will lay 2-3 eggs every day after mating for the rest of her life. The cream-colored eggs are attached to rough surfaces and will hatch in about 10 days of room temperature. Usually many eggs are laid in the same area as a cluster. There are five nymphal stages they go through before reaching adulthood. Each nymphal stage requires at least one blood meal in order to molt to the next stage. It takes less than 10 minutes for a bed bug to complete a meal. The entire five juvenile stages take 6-8 weeks and the adult bed bugs will live between 6 months and a year, depending on food.

Bed bugs have a very unusual sex life. Although both sexes are equipped with normal sex organs, the male bed bug pierces the females abdomen with his penis and injects his sperm through the wound into her abdominal cavity. The sperm works its way through the female abdomen finally reaching the ovaries and resulting in fertilization. The female survives this indignity and continues to live and lay eggs although it may be detrimental to her health. It creates an open wound that may become infected.

This type of sex is the reason females leave the groups of bed bugs in a hiding place and find a solitary place of their own a fair distance away from the others. You can hardly blame her.

These interesting insects rarely travel far from their food source, but if they haven't fed in about two weeks, they will migrate somewhere else. If they are in an apartment complex, condominium, hotel or motel, they will work their way to adjacent rooms in search of food. This is one reason why innkeepers should inspect rooms as they are vacated and treat them if necessary. If the rooms have bugs and they aren't dealt with, they will spread to other rooms looking for food. They can go without a blood meal for up to a year, depending on the humidity (longer with higher humidity, shorter when dryer conditions exist).

They have few natural predators. Several species of ants, including the pharaoh ants (*Monomorium pharaonis*) and the Argentine ants (*Iridomyrmex humilis*) are known to feed on bed bugs and the American cockroach (*Periplaneta Americana*) is said to like them. Most folks don't want ants or cockroaches in their beds anyway, even if they are looking for bed bugs.

Bed bugs are one of the very few insects that have created an Act of Congress (HR 2248) or more commonly called, "Don't Let the Bed Bugs Bite Act of 2009." Here is a summary of this piece of legislation: 5/5/2009—Introduced.

*"Don't Let the Bed Bugs Bite Act of 2009 - Authorizes the Secretary of Commerce to provide grants to to assist states in carrying out inspections of lodging facilities for cimex lectularius, commonly known as the bed bug. Allows states to use grants to conduct inspections, train inspection personnel, contract with a commercial applicator to inspect and treat lodging facilities, and educate lodging proprietors and staff about prevention and eradication of bed bugs. Requires the Secretary to report to Congress on the effectiveness of the grant program. Amends the United States Housing Act of 1937 to include bed bug prevention and management in public housing agency plans. Amends the Public Health Service Act to include bed bug prevention and control under the block grant program for preventive health services. Requires the Centers for Disease Control and Prevention (CDC) to investigate the public health implications of bed bugs on lodging and housing and report to Congress."*

You have to think that congress has too much time on its hands if it has to pass laws dealing with bed bugs.

One of the first control methods for bed bugs was to hang the foot of a stag at the foot of the bed. That probably didn't work very well. One of the first exterminators for bed bugs was a company called Messrs. Tiffin and Son, known as "Bug destroyers to Her Majesty and the Royal Family." They apparently only catered to the "upper class" in England. Bed bugs became a major problem after World War I. It is estimated that one-third of all the houses in Stockholm, Sweden were infested and that 4 million people dealt with bed bugs in London at that time. In Germany, over 700 pest control companies tried to eradicate them from that country. Unfortunately bed bug eradication methods were generally very expensive (as they are now) and almost always failed because of re-infestations. During the World War II era, DDT was used quite a bit but the insects developed a resistance to this toxic pesticide. They also built up resistances to other chemicals that were used against them such as benzene, dieldrin and hexachloride, all very toxic pesticides. Currently most exterminators use synthetic pyrethroids to control bed bugs although some have adopted a method using heat. Heat may kill any existing bugs, but it won't prevent a re-infestation.

Is it possible to control bed bugs with non-toxic materials if even the dangerous products such as DDT didn't work? Yes it is! All you need to start is a product called Greenbug For Indoors (GFI). This is an absolutely safe product (unless you are a bed bug). Then you will need some food grade diatomaceous earth (DE). You can get DE at a feed store or buy Fossil Shell Flour.

