

# Kid's KOrner

## U.S. Farmers Try To Reduce Chemical Dependence

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National Geographic  
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CHESTERTOWN, Md. — The new corn crop unfurling in four sandy fields on Remington Farms not far from the Chesapeake Bay represents a revolution that could shake the U.S. agricultural community at its very roots.

Responding to nationwide concerns about human health and the environment, agribusinesses are industriously looking for ways to farm with fewer chemicals and still make a profit. They want to reduce their chemical dependence before government does it for them.

"If we don't, chemicals could be legislated out of existence," says Mike Borel, who oversees the Remington Farms demonstration project for DuPont, one of the world's largest agricultural chemical producers.

Farmers insist that they can't raise crops at a price consumers are willing to pay without using some chemicals. Chemical companies complain that the public doesn't understand pesticides.

People point to a legacy of DDT and more recent scares about alar

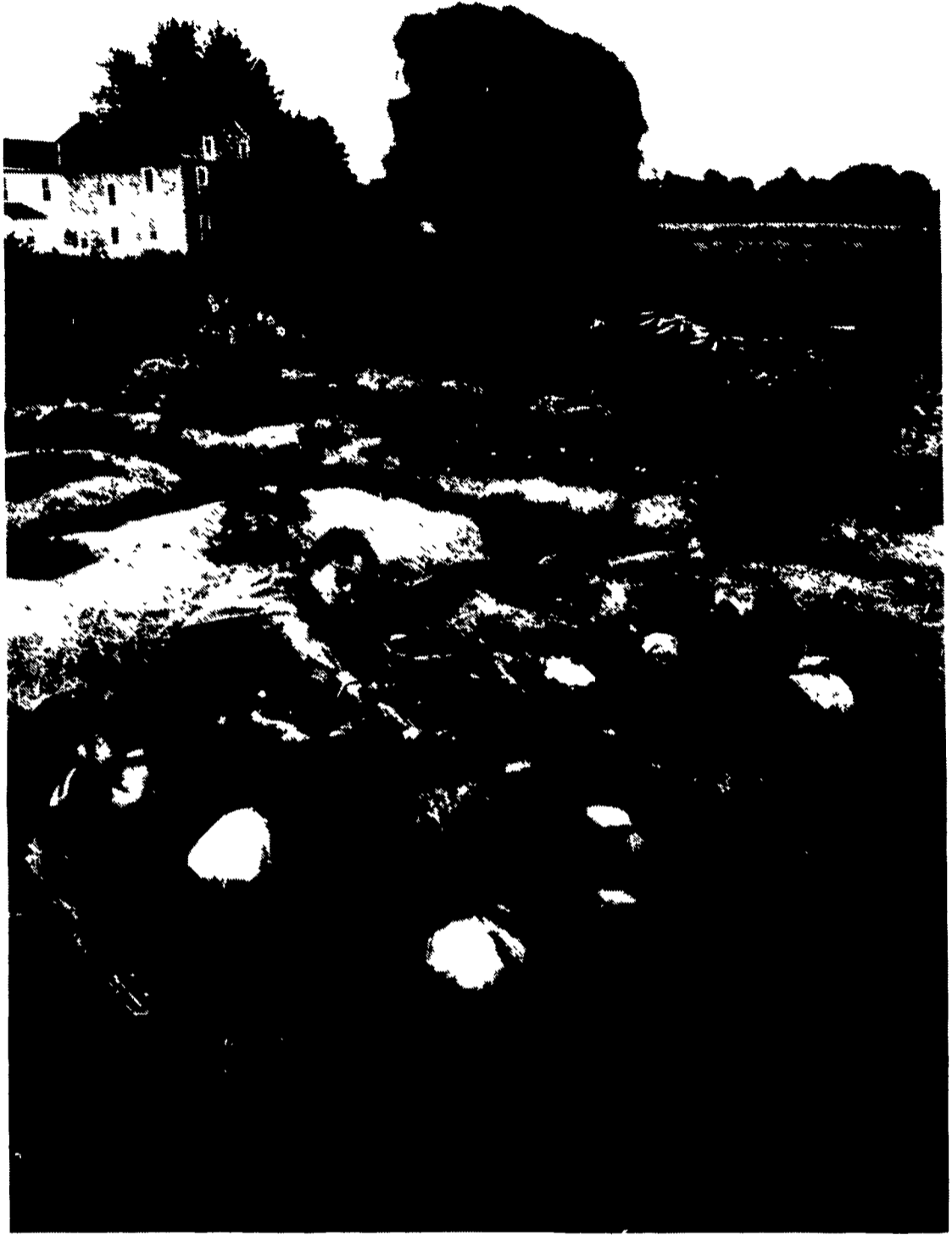
and cyanide residues on apples and grapes. Pesticide use has tripled during the past 30 years. The National Academy of Sciences warned this year that pesticides could be a major threat to young children.

