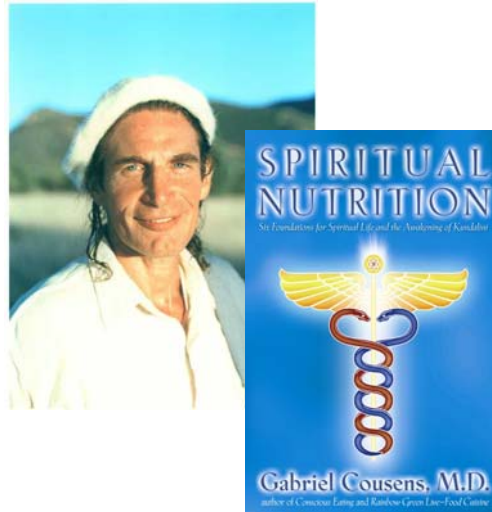


GABRIEL COUSENS, M.D.

Founder of Tree of Life Rejuvenation Center and Author of *Conscious Eating*, *Rainbow Green Live-Food Cuisine*, and *Spiritual Nutrition*



Pesticide Pestilence

Although I see authentic food at the cutting edge beyond organic, I want to make it very clear that the organic movement plays an incredibly important role in the healing of the planet. I strongly support that everyone go 100% organic. Presently over 20% of the pesticides currently registered in the U.S. are linked to cancer, birth defects, developmental harm or nerve damage. I cannot even imagine how much this is involved with the current epidemic of hyper-activity and ADD. I can only say that some research has shown that when children are put on an organic diet there is a 50% cure rate, without doing anything else. This is not surprising since most pesticides and herbicides are neurotoxins. That means 50% of the 8 to 10 million children who are presently on Ritalin would no longer have to take Ritalin. The other 50%, given the natural ways of healing the brain that are available, probably could also be healed. More than twelve thousand children in the U.S. are diagnosed with cancer every year. Cancer is now the leading cause, except for suicide, of death for children under the age of 15. These high cancer rates in children were unheard of before the age of pesticides, herbicides and genetically engineered food. Over half the food on our grocery shelves

contains genetically engineered ingredients. These ingredients clearly have not been adequately tested for their impact on human health.

Let us understand, pesticides are designed to kill living creatures, and human beings are living creatures. The organic movement is one of the most important things we have to begin to rectify the destruction of our soils, the very high rate of cancer in children and adults, and the literal poisoning of the world. The only people who benefit from this pollution are the corporations who are making a profit indirectly from the suffering of others. The thing that is very interesting, which I will point out again, is that those farmers in countries that have used heavy pesticides and herbicides have less ability to produce high quality foods. In other words, their total agricultural output seems to be subtly dropping. One of their problems is that the pests are smarter than the corporations.

The poisoning of our environment, not only in the United States but also in Africa, Asia, Australia, Europe and the Arctic and Antarctic is a threat that has to be faced directly. If we are to stand up to corporate practices that threaten the health of farmers, rural communities, consumers and ecosystems, we must vote with our mouths. By refusing to eat irradiated foods, commercial pesticided and herbicided foods, and genetically engineered food, we are making a very clear statement to the corporations and the governments that are typically influenced by corporate donations. We are saying that we, as the public, will not buy your story or your food; we will not support the poisoning of the plants and of all living creatures on this planet. For this reason, I cannot stress strongly enough the importance of going 100% or close to 100% organic in our food choices. At the Tree of Life Café, we guarantee 100% organic live food.

The tide is turning. In May of 2001, 91 countries and the European community signed a treaty to phase out the persistent organic pollutants (POPs), which include notorious pesticides such as DDT, PCB's and dioxins that are wreaking havoc around the globe. More and more people are waking up to the fact that pesticides have been proven not only unsafe and counter-productive in the long run, but that the pesticide treadmill forces farmers to continually increase their use of poisonous pesticides to combat worsening pest outbreaks. An additional problem is that as these pests develop resistance to pesticides, their natural predators are also being wiped out. Some of the corporations have gotten smarter about this. Not only have they created the pesticide-dependant farmer, but they are now are promoting genetically engineered crops as "essential to feed a

hungry world". This technology, which is being more seriously combated in Europe and other places than in the U.S., raises very serious concerns about the biodiversity health of the environment and about who controls the food supply.

