

**D**ichlorodiphenyltrichloroethane (DDT) is the most famous and controversial synthetic insecticide in the world. Its history is long and well-documented.

DDT was first chemically synthesized in 1874, but its properties were not known until 1939. Paul Hermann Müller of Geigy Pharmaceutical was awarded the Nobel Prize in 1948 for his work with identifying its use as an insecticide. During and after World War II, DDT was the primary means of controlling the mosquito vectors of malaria and typhus — saving millions of human lives. After WWII, it became available for agricultural use and quickly became widely and, unfortunately, indiscriminately used.

In 1962, Rachel Carson published her book “Silent Spring,” which launched the environmental movement globally and inspired the creation of the Environmental Protection Agency (EPA). In her book, Carson looked at the environmental impact of indiscriminate use of pesticides, including DDT on the environment. In essence, she looked at the nontarget effects. Although it was widely assumed Carson wanted pesticides banned, that was not the case. She recognized their use could be beneficial. However, she pointed out that indiscriminate use can lead to cancer and a loss of wildlife.

In 1972, DDT was banned from use in the United States. One measurable benefit of the ban was that the bald eagle and osprey, which were facing potential extinction, have made spectacular recoveries. Since Carson’s book and the creation of the EPA with its associated pesticide regulations, the development of new insecticides and re-registration of old ones must be thoroughly documented on their environmental and health effects. The financial cost of bringing a pesticide to the market is high.

Additionally, environmental concerns have led to the ban of insecticides like diazinon on golf courses and sod farms in 1988, due to the potential for decimation of congregating bird populations. Diazinon was

## You’ve Come a Long Way, Insecticides

BY KARL DANNEBERGER



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banned in 2004 in non-agricultural products. Other organophosphate insecticides have over the years come under close scrutiny, while other classes of insecticides were restricted in their use.

So where are we now? Given the high cost of bringing insecticides to the market, the risks of trying to get registration, and the thorough testing required, one would think we would be in dire straits. Yet, new products and classes of insecticides have come to the market. These products have been thoroughly and rigorously tested for efficacy, environmental risks and health risks.

The result is insecticides that can be used in very small amounts and provide season-long control with acute and chronic toxicity levels that have minimal environmental and health risks.

Some of the insecticides meet EPA’s reduced-risk criteria, which is a pesticide that is characterized as having a low impact on human health, low toxicity to non-target organisms (birds, fish and plants), low potential for groundwater contamination, lower use rates, low pest-resistance potential and compatibility with integrated pest management.

The advancement in insecticide chemistry since the early 1970s has been spectacular.

Our industry is progressive, creative, accepting of change and environmentally conscious. It would be beneficial to see other countries embrace the use of some of these new insecticides in turf and ornamental to reduce the dependency on older compounds.

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