"We used to think in terms of gallons. Now we think in terms of grams," says Adele Logan, of the Washington-based National Agricultural Chemicals Association.

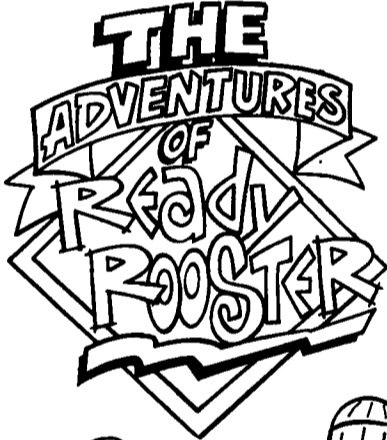
The four fields at the 3,000-acre Remington Farms, a wildlife preserve for deer, ducks and geese within the Chesapeake watershed, will demonstrate different approaches to growing corn with fewer chemicals. The harvest and the environment will be monitored for evidence of contamination.

Sponsors hope the project will help calm consumers and send a warning to reluctant farmers. It is considered the most significant effort yet to try to farm without contaminating water supplies or harming wildlife.

"The point is to make it believable," says Raymond Forney, the agronomist who designed and manages the demonstration for an alliance of some of the biggest



Growing bigger and better cabbages and other vegetables and fruits without relying on chemicals is a hope of American agriculture. A few major growers are experimenting with no-chemicals methods. But even advocates concede that organically-grown produce is too expensive at the consumer level for today's mass market.



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agribusinesses.

Rodale Institute, one of the nation's largest organic farming organizations, is a partner along with the U.S. Department of Agriculture, the Environmental Protection Agency and several universities.

One Remington field will be managed like a conventional farm, with scheduled applications of chemicals. Programs for the other three rely on progressively fewer chemicals and more biological controls — crop rotation, nitrogen-fixing cover crops, and low-till cultivation.

Each field has been sculpted as a separate watershed. Runoff from each funnels through its own spillway, where electronic monitors automatically test for contaminants. Pipes and wells under each field collect water as it seeps through the ground.

Each method will be evaluated for product quality, cost, and effects on water supplies and wildlife.

Throughout the United States, other growers and researchers are searching for their own ways to

cut chemical dependence. They're pitting "good" insects against bad, developing sensors that determine soil health, shooting aerial videos that show weed infestations, inventing industrial-strength weed-whackers, and hybridizing disease-resistant plants.

Chemical companies, for example, are developing herbicides so targeted that they can go after a specific enzyme of a specific weed, then break down into harmless compounds within days.

What the agricultural industry is aiming for isn't exactly organic farming, although a few major growers are experimenting with the strictly no-chemicals approach to see how far they can take it.

"To be successful, it's got to be economically driven," says James Frevert, president of the Denver-based American Society of Farm Managers and Rural Appraisers.

At the consumer level, organically grown produce is too expensive for the mass market. Even organic advocates concede that.

"If you have to pay more for healthier food, that raises questions about who you're raising

food for," Rodale's Michael Sands tells National Geographic.

The agricultural community finally settled on an approach called "sustainable agriculture," a flexible concept that falls somewhere between organic and the chemical-intensive practices that have spread through farmlands since World War II.

Sustainable agriculture, which allows farmers a respectable profit and selective use of chemicals, became a national goal with the 1985 and 1990 federal farm bills. The Clinton administration wants to reduce pesticide use on 75 percent of the nation's farmland by 2000 and reduce the pesticide residues allowable on fruits and vegetables.

Not everyone has given up entirely on the organic approach. With the right research, ways can be found to make large-scale organic farming profitable, insists Bob Scowcroft, executive director of the Organic Farming Research Foundation in Santa Cruz, Calif.

Chemical companies and large universities, he says "just don't fund research in organic farming."