In California from 1991-1999, the use of cancer causing pesticides increased 121%, despite the common sense principles and scientific evidence that say that the way to have healthy crops and to be healthy human beings is not to go with the approach of better living through chemistry, but rather, by better living through respecting the laws of nature. We face an obviously powerful and politically influential industry with a single goal, which clearly is not to feed and heal the planet, but is to expand its multi-billion dollar business.

In the United States alone, 4.5 billion pounds of pesticides are used each year and another 700 million pounds are exported. Unfortunately, pesticides do not recognize borders once they are dumped into the environment. Pesticides can travel thousands of miles through the atmosphere, waterways and oceans currents, as well as in imported food and fiber. And so what we are seeing, even in the supposed pristine polar habitats, is high levels of toxic pesticides, especially POPs. They are showing up in the tissues of native peoples, whales, penguins and other animals. The same is true with genetically altered foods. Once they are released into the environment they have the serious potential of disrupting the delicate ecosystems in devastating ways. By going organic we make a strong vote with the mouth to break this circle of poison.

Unless one eats organic fruits and vegetables one is continually exposed to pesticides. One of the most important pathological effects of these toxins, besides initiating cancer, is the varying levels of neurotoxicity to the brain and the rest of the nervous system. These have more subtle symptoms such as reduced mental functioning, decreased mental clarity, poor concentration, and I believe hyperactivity and ADD. Some recent research has linked a higher rate of Parkinson's disease, which is a brain disease, to those people who have a history of higher pesticide use. So we do have some very suggestive evidence that the use of pesticides and herbicides really effect our mental function and brain physiology including increasing the incidence of Parkinson's. This is not exactly a surprise when you realize that pesticides are designed as neurotoxins. Does it surprise us to think that we are biologically similar to the pests that we are trying to eliminate? Our nervous systems are more sophisticated, and may take longer to poison, but it still happens.

The following excerpts are from a study titled "An Anthropological Approach to the Evaluation of Preschool Children Exposed to Pesticides in Mexico" by Elizabeth A. Guillette, Maria Mercedes Meza, Maria Guadalupe Aquilar, Alma Delia Soto, and Idalia Enequina Garcia, in *Environmental Health Perspectives* - V. 106, N.6 Jun.98. It is the most stunning study I have read that illustrates the powerful neurotoxic effects of pesticides and herbicides on our children. This illustrates why going organic is so important at any age, but probably most important for children whose brains are developing.

"The children of the agrarian region were compared to children living in the

foothills, where pesticide use is avoided. The RATPC measured varied aspects of physical growth and abilities to perform, or function in, normal childhood activities. No differences were found in growth patterns. Functionally, the exposed children demonstrated decreases in stamina, gross and fine eye-hand coordination, 30-minute memory, and the ability to draw a person. The RATPC also pointed out areas in which more in depth research on the toxicology of pesticides would be valuable...

"The 33 children exposed to elevated levels of pesticides, hereafter referred to as valley children, came from three towns and corresponding rural areas within the Yaqui Valley. The towns were Quetchehueca (n = 10), Bacum. (n 12), and Pueblo Yaqui (n = 11), all 10-30 feet above sea level. The criteria for town selection included a historical, continual use of pesticides since 1950, based on data from Hewitt de Alcanara. and a history of Yaqui Indian settlement. A previous study, which examined the village of Pueblo Yaqui, observed elevated levels of a number of pesticides or metabolites in 100% of the cord blood and mother's milk samples. Tesopaco, located in the foothills of the mountains (elevation 400 m), is a Yaqui settlement based on ranching. This town was used as the source of reference children (n = 17). All of the towns, regardless of location, were similar in infrastructure and the interfacing of tradition with modernization....

