

Understanding Pesticide Toxicity
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The late 1940's was the beginning of a new era in human civilization – the pesticide era. For the first time synthetic products could be produced, cheaply, to control unwanted plants and many disease carrying insects. The impact of herbicidal weed control on crop production is undeniable. Yields increased, profitability increased, and children were allowed to attend more school sessions since help on the farm was less necessary. Additionally, dreaded diseases like malaria and encephalitis declined dramatically – or were outright eliminated in some countries. It was believed that pesticides were a modern miracle, equivalent to penicillin and aspirin.

But we soon realized that you can have too much of a good thing. Attitudes toward pesticides began to change by the late 1960's – due in part to the landmark book *Silent Spring* by Rachel Carson. This book decried the horrible excesses of pesticide abuse and the impact it was having on the environment. This movement led to the eventual formation of the Environmental Protection Agency and pesticide regulation. Since this time, pesticide toxicity to mammals has declined sharply while stewardship efforts and application technology has dramatically increased. However, public perception toward pesticides is still largely negative.

In my opinion, it is important that we not view pesticides as “good” or “bad”. Pesticides can be greatly beneficial to human health and productivity when used properly. Likewise, they can be harmful if used in a way contrary to their prescribed use patterns. Regardless, pesticides are chemicals, not unlike bleach, antifreeze, or drain cleaner. They are to be used properly. When this occurs, the risk of personal or environmental injury is low – just like antifreeze.

Though pesticide use has a checkered past, today is a different time. All products endure years of testing and scrutiny. This, of course, doesn't mean they can be used in a cavalier manner. All pesticides MUST, by enforcement of federal and state law, be used according to their specific label. When this occurs, the likelihood of adverse effects are quite low. But on the other hand, just because a chemical isn't a pesticide doesn't mean it is entirely safe either. Bleach and ammonia are common household cleaners, but should never be mixed. Together, dangerous fumes are produced that can overcome an adult in a matter of minutes. These chemicals can be greatly beneficial, but only when used properly.

Chemicals are chemicals, pesticides or not. Pesticides shouldn't be considered inherently dangerous, nor should common cleaners be considered inherently safe. All chemicals should be respected and used appropriately, regardless of their intended purpose.

Pesticides play an important role in human safety and in industrialized society. Hopefully we understand their role without rejecting them based on a title or preconceived notions.