

Reducing Water Pollution from Herbicides through Sustainable Agriculture

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Abstract

Water pollution from the herbicide atrazine impacts public health worldwide, as atrazine is used extensively and is a common water contaminant. My research investigates how restrictions on atrazine and different environmental policies have led to changes in water quality, sustainability of farming practices, and farmer decision-making. My research consists of two case studies. The first case study is on the complete ban of atrazine in Italy. My second case study was performed through the USDA NIFA predoctoral program and is on atrazine application rate restrictions and prohibition areas created in Wisconsin. In the two case studies I combine interview data, surveys, water quality analysis, and archival research to investigate if the environmental policies in these case studies led to cleaner water and the greater adoption of organic farming or integrated pest management.

Results from both case studies show that atrazine pollution has improved through use reductions, yet it remains a problematic water contaminant and its alternatives pose their own risks. This research has implications for policy strategies to reduce pesticide use and protect water quality through organic and low-input agriculture.

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