"Pesticide use is widespread and continues throughout the year, with little governmental control. Contamination of the resident human population has been documented, with milk concentrations of lindane, heptachlor, benzene

hexachloride, aldrin, and endrin all above limits of the Food and Agricultural Organization of the United Nations after 1 month of lactation. An initial site visit revealed that household bug sprays were usually applied each day throughout the year in the lowland homes. In contrast, the foothill residents maintained traditional intercropping for pest control in gardens and swatting of bugs in the home. These people cited their only exposure to pesticides as with the governmental DDT spraying each spring for the control of malaria. (identical DDT spraying also occurs in the agricultural areas and is repeated if a case of malaria occurs.)...

“A cursory look at the foothill and valley towns could easily lead one to the conclusion that no discernible differences were present in the Yaqui children. Heights varied between the tall and short for age, and weights ranged from the ultra thin to the obese. The lack of physical differences in growth patterns was borne out with anthropometric measurements. Anthropological participant observation indicated that the type of play was different in the two areas. Group play was observed more frequently in the foothills, with pretend parties for dolls and street games. Valley children appeared less creative in their play; they roamed the area aimlessly or swam in irrigation canals with minimal group interaction. Some valley children were observed hitting their siblings when they passed by, and they became easily upset or angry with a minor corrective comment by a parent. These aggressive behaviors were not noted in the foothills. Such dues indicated that additional aspects of development may be affected by environmental change, as opportunities and toys for play were available at both sites. In both areas, mothers were generally home on a full-

time basis and showed interest in their children....

“The rapid assessment tool did show that psychological and physiological differences in functional abilities exist between the valley and foothill children at 4 and 5 years of age. The jumping assessment, reflecting a decrease in stamina for valley children, could be an indicator of the presence of a physiologic modifier resulting in reduced intensity and/or frequency of play. In addition, playing ball or other activities involving gross or fine eye hand coordination are less exciting or fulfilling when the child cannot perform the required skills. Of increased concern are the differences found with activities involving mental / neurological functioning. The inability to remember a meaningful statement after 30 min has implications for school performance and performance in social activity. The drawing of a person, often used as a nonverbal screening measure of cognitive ability, could also indicate a breakdown between visual sensory input and neuromuscular output, as found with brain dysfunction. The decreases in eye hand coordination, as with catching the ball and dropping raisins into a circumscribed area, could also correlate with this type of brain dysfunction. This concept of breakdown between incoming sensory signals and neuromuscular output certainly deserves greater attention in future research....

“Valley children had a significant decrease in their ability to catch a large ball ($P = 0.034$) at the distance of 3 m. This inability to catch a ball increased as the ball size decreased. Foothill children outperformed the valley children in catching the tennis ball at 1, 2, and 3 m

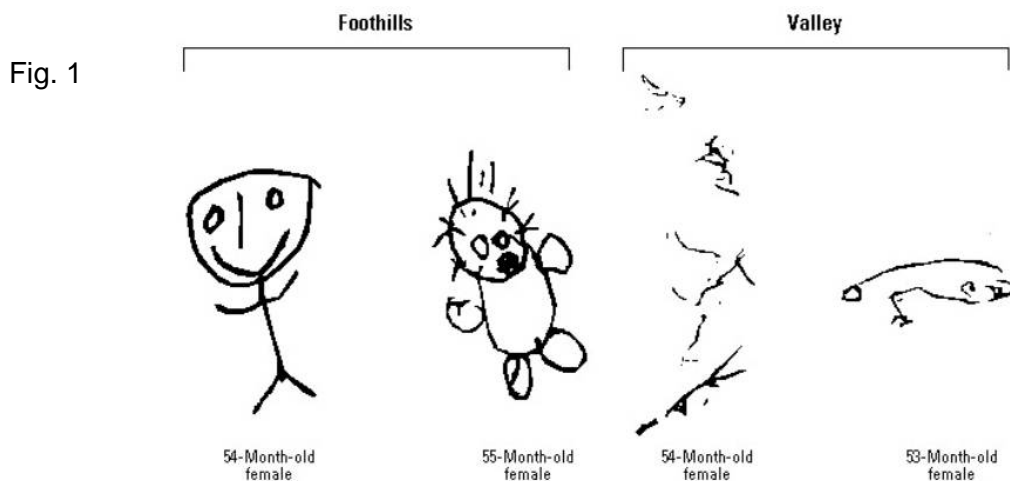
($p = 0.05, 0.01, \text{ and } 0.003$, respectively). A stronger difference was found between the two groups in regard to fine eye hand coordination; foothill children were better able to drop a raisin into a bottle cap ($F = 7.3; df = 1, 44; p = 0.009$). Interestingly, the location of the child's home - valley versus foothills had a significant effect on these measurements, but the child's sex had no relationship to any of these outcomes.

