

# PESTICIDES AND THE BOTTOM LINE

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## NATIONAL AGRICULTURAL PESTICIDE IMPACT ASSESSMENT PROGRAM REPORT

*“Biological and Economic Assessment of Pesticide Use on Corn and Soybeans,”* a research report prepared by researchers at the University of Illinois, suggests that the cancellation of many pesticides would place a significant financial burden on many farmers. The research project, conducted nationally, was funded by the National Agricultural Pesticide Impact Assessment Program (NAPIAP, USDA).

*“Controlling weeds, insects and plant pathogens is a key to producing a quality corn and soybean crop.”*

The authors of the report include Agronomist, David Pike, Entomologist, Kevin Steffey, Plant Pathologist, H. Walker Kirby, and Agricultural Economist, Robert Hornbaker. The focus of the project was to determine the economic and biologic consequences of potential cancellations of pesticide registrations. Costs included yield and quality impacts, as well as the cost of implementing alternative control strategies.

### RESULTS *Herbicides*

Weed Scientist, David Pike noted the cost to replace atrazine would average an additional \$15 per acre. “This cost” says Pike, “does not include the cost of additional soil erosion where tillage will be used to replace atrazine use.” Nationally, the cost associated with losing atrazine would be about \$680 million annually.

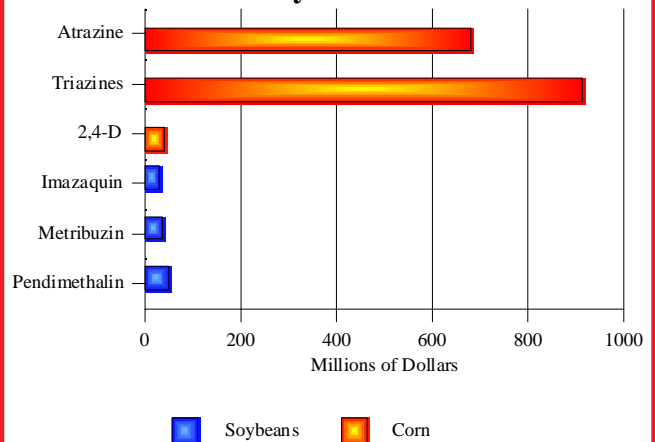
The annual cost of losing all the triazine herbicides (atrazine, simazine, and cyanazine) for corn would be about \$18 per acre and \$900 million nationally.

*“The Farmer makes choices for use of pesticides based on economic considerations and several other factors...”*

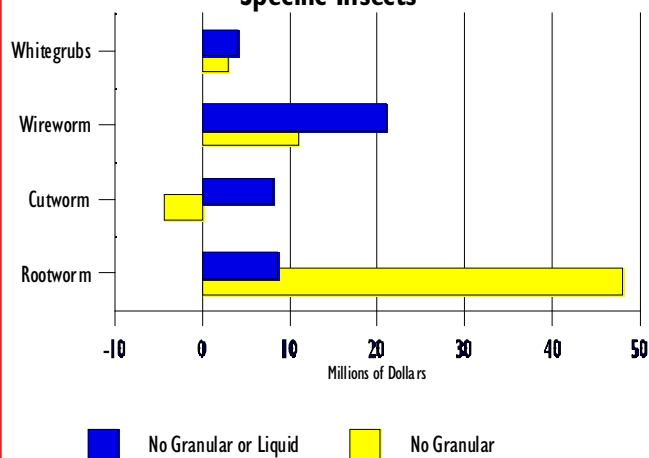
Pike also noted “Farmers are interested in more than efficacy and product reliability. The results show that farmers make choices for use of herbicides based on more than just economic considerations. These factors may include product convenience, avoidance of crop injury (whether cosmetic or not), and product availability.”

### Producer Costs for Alternatives to Selected

#### Corn and Soybean Herbicides



### Costs of Alternative Methods for Controlling Specific Insects



### Insecticides

The use of alternatives for soil applied corn insecticides is an expensive substitute for current practices. Entomologist, Kevin Steffey noted, “The loss of all granular insecticides could mean a \$58 million loss to producers of field corn annually.” Steffey says, “Although additional control strategies are available, implementing these strategies is not always cost effective or practical for the producer.”

Wireworms, for example, are extremely difficult to predict and extremely damaging to the crop when they occur. Although the acreage involved is small, the loss of insecticide treatments would be devastating to these farmers because there are no alternative methods.

If granular insecticides were not available for treatment of cutworms, farmers would scout and treat with liquid insecticides, resulting in a net gain. Steffey stated, “Preventive granular insecticide treatment for cutworms is costly and not necessary, but the loss of liquid pesticides would leave the farmer with no treatment.”

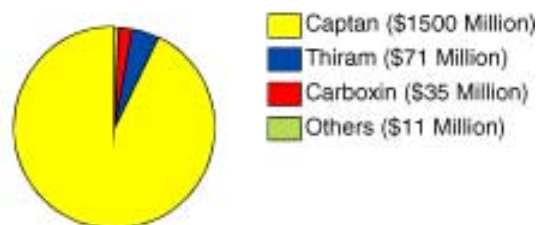
*“The loss of all liquid and granular insecticides could leave the farmer financially devastated.”*

### Fungicides

The project highlighted the critical value of captan. The loss of captan would result in over a billion-dollar loss to the farmer.

“In addition,” Kirby stated, “The assessment showed clearly the concentrated efforts of the producer to reduce the risk to the environment by limiting their use of nematicides.” The producers are using alternative methods to control plant pathogens. “Because of the increased effort to control plant pathogens through increased tillage the need for captan is further enhanced,” said Kirby.

### PRODUCER COSTS FOR ALTERNATIVES TO SELECTED CORN SEED TREATMENTS



### IMPACT

The report indicates that many pesticides and nonpesticidal tactics are insufficient when used alone. Consequently, the loss of flexibility may limit the effectiveness of some alternative pest controls.

The report also suggests that the use of less effective pesticides can result in an increased amount of pesticide used per acre, with a corresponding increase in the risk to the environment.

The loss of some key pesticides would result in a major financial loss to the producers, and as a result of decreased yields, marginal cropland may be returned to rowcrop production; soil productivity and wildlife habitat would be diminished.

*Produced by the University of Illinois with funding provided by NAPIAP. To obtain more information and a complete copy of the report contact David Pike, University of Illinois, Cooperative Extension e-mail DPike@piked2.agn.uiuc.edu*

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