

Assessment of 1992 Wisconsin Atrazine Rule (Ag30)

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by

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BACKGROUND/NEED

Beginning in 1991, in response to detections of atrazine in groundwater, The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) restricted field applications of atrazine beyond federal label restrictions. In 1991 and 1992, the restrictions contained a three-tiered structure: statewide rules, a more restrictive set of rules applied to Atrazine Management Areas, and designation of atrazine prohibition areas. Because of the scope of these rules and the large number of farmers affected, it was important to evaluate how well the rule was working and how it was impacting farmers.

OBJECTIVES

The objective of this research was to determine the nature and extent of the impacts that Atrazine Management Area (AMA) designation had on weed management strategies in corn production when compared to non-AMA regions of Wisconsin. Specific objectives were 1) To measure changes in corn production techniques resulting from the atrazine rule and 2) To measure farmer knowledge of the atrazine rule. The two main questions guiding this research were whether the Atrazine Rule is working and what are the impacts of the rule on Wisconsin farmers.

METHODS

A research design was used that allowed a comparison of the weed management practices of farmers who farm within AMAs and those who farm outside of AMAs. In order to measure how AMA designation altered behavior relative to atrazine, a comparison area was delineated for each AMA. Each AMA was matched with a comparison area on the basis of proximity, soil and hydrogeologic characteristics, and farm size and type. A mail survey was used to contact 1062 corn growers. Five hundred seventeen (51.3%) of the surveys were returned. For each grower, specific data on the weediest corn field was collected for the 1992 growing season. Data was collected in six counties: Columbia, Dane, Green, Lafayette, Rock, and St. Croix.

RESULTS/DISCUSSION

Compared to non-AMA areas, AMA farmers decreased their extent and intensity of atrazine use in 1992. In 1992, 48% of AMA farmers used atrazine on their weediest corn field as compared to 61% of non-AMA farmers. AMA farmers applied on average 0.7 pounds/acre versus 1.0 pounds/acre for non-AMA farmers. This is an indication that the atrazine rule accomplished its goal of reducing field applications of atrazine.

A significant number of farmers had some misperceptions regarding their restriction status. Almost half (48%) of non-AMA farmers incorrectly thought their field was in an AMA. Some 15% of AMA farmers did not realize their weediest field was in an AMA. Some of this confusion may have been due to misperceptions about the difference between AMAs and statewide restrictions.

The percentage of AMA and non-AMA farmers violating the rate restrictions in the atrazine rule were 11 and 1.5 percent, respectively. In most cases these violations were due to the use of pre-mix atrazine products that caused allowable application rates to be exceeded by a few tenths of a pound.

Analyses were conducted to determine how the use of alternative weed management practices compared between AMA and non-AMA farmers. Farmers in the AMAs were more likely to be using non-atrazine herbicides than non-AMA farmers. This indicates that herbicide product substitution appears to be the near term response to the Atrazine Rule.

Respondents were also asked about potential impacts if atrazine was banned in Wisconsin. Sixty five percent said the cost of weed management would increase, with an average increase of \$11.48 per acre. Twenty two percent said the costs of weed management would remain unchanged.

CONCLUSIONS/IMPLICATIONS/RECOMMENDATIONS

A major conclusion of this study is that the atrazine rule has achieved its objective of reducing the extent and intensity of atrazine use. Wisconsin farmers have demonstrated a willingness to comply with the rule even though compliance has led to significant additional costs. This study indicates that, while atrazine use is decreasing, low rates of atrazine remain a popular component of weed management strategies.

PROJECT REPORT

A report on this project is available from Dr. Peter Nowak, 420 Agriculture Hall, 1450 Linden Drive, University of Wisconsin, Madison, Wisconsin 53706 or from the Department of Agriculture, Trade and Consumer Protection (contact Jeff Postle, DATCP-ARM, P.O. Box 8911, Madison, WI 53708-8911).