Figure 1. Representative drawings of a person by 4-year old Yaqui children from the valley and foothills of Sonora, Mexico.

“Children in both locations performed equally well in the immediate recall of numbers up to four digits. The valley children had more difficulty grasping the concept of repeating the numbers, although marked differences were found between towns. Children with such difficulty were encouraged to repeat one and then two vowel sounds made by the interviewer. Thus, the movement into repeating numbers became more comprehensible. Marked differences in recall were seen with 30 min memory ($X^2 = 14.3; P = 0.027$). In recalling their gift, 59% of the 17 foothill children remembered both the object and its color, with all but one of the remaining children remembering just the balloon. In contrast, 27% of the 33 valley children recalled the balloon and color, 55% recalled the balloon only, and 18% could recall neither the object nor the color.”

Minimal Exposure to Pesticides

High Exposure to Pesticides



One of the most significant effects of an organic vegetarian diet is the tremendous health benefit of stopping the chronic poisoning from pesticide intake. In 1985, the pesticide Temik in watermelon poisoned nearly one thousand people in the western United States and Canada. People had a variety of reactions, including grand mal seizures, cardiac irregularities, and even several stillbirths. Next, the dangers of alar in apples were exposed. In 1987, the National Academy of Sciences concluded that in our lifetime, pesticides in American food may cause more than one million additional cases of cancer in the United States. Laurie Mott and Karen Snyder of the Natural Resources Defense Council (NRDC) reported in the Amicus Journal that each year, 2.6 billion pounds of pesticides are used in the United States; and nearly all Americans have residues of the pesticides DDT, chlordane, heptachlor, aldrin, and dieldrin in their bodies.

A 1987 Environmental Protection Agency report indicated that because of the massive agricultural use of pesticides, at least twenty pesticides, some of which are cancer causing, have been found in the groundwater of twenty-four states. Between 1982 and 1985, the FDA detected pesticide residues in 48% of the most frequently consumed fresh vegetables and fruits. In 1975, the sixth annual report of the Council on Environment stated that dieldrin, which is five times more potent than the outlawed DDT, was found in 99.5% of the American people, 96% of all meat, fish, and poultry, and in 85% of all dairy products. Dieldrin is one of the most potent carcinogens known. It has caused cancer in laboratory animals at every dosage ever tested, no matter how infinitesimal. Low-level exposure in humans has been known to cause convulsions, liver damage, and destruction of the central nervous

system. Fortunately, dieldrin was banned in 1974, but who knows how lethal the next new line of pesticides may be. Fooling around with pesticides is a form of American roulette. The drug companies are the only winners.

