**HARMFUL EFFECTS OF CHEMICAL PESTICIDES**

Pesticides are designed to kill insects, weeds, fungi, bacteria, and other things that feed on crops, spread disease, are a nuisance or destroy property. Farming is big business, and most food producing companies are driven to make money and pay the most attention to the bottom-line. Pesticides and genetically modified organisms are a way to ensure they get the crop yield they demand, no matter how it hurts the environment or the consumers. Pest control methods may be either biological or chemical in nature.

Chemical pesticides are known to pollute the environment. While their intended effects are often short-lived, studies have shown that chemical pesticides linger in the atmosphere, the ground and in our waterways long after the job is over. Chemicals have been used on fields across the world for almost 100 years, creating a buildup of adverse pollution in our environment, which continues to grow with every application.

When farmers across the world began to rely on chemical pesticides, a drastic change in soil health followed. When the health of the soil is compromised, the nutritional value of the food it yields is compromised as well. Chemical pesticides not only deplete the nutritional value of our food, but they also contaminate it. Research has consistently found pesticide residues in a third of food, including apples, baby food, bread, cereal bars, fresh salmon, lemons, lettuces, peaches, nectarines, potatoes, and strawberries. While pesticides are designed to kill living organisms, they are certainly not meant to enter our bodies.

Most pesticides kill pests directly on contact. Systemic pesticides work differently. They penetrate to the inside of a plant traveling along its absorption path. These poisons work by poisoning the pollen and nectar of flowers, and this can kill needed pollinators like butterflies and bees.

Pesticides are a major threat to bees. The systemic poisoning of flowers has killed a remarkable number of bees. We’re simply losing too many of them. The bees and butterflies are pollinators, and they represent a natural tour de force in perpetuating plant cycles and the natural evolution of plants that rely on pollinators. You see, bees cross-pollinate to collect their food. Almost a quarter of maintained bee hives did not survive the winter of 2014-2015. That translates to a loss of tens of billions of bees.

Farmers and their families and other persons who use chemical pesticides regularly are at greatest risk for pesticide toxicity in their bodies. The danger spreads across larger areas, as the pesticides:

● Are carried on the wind

● Leave residues on produce

● Remain inside produce and animals

● Run off into open water, contaminating public water supply as well as fish and other seafood

Anyone who uses pesticides, or is present when pesticides are sprayed, is at risk for dangerous exposure. The pesticides can enter the body through skin, eyes, mouth, and nose. Pesticides can be toxic to humans and animals. In some cases, it only takes a small amount of some toxins to kill. And other toxins that are slower acting may take a long time to cause harm.

Pesticide production can be dangerous, too. One disaster at a pesticide manufacturing plant was in Bhopal, India. The plant accidentally released over 40 tons of an intermediate chemical gas, methyl isocyanate, used to produce some pesticides. As a direct result of the spill, nearly 4,000 people were killed immediately, overall approximately 15,000-20,000 people died in the ensuing years because of toxic chemical exposure. Today more than half a million people suffer from mild to severe permanent damage as a result of the disaster. Children seem to be greatly susceptible to the toxic effects of pesticides. The Natural Resource Defense Council has collected data which recorded higher incidence of childhood leukemia, brain cancer, and congenital disabilities. These results correlated with early exposure to pesticides. Even just using pesticides in amounts within regulation, studies have revealed neurotoxins can do serious damage during development. Researchers report the dangers of pesticides can start as early as fetal stages of life. The pesticides entry on Wikipedia lists some of the results that have been recorded in recent years including:

● Fetuses, (pre-birth babies), may suffer from exposure and exhibit behavioral problems, growth issues

● Lower cognitive scores, fewer nerve cells, and lower birth weight

● A lower resistance to the toxic effects of pesticides

● A greater risk (70% increase), for Parkinson’s disease, even with low levels of pesticides