

A GLIMPSE OF A WORLD WITHOUT PESTICIDES AND FERTILIZERS

Consumer food prices 45 percent higher. A less varied, less reliable, less healthful food supply. more worldwide hunger and starvation.

That's just a glimpse of how life would change if American farmers were forced to stop using crop protection chemicals and fertilizers. The impacts of a return to chemical-free farming are described in a new study by GRC Economics of Washington, D.C., an economics consulting unit.

The study, sponsored by the National Agricultural Chemicals Association and The Fertilizer Institute is a potent response to those who say the only remedy for risks posed by farm chemicals is a return to no-input agriculture. The study provides an enlightening look at how valuable pesticides and fertilizers have been-and what would be lost without them.

The study acknowledge that intensive agriculture, spurred by world demand, has led to cultivation of some erodible and fragile lands and has raised concerns about erosion and contamination of groundwater.

However, the study also show that governments, and farmers themselves, are addressing the concerns effectively. For example, many farmers are adopting "Best Management Practices" that maximize yields while protecting and improving the land and water. Such practice include the responsible use of chemicals, which continue to make important contributions to production.

Inexpensive, Abundant Food

According to the GRC study, pesticides and fertilizers, along with mechanization and improved plant hybrids, have helped America's farmers lead the world in productivity.

During the past half century, according to the report, the cost of food to American consumers has dropped from 24 percent of disposable income to 14 percent, helping to

improve nutrition and raising the national standard of living.

Thanks to high yields made possible by chemicals, the United States is a major world supplier of farm commodities. In 1988, the nation produced 28 percent of the world's coarse grains and accounted for almost 60 percent to world trade. Abundant grains and oilseeds enable Americans to pay low-prices for cereals and vegetable oils and to enjoy the benefits of inexpensive, efficient meat and poultry production.

Pesticides have helped expand fruit and vegetable farming to areas where growing climates are ideal but where growing climates are ideal but where fungal diseases and insects previously had made production too costly.

The GRC study shows this progress would be reversed if farmers had to rely on manure fertilizers, mechanical cultivation, and non-chemical pest controls.

Farming Without Chemicals

To estimate the effects of elimination chemicals, GRC researchers reviewed published data from the USDA and other sources, then checked and updated the information through interview with agronomist and plant pathologists with land grant universities and state extension services.

The study found the loss of chemicals would change the face of America's agriculture. The impacts would include:

***Lower food supplies.** Fruit and vegetable production would be cut by more than half.

***Higher prices.** Lower output and higher prices would reduce the nation's farm exports by \$5 billion per year, or almost 13 percent.

***Health risks.** Consumers would find it hard to maintain or increase consumption of fruits, vegetables and high-fiber grains recommended by the National Research Council to reduce the risk of heart disease.

***Questionable food safety.** Without chemicals to control molds and fungi, natural toxins in food would increase. some of these are known to cause cancer and other health problems.

***Environmental pressures.** Planted acres would increase by 10.3 million acres per year to make up for reduced grain and oilseed output. More marginal land would be brought into production. the absence of herbicides would force farmers to increase cultivation, leading to more soil erosion.

The study raises serious doubts about whether alternative farm practices that eliminate or all chemicals can sustain the nation's agricultural strength.

At the same time, "Best Management Practices" - including conservation tillage, crop rotation, and targeted application rates of chemicals -show strong promise for bringing continued growth in farm output while