Dioxin (2, 4, 5-T), an active component of Agent Orange, is considered by Dr. Diane Courtney, head of the Toxic Effects Branch of the EPA's National Environmental Research Center, to be the most toxic chemical known. According to Diet for a New America, millions of pounds of 2, 4, 5-T have been sprayed on American soil. The EPA has officially recognized that cattle grazing on land sprayed with dioxin accumulate it in their fat. According to pesticide industry authority Lewis Regenstein, those who eat beef get a dose of dioxin that has been concentrated as it moves up the food chain. Dioxin has been shown to produce cancer, birth defects, miscarriages, and death in lab animals in concentrations as low as one part per trillion. It is no wonder, according to David Steinman in Diet for a Poisoned Planet, that deaths from cancer in this country have risen from less than one percent in the beginning of the nineteenth century to one in four American men and one in five American women today. Although other factors besides herbicides and pesticides, such as nuclear radiation and cigarette smoking, do play a role in increasing the incidence of cancer, I wonder how much the cancer rate would drop if we stopped actively putting these and all other pesticides in our food chain. Even if their toxicity is acknowledged and they are banned, once they have been introduced into the environment, the chlorinated hydrocarbon pesticides are extremely stable compounds that do not break down for decades or longer.

I do not think scientists have discovered the full extent of the damage pesticides have already done to the nation's health. The types of cancers that are statistically emerging suggest that they are originating from the specific effects of certain pesticides. According to Diet for a Poisoned Planet, between 1950 and 1985, urinary bladder cancer increased by 51%; kidney and renal pelvis cancer increased by 82%. These types of cancers are directly associated with toxins in the drinking water. Testicular cancer, which occurs in significant proportion among farm workers and manufacturers of pesticides, has increased 81%. In 1985, non-Hodgkin's lymphoma, which is linked with pesticide exposure, increased by 123%. The Surgeon General's Report on Nutrition and Health in 1988 estimated that as many as 10,000 cancer deaths annually could be caused from the chemical additives in food. This estimate does not even include pesticides. It is extremely difficult to know the exact percentage of the cancer increase due to pesticides, additives, and other environmental factors in our food, water, and air, but, most likely, it is significant.

In addition to the single pesticide factor effect, which can be directly tested in the laboratory, there is often a more powerful synergistic effect from the multiple use of different toxins that react together in the environment. This synergistic effect is difficult to assess. The cumulative effect of widespread, chronic, low-level exposure to multiple pesticides is only partially understood. One National Cancer Institute study found that farmers exposed to herbicides and pesticides had a six times greater risk than nonfarmers of getting one specific type of cancer. Research at the University of Southern California discovered in 1987 that

children living in homes where household and garden pesticides were used had a sevenfold greater chance of developing childhood leukemia. The Amicus Journal article entitled "Pesticide Alert" reported that in 1982, a congressional report estimated that 82-85% of pesticides registered for use had not been adequately tested for their ability to cause cancer. In addition, 60-70% of pesticides were not tested for creating birth defects, and 90-93% were not tested for the possibility of causing genetic mutations.

In addition to the relative absence of single-factor data, there is almost no data to show how these pesticides work when combined. In the Journal of Food Science, one of the few studies on the synergistic effect of pesticides reported that when three chemicals were each tested separately on rats, there was no obvious ill effect. When two of the three chemicals were added together, the health of the rats diminished. When all three were used synergistically, the rats all died within two weeks. This synergistic pesticide porridge of our food and water is probably creating the most overall damage to the health of all living forms in our environment. People who do not use purified water or organic food are exposing themselves significantly to this danger. The lack of available data on the health-destroying effects of pesticide use, both individually and synergistically, suggests the EPA has to be regulating more out of ignorance than knowledge. More than 110 different pesticides were detected in all foods between 1982 and 1985. Of the 25 pesticides detected most frequently in our foods, nine are known to cause cancer. This is a serious situation.

In the '90's, the tide of pesticide and herbicide use continued to increase rather than ebb. The following data come from a report in Pesticide Action Network published by Californians for Pesticide Reform (CPR). In California, which uses 25% of all the pesticides in the US, the trend is toward an increasing use and dependence on toxic pesticides and herbicides. California literally puts hundreds of millions of pounds of chemicals on our crops, soil, water, homes, schools, and work places each year. The environmental protection laws simply are not strong enough. Six and one-half pounds of pesticides per person are used in California, which is more than double the national average of 3.1 pounds per person.

