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Ethanol and the Mid-Atlantic: Unintended Consequences and Opportunities for Water Quality

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Abstract Text:

The push for grain-based ethanol has driven up the price of corn and farmers are finally getting a good price. But that's also where the unintended consequences begin. High prices led farmers in the Mid-Atlantic to plant an additional 200,000 acres of corn this year. Add in a severe drought and not only are the farmers unable to reap the benefit of high corn prices, but millions of pounds of nitrogen remains in the soil to be washed into the Bay this winter. Increased corn prices also mean higher feed prices for animal agriculture. Dried Distillers Grains (DDGs), a by-product of grain-based ethanol production, will be used in feed for cows, and to a lesser extent, chickens and pigs. This could result in too much phosphorus and possibly nitrogen being placed in feed, increasing their content in the manure and possibly erasing the gains made in recent years by animal nutritionists. As it is, the Mid-Atlantic is faced with a daunting goal of reducing 100 million pounds of nitrogen per year making it to the Bay. Ethanol, particularly grain-based, is here to stay. We must look at opportunities to minimize impacts. Intensive conservation practices will be needed to offset the increase in nitrogen losses from additional corn acres. Nutrient management plans must be stringent and fully implemented; cover crops, particularly this year, will be necessary to "trap" much of the nitrogen currently in the soil. Farmers already do these things to some extent, but we need to ensure they are done better. We must also not forget that there are other opportunities, specifically cellulosic-based, for ethanol production. Switchgrass in particular loses only about 25% as much nitrogen as corn. There is support for cellulose. However, we must first develop the infrastructure and markets to make it a viable alternative.

Impact Statement:

On April 4-5, the Mid-Atlantic Regional Water Program held a "Biofuels and Water Quality" conference co-sponsored by the Chesapeake Bay Foundation and USDA Agricultural Research Service. The resulting fact sheet, "Biofuels and Water Quality: Meeting the Challenge & Protecting the Environment" drew national attention and served as the basis for numerous newspaper articles and editorials. The Regional Program received an unsolicited request to write an Op-Ed for the Washington Post which ran on August 26th. Our efforts have helped bring to the forefront the consequences and opportunities of running toward corn-based ethanol production without examining the unintended consequences.