EFFICACY OF INSTINCT TO IMPROVE NITROGEN USE EFFICIENCY OF MANURE AND FERTILIZER

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A variety of research has been conducted to assess the efficacy of the nitrification inhibitor Instinct in Wisconsin from 2008 through 2012. Several studies have focused on the use of Instinct with UAN and urea as well as dairy manure. Initial research with UAN applied preplant with and without Instinct on a deep well drained silt loam, found a 5 bu/a yield increase, which was not significant, in two of three years. In both of these years, there was excessive rainfall that resulted in 30 to 40 lb/a of N loss from preplant applied N. In another study, Instinct applied with urea significantly increased corn grain and silage yield when applied in fall and spring. However, application of Instinct with liquid dairy manure did not increase grain yield, but did result in significantly greater silage yield. In general, measurement of nitrate and ammonium concentrations in soil demonstrate that ammonium N concentrations are greater and nitrate N concentrations are lower where Instinct was applied compared to where it wasn't. This suggests a lower likelihood of N loss from leaching or denitrification where Instinct was applied, even though it didn't always translate into greater yield.

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