Pesticide use in California increased 31% from 1991 to 1995, a jump from 161 to 212 million pounds per year. The increase occurred primarily in the intensity of pesticides per acre as the number of agricultural acres stayed about the same. The use of cancer-causing pesticides rose 129% -- to more than twenty-three million pounds -- what is now 11% of the total pesticide use in the state. Use of acutely toxic nerve poisons increased 52% to about nine million pounds. The use of restricted pesticides -- those which regularly cause damage to people, crops, and the environment -- increased 34% to forty-eight million pounds in 1995. The total volume of carcinogens, reproductive hazards, endocrine disrupters, category I acute systemic poisons, category II nerve toxins, and restricted-use toxins increased 32% between 1991 and 1995. This is approximately seventy-two million pounds, or 34% of the total reported pesticide use. Strawberries and grapes were the two most heavily pesticided crops. Strawberries received about three hundred pounds of active pesticides per acre, and grapes

received a total of fifty-nine million pounds of pesticides in 1995.

A report by Californians for Pesticide Reform (CPR) shows that 87% of the forty-six California school districts surveyed used highly toxic pesticides in their routine building and lawn maintenance. These forty-six districts serve one and one-half million children. Seventy percent of these school districts used suspected carcinogens; 52% used pesticides that are known to cause birth defects or impair normal mental and physical development; 50% used pesticides suspected of disrupting the human hormonal system; and 54% used nerve toxins. This data was typically unavailable to parents, teachers, and the public. CPR had to use legal counsel to obtain these simple data.

According to the Environmental Working Group, every day one million US children under the age of five consume unsafe levels of pesticides that are known to harm their developing brain and nervous system. An analysis of the federal information is that most of the risk comes from five organophosphate insecticides: methyl parathion, dimethoate, pirimiphos methyl, and azinphos methyl. The foods most likely to contain toxic levels are peaches, apples, nectarines, popcorn, and pears. The baby foods most likely to have unsafe levels are pears, peaches, and apple juice. This study found that approximately one in four peaches and one out of eight apples had levels of organophosphates that are unsafe for children. Can we afford not to protect our children by not buying organic produce?

If you think this increase in pesticides and herbicides is just a bunch of statistics and has no effect, think again. The incidence of childhood cancer increased 10.8 % from 1973 through 1990, according to the EPA. (Cancer now kills more children under the age of fifteen than any other disease.) A child born today has a one in six hundred chance of developing cancer by the age of ten, according to the EPA. By a child's first birthday, the combined cancer risk of just eight pesticides on twenty foods they may have eaten exceeds the EPA's lifetime level of acceptable risk. Children eat more food and take in more water relative to their size than adults and thus have elevated exposures to pesticides and other contaminants. Industrial pollution is a form of national domestic violence. With these kinds of statistics, do you have any wonder why I so strongly stress the importance of feeding ourselves, pregnant mothers, and our children as close to 100% organic foods as possible?

Pesticides can affect every living organism. Human beings are no exception. The more detrimental effects of pesticides, herbicides, and fungicides include cancer, nervous system disorders, birth defects, alterations of DNA; liver, kidney, lung, and reproductive problems; and an overall disruption of ecological cycles on the planet. According to Dr. David Pimentel, an entomologist and agricultural expert at Cornell University, pesticides cost the nation \$8 billion annually in public health expenditures, ground water decontamination, fish kills, bird kills, and domestic animal deaths.

The potential for health problems depends on the extent and type of

pesticide exposure and the susceptibility of the individual. Children and the elderly are the most susceptible, the latter because their immune systems and organ function decline with age. Children's bodies are smaller and they receive proportionally higher doses of toxins per body weight; their organs can be damaged more readily because they are not fully developed. Furthermore, many of the most frequently used pesticides affect the nervous system, and children are more susceptible to neurotoxins than adults. The National Cancer Institute found an increased risk of leukemia in children whose parents used pesticides in their home or garden.

