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By Patrick Moore, PhD

Back at the time of the first Earth Day in 1970, I was a grad student at the University of British Columbia, preparing to go on the ocean voyage against U.S. hydrogen bomb testing that would result in the birth of Greenpeace. For the next 15 years, I would lead Greenpeace on a range of campaigns, finally leaving in 1986.

A lot has changed since those days, not least a significant improvement in agricultural technology. So there should be no shame in thinking this Earth Day about ways in which science and technology have improved our ability to raise crops and put food on our tables.

More importantly, continued research and development in genetic science, fertilizers and pesticides has enabled us to dramatically increase both the quantity and quality of food production without increasing the area of land required. The result is greater wilderness protection and a more bio-diverse world.

Pesticides are a key part of modern agriculture, contributing to the dramatic increases in crop yields achieved in recent decades. Through the use of pesticides, farmers are able to produce crops profitably in otherwise unsuitable locations, extend growing seasons, maintain product quality and extend shelf life.

In fact, it's better pesticide science that has allowed North America to triple its food production while maintaining the same amount of forest cover as existed a century ago.

But activist groups with an anti-pesticide agenda continue to disseminate misinformation designed to scare and confuse the public. From the Environmental Working Group's 1989 campaign against the growth regulator Alar (a campaign which nearly destroyed the U.S. apple-growing industry), and continuing today with the likes of the Sierra Club and David Suzuki, the misguided bid to demonize pesticide use continues.

Ironically, the result is that people who listen to the anti-pesticide message tend to put themselves and their children at greater risk of cancer by avoiding eating fresh fruits and vegetables.

Professor Bruce Ames of the University of California, Berkeley, has been trying for years to tell the world that pesticide in food is not a significant health issue. A member of the National Academy of Sciences and a National Medal of Science recipient for his research on cancer, especially in connection with chemical toxicity, Dr. Ames has found that natural pesticides plants produce to protect themselves from insects and fungus are just as toxic as the synthetic pesticides applied in agricultural production.

An international panel of cancer experts organized by the National Cancer Institute of Canada has reached much the same conclusion. Evaluating over 70 published studies, it concluded that contrary to allegations by some activists, it was "not aware of any definitive evidence to suggest that synthetic pesticides contribute significantly to overall cancer mortality."

Dr. Ames notes that 99.99% of the pesticides we eat are natural chemicals -- something anti-pesticide activists never tell the public. So those who turn to organic food are not avoiding most of the pesticides humans ingest, because most of these pesticides are naturally occurring -- and like their synthetic cousins, they pose negligible risk to human health.

Eliminating synthetic pesticides would mean giving up the huge productivity gains we have made in agriculture. It would mean turning wilderness and parkland to farmland and reducing biodiversity, at tremendous environmental cost and with no real benefit.

Worse, eliminating pesticides would make fruits and vegetables more expensive, thereby decreasing consumption and increasing the risk of disease. A research analysis titled Benefits of Crop Protection Technologies on Canadian Food Production, Nutrition, Economy and the Environment (SafeFood Consulting, Inc., 2005) found that without the use of pesticides, crop yields would drop by 30% to 50%, largely because of losses to insects and pests, and retail food prices would jump by at least 27%.

Agricultural science and technology have changed our world for the better. Pesticides have played an important role. As we celebrate Earth Day and commit ourselves to a more sustainable future, let's confront activist misinformation and scare tactics by remembering how much we've achieved through the science of agriculture.

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