The first step in controlling bed bugs is to completely inspect the room to determine the extent of the infestation. Place close attention to the sleeping areas. They can be hiding anywhere but they will stay as close to the food source as they can. Small crevices in solid structures, such as the joints in the bed's headboard or between the wall and the baseboard are the bed bugs' refuge of choice. Strip the bed so you can inspect the mattress and box spring. Examine the seams and buttons on the mattress as well as any labels. Bed bugs will hide in all of these areas. Stand the mattress on end if you have to and examine the box spring if there is one. Stand it up and look at the underside, especially along the edges. Also look behind pictures hanging on the wall, between and behind any books or magazines in close proximity to the bed and in any furniture nearby. You may have to turn some of the furniture over and examine the underside. Carefully check anything that is under the bed including storage boxes. If there is any litter under the bed, it should be removed. Also check for dried cast skins (exuviae) from the molting process and fecal matter.

Before you start the treatment, there are a few preparations you should do. Wash all the bedding in hot water (120 + degrees). This will kill any bed bugs in the bedding. Personal items such as stuffed animals, blankets, etc. should be vacuumed and placed in plastic bags for a couple of weeks. If you have a clock, phone, radio or other appliance near the bed, they should be opened and inspected as bed bugs will hide in those places as well. Thoroughly vacuum the entire room including inside closets and dresser drawers. If the infestation is severe, you will have to use a crack and crevice vacuum tool to suck the bugs out from along the edge of the carpet, from behind switch plates which you will have to remove, from all around the bed frame, inside the box spring and inside any furniture in the room. If you see any eggs on the mattress along the seams, you can remove these by picking them up with duct tape and discarding them or brushing them off with a stiff brush. After vacuuming the room or rooms, remove the bag from the vacuum and discard it right away.

Next, use a hair dryer to blow hot air in all the cracks and crevices and along the edge of the carpet and on the furniture to get any bed bugs the vacuuming missed. You want to get as many bed bugs as you can before the final treatment.

Now it is time to treat the bed. Use a flashlight and carefully examine the seams, buttons and any folds in the mattress along with the headboard and footboard if they are present. Check the box spring and frame as well. If you missed any bed bugs with the vacuum or hair dryer, they will be visible. Spray any bed bugs you see with the GFI as well as all cracks and crevices in the bed. Spray the underside of the box spring as well. If you don't see any bed bugs, then spray along the seams and around the folds and all the other areas mentioned. Make sure to use plenty of solution so the sprayed surface is wet. Then put some DE in a duster such as a catsup container and puff DE on all the sprayed areas, including under the box spring. The GFI solution will kill any bed bugs in several hours and the DE will prevent any from hiding in these areas in the near future. You can also sprinkle fine powder body bath powder on the mattress and rub it into the fabric.

Now you have to treat all the furniture in the room including night stands, chairs, couches, dressers, etc.

Make sure you carefully inspect all the wooden furniture and treat them as you treated the mattress, box spring and bed frame. If any of the furniture, such as bunk beds, have metal framing, treat inside the metal tubing with the GFI and DE.

Finally, you need to make your bed difficult for bed bugs to access. Tape up any tears in the box spring or mattress with duct tape or, better yet, enclose them in a zippered mattress cover used for dust mites. Put the legs of the bed in plastic food bowls or metal cans and coat the inside with Vaseline. Don't let the bed touch any walls or let the bed covers touch the floor.

If you have a hotel or motel, the process is the same except for the bed legs in food containers and the Vaseline. If you have or had bed bugs in your establishment, then you should treat each room as it becomes vacant. Then you can retreat them every six months or as needed.

You can trap bed bugs by placing a heating pad on the floor with sticky traps around it or you can use duct tape, sticky side up. Put an Alka-Seltzer tablet on a damp sponge on a small plate on the heating pad. The Alka-Seltzer will attract any bed bugs in the area. You can catch mosquitoes and fleas by placing two Alka-Seltzer tablets in a bowl of soapy water. Used on a damp sponge they will attract bed bugs and kissing bugs. This is a medicine we take!

We have avian flu, human flu, swine flu, and now we have canine flu. Don't be surprised if some enterprising people discover "bed bug flu." Someone is going to go to bed and wake up with a cold and a few bed bug bites and the "bed bug flu" will be born and the news media will be running with it. The news will be scaring people out of staying in hotels and motels.

## SUMMATION

I hope you find the book helpful if you need a pest management professional. This book and my others are available free to anyone who wants them on my website at [www.askthebugman.com](http://www.askthebugman.com)

As I mentioned earlier, if you have any pests you need identified, I will be happy to identify them for you. That would include any household or yard pests anywhere in the United States or Canada. Pack them in a plastic vial with a little cotton and put the container in a bubble envelope or box and mail them to me at 6804 4<sup>th</sup> St. NW, #134, Los Ranchos, NM 87107. Please include a check made out to me for \$10 as it takes time to process the samples. Be sure to include your email address so I can contact you with the identification.

Richard "Bugman" Fagerlund