Among the effects of pesticides, cancer is the most studied. Between 1969 and 1986, several types of cancer increased significantly among people ages 64 to 84 in six leading industrial countries. These cancer types are multiple myeloma (a cancer that starts in the bone marrow and spreads to other bones), melanoma of the skin, and cancer of the prostate, bladder, brain, lung, and breast. Although farmers' general lifestyle is healthier than city folks, with lower risks for most cancers and noncancer diseases, they were found to have some specific cancers, including multiple-myeloma, lymphomas, skin melanomas, leukemia, and cancer of the lip, stomach, prostate, and brain. Work-related exposures were theorized to be causing specific cancers among farmers.

Evidence has accumulated that many industrial chemicals (including many common plastics and pesticides) mimic estrogen hormones, thereby disrupting reproduction and development in humans, mammals, birds, and fish just like diethylstilbesterol (DES) did to

mothers and fetuses who received the drug in the '60's. These estrogenic-like chemicals may be the cause for the increasing incidence of cancer of the breast, testicles, and prostate. According to the American Chemical Society: (1) sperm counts in men worldwide average 50% of the average from fifty years ago; (2) the incidence of testicular cancer has tripled and prostate cancer has doubled in the past fifty years; (3) in 1960 the incidence of breast cancer was one in twenty and in 1998 it was one in nine; and (4) young male alligators in pesticide-contaminated lakes in Florida have such small penises they are unable to function sexually. Estrogen-mediated hormonal imbalances can create all these changes and more.

Estrogen is usually considered a female hormone, but males produce estrogen in small amounts. In the developing fetus, a specific ratio of androgens (male hormones) to estrogen must be maintained for proper sexual differentiation to occur. If the hormone balance is disturbed, the offspring may be born with two sets of sexual organs or a single set that is incompletely developed. Diminished sperm count and possible predisposition to cancer also may be set at this stage.

Examples of estrogen mimickers are DDT, DDE, dieldrin, dicofol, methoxychlor, some PCB's, alkyl phenols from penta- to nonylphenol, as well as bisphenol-A (the building block of polycarbonate plastics, used in many common detergents, toiletries, lubricants, and spermicides). Many of these estrogen mimickers resist breaking down in the environment and are highly soluble in fat; thus they accumulate in the bodies of fish, birds,

mammals, and humans. Nonvegetarians obviously accumulate a higher amount. One study showed that the mothers' milk of vegetarians contained only 1% the amount of pesticides as the milk of meat-eating mothers. Many of these estrogen mimickers will cross the placenta barrier and pass into the developing fetus.

Even the conservative Journal of the American Medical Association has reported that estrogenic chemicals have an effect. Ana Soto, a researcher at Tufts University, combined ten estrogenic mimickers, each at one-tenth the dose necessary to produce a minimal response. She found that when all ten were combined, they were strong enough to produce an estrogenic response. This is significant because the US government has been regulating based on its testing of individual chemical effects. They have almost no data on the synergistic effects of the many pesticides, herbicides, fungicides, plastics, PCBs, etc., working together.

Scientists can pretend to discern "safe" levels for an individual chemical, but they have no idea of any safe level for combining chemicals. In fact, there are no "safe" levels. Political decision-makers need to understand that we have to abandon the chemical-by-chemical regulation approach and regulate whole classes of chemicals. Furthermore, instead of setting standards according to pesticide effects on healthy adults, their effects on children should be used to set maximum exposure. Certain categories of dangerous chemicals, such as those that cause cancer and disrupt nervous system and hormone function need to be immediately discontinued if we are to survive as a species.

There are at least nineteen major chemicals used on US crops that are associated with disrupting the human hormone system. According to the Washington, DC-based Environmental Working Group, about 220 million pounds of these hormone disrupters are applied to sixty-eight different crops annually. In 1992, Frank Falck, M.D., Ph.D., Assistant Professor of Surgery at the University of Connecticut School of Medicine, examined the tissues from suspicious breast lumps in forty women and found that those tissues that were cancerous had higher levels of PCBs, DDT, and DDE (a DDT byproduct) than the benign tissues. Dr. Wolff, Professor of Community Medicine at Mt. Sinai Medical Center in New York City, analyzed blood from more than 14,000 women and found that those who developed breast cancer had higher levels of DDE. He found that the women with the highest levels of DDE had four times the risk of breast cancer than those with the lower levels.

