Blends Significantly Cut Carbon Monoxide Levels

ST. LOUIS, Mo. — Com growers and city dwellers can both breathe a little easier thanks to ethanol. The homegrown fuels proved tremendously successful in cutting carbon monoxide levels in urban areas last winter, reports National Corn Growers Association (NCGA).

On November 1, ethanol begins its second year of participating in a federally mandated program to bring carbon monoxide levels into compliance with acceptable air quality standards for major population centers. The program runs during the winter months when atmospheric conditions trap carbon monoxide over highly concentrated urban areas.

"We're encouraging cities nationwide to use ethanol blends as part of their strategy to curb carbon monoxide pollution," said Mike Bryan, NCGA ethanol program manager. "Last year's results show consumers are pleased with ethanol's performance as a fuel. And they appreciate the health benefits of improved air quality."

Last year, ethanol was widely accepted as the oxygenate of choice in many cities participating in the federal program. And the results were impressive. In Minneapolis/St. Paul, 100 percent of the gasoline sold contained 10 percent ethanol.

"It was the first year since 1975 that the Twin Cities did not report carbon monoxide levels in excess of acceptable standards," said Bruce Stockman, executive director of the Minnesota Corn Growers Association. "No consumer health complaints were reported and automobile performance was outstanding."

As ethanol's role in curbing

air pollution grows, NCGA estimates demand for the home-grown fuel could eventually exceed two billion gallons per year, requiring 800 million bushels of corn.



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POST SILKING LOSSES OF N FROM CORN

Greg Roth

Studies that have shown that some nitrogen (N) is lost following the early reproductive stages (silking to milk stage) of a corn crop.

A recent article published in Agronomy Journal has carefully documented these losses. The research, conducted by D.D. Francis and others, used radioactive labeled N fertilizer to quantify the losses of N from corn plants late in the season. Losses from aboveground plant tissue averaged 40 to 72 pounds of nitrogen/ acre.

Quantification of these losses is important because it helps explain the fate of some applied N. In N efficiency calculations, it is not uncommon to account for only 50-55 percent of the N applied to a corn crop. Some have assumed that the rest is lost through leaching. This research shows that more N is taken up in the grain and stover than we account for by measuring N uptake at harvest.

Our research in Pennsylvania supports these results. In corn silage studies, we frequently see a reduction in crude protein (or N) with advancing maturity, even though yields are not increasing. This suggests that N is being lost from the plants.

The mechanism of loss appears to be loss of ammonia from "senescing" plant tissue. Given that we usually have more late season foliar diseases on corn here than in the Midwest, we could speculate that we might have even greater losses of N from corn plants than those measured in these Nebraska studies.





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