

## **The Pesticide Debate: 30 Years After Silent Spring**

It was the early 1960's when Rachel Carson stirred the world with her book on the dangers of pesticides. Have we made significant gains in our efforts to reduce the amount of pesticides use in our food production systems? Have we become complacent? Have things really changed since the writing of Silent Spring?

Much of the recent focus on pesticides has been on water quality. A consensus is being reached that strategies which may be efficient for reducing soil and nutrient loss such as conservation tillage, may be no solution to the chemical loss problem. Strategies such as conservation tillage may reduce surface loading of pesticides but increases groundwater loading because of increased infiltration. Wherever water moves so goes persistent pesticides. Simply switching to reduced tillage system is not going to change the herbicide loss problem unless that change in tillage system enables a reduction in herbicide use (e.g. ridge tillage) .

Much of the discussion on pesticides has been focused too narrowly on water quality and neglects to look at other factors. Three recent findings should make us diligent to continue or efforts to reduce the use of pesticides (herbicides, insecticides, fungicides and fumigants) in our environment.

Finding #1. Methyl Bromide: a persistent soil fumigant is a significant source of depletion of the ozone layer.

Finding #2. DDT Derivatives: have been found in elevated levels in women with breast cancer.

Finding #3. 2,4-D: a large study in Western Canada indicates that farmers have increased risk of prostate cancer with increased exposure to 2,4-D.

Pesticides will always be a problem because they are biocides or killers of life forms. What justification is there to keep methyl bromide on the market even in the short term. Imported Dutch tulip bulbs, tobacco and monoculture cropping of strawberries surely cannot justify contributing to the destruction of the ozone layer. It is

incomprehensible that the federal government remains without a voice on the methyl bromide issue. There are alternatives for nematode control such as certain catch crops for field use and soil heating in greenhouses.

There has been much complacency recently in efforts to reduce pesticide use. Let it be said that there has been great advances in farmer education about pesticide application and that many farmers have implemented integrated pest management approaches whether it be hiring scouts to determine insect levels in vegetable crops or using narrow herbicides bands in conjunction with electronically guided row crop cultivators. However, for the most part, chemical pesticides remain the first line of defense against pest problems which is THE problem.

### **Priority list for Protection from Pesticides**

1. There needs to be an immediate withdrawal of Methyl bromide from the global market. The risk is so high that there is no point in even discussing the benefits even in the short term.

2. Eliminate all non essential pesticide applications: There is no way that there should be access to biocides by consumers for use in the home lawn maintenance market. It is a sad society that requires farmers who apply pesticides for crop production to have a pesticide application permit while letting urbanites walk into a hardware store and buy the latest pesticide for non essential use at what ever quantity they want in a densely populated area.

3. Eliminate the use of persistent chemicals. The worst pesticide problems to date have been caused by the most persistent chemicals. We all know the original DDT story. Who would believe that pesticide applications in the 1950's would be leading to increased incidence of breast cancer in the 1990's. Beef is the # 1 source of herbicides in the North American Diet. It leads one to wonder out loud whether the use of atrazine on corn, subsequently fed to beef cattle, is also contributing to a potential risk of breast cancer. Could the breast cancer link to fat in the diet really be a link to the way the meat is produced. Persistent soil insecticides also need to go. In western Canada, canola seed treatments are killing off the burrowing owl. There is little debate that the more persistent a chemical is the more "collateral damage" to other life forms.

4. Continue research and education programs which emphasize cultural control strategies and biocontrols as the main line of defense against pests. The 50% lower quantity of pesticides emphasis by provincial governments is a poor yardstick to measure reduced reliance on chemical pesticides. Most new pesticides have low quantities of active

ingredients applied compared to their predecessors. But, sometimes bigger surprises come in smaller packages.

If you haven't read Silent Spring read it. You'll be surprised that after 30 years, not all that much has changed except that there is more evidence to support Rachel Carson's claims. If you read Carson's book thirty years later you will realize how slowly the pest management strategies she suggested are being implemented. Change is happening but it is much too slow.

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