Since the 1960's, most researchers in the US have expressed the opinion that the findings connecting the estrogenic pesticides with breast and other cancers are only preliminary, but the Israeli government has already acted on the evidence with exciting results. From 1976 to 1986, Israel was the only country among twenty-eight countries studied where the breast cancer death rate dropped. One explanation was that in 1978, Israel banned three estrogenic pesticides. Within two years after the ban, lindane levels in the tissues dropped by 90%, DDT by 43%, and BHC by 98%. By 1986, the death rate for breast cancer among Israeli women below the age of 44 had dropped by 30%.

The amazing observation is that pesticides do not even achieve their stated purpose, yet we still are willing to risk our lives to use them. Dr. David Pimentel, one of the world's leading agricultural experts at Cornell University, estimates that more than 500 species of insects are now resistant to pesticides. It is no accident that crops destroyed by insects have nearly doubled during the last forty years in spite of an almost tenfold increase in the amount and toxicity of insecticides. One study showed that recent pesticide usage by Filipino rice farmers costs the individual farmer more in medical bills than it generates in increased rice production. Even on a cost-benefit versus health approach, the use of pesticides comes out on the negative side of things. Aside from increased rates of certain cancers, farmers in the Philippines who were not organic growers suffered nearly double the kidney and respiratory problems compared to organic farmers and were five times more likely to experience eye problems. Farmers who used pesticides had considerably more skin complaints, gastrointestinal problems, neurological problems, and hematological problems.

In 1986, the Indonesian government sponsored a plan to decrease the use of pesticides. The rice production since then has increased by 10% and there is much less capital outlay for pesticides and their concomitant medical problems. In Bangladesh, farmers using integrated pest management spent 75% less money on pesticides and increased their crop harvest by 14% over those using high levels of pesticides.

Pesticide usage is a major public health problem worldwide. It reflects a consciousness that is completely out of touch with the laws of nature. The National Academy of Sciences estimates that pesticides are responsible for 20,000 cancer cases per year. Cancer in the US is a serious concern, but what about the increased neurological problems, learning disabilities, and hyperactivity our children are experiencing on what appears to be a mass basis? How many environmental allergies and other detrimental effects on the immune system are being created?

Most genetically engineered plants are designed as pesticides in themselves or as plants that can withstand heavier applications of herbicides, such as Monsanto's "Round-Up", that kill weeds. The result has been a three-fold increase in pesticide use in some places, because the plants can withstand them and, of course, this creates three times more toxic pollution. In this process of using genetically designed plants, corporations have taken control over seed supplies and the pesticides that they have designed to control them. The result is that this technology works against farmer controlled, ecologically sensitive, sustainable, and organic methods. The organic methods are obviously going toward reducing the amount of pesticides and to protect the agricultural biodiversity. The good news is that many people are listening. The total of organic products sold has grown at about 20% per year in recent years, and many supermarkets now stock organic products. Please support this positive shift in the supermarkets and buy organic foods. However, in the midst of consumers waking up, the large corporate use of pesticides continues. For example, in the year 2000,

Monsanto sold more than 2.6 billion dollars worth of Round Up around the world. Monsanto's genetically engineered seeds are on more than 100 million acres.

What sort of consciousness does it take to continue to deliberately poison yourself and your family in order to get less effective crop outputs? What sort of consciousness does it take to manufacture these poisons and sell them (especially to sell poisonous chemicals banned in the U.S. to third-world countries where the people do not understand how to minimally protect themselves because of ignorance and poverty)? Pesticide usage not only leads to disease, but directly destroys the life force of the soil. I do not understand how people can choose to spend money for something that not only does not work, but also poisons humans and the environment.