Foliar Controlled Release Nitrogen as a Partial Replacement for Soil Applied Nitrogen in Corn (*Zea maize*)

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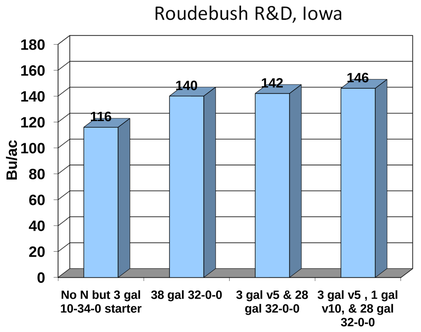
Summary

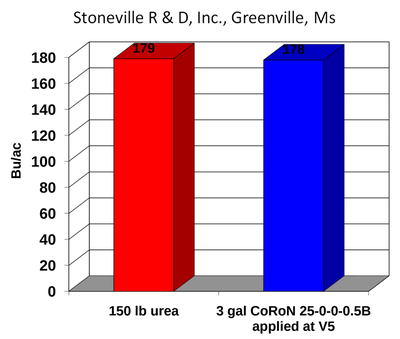
With increasing costs of nitrogen fertilizer, and availability issues of some forms, the topic of nitrogen efficiency and nutrient recommendations are being examined more closely.

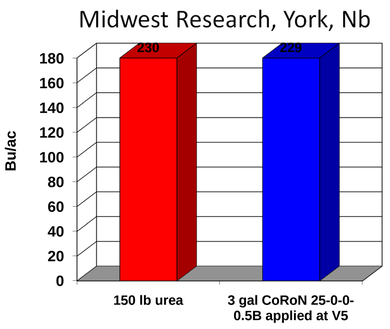
This is a accumulation of various replicated studies across the Midwest and Central United States evaluating foliar nitrogen as a **partial** replacement for soil applied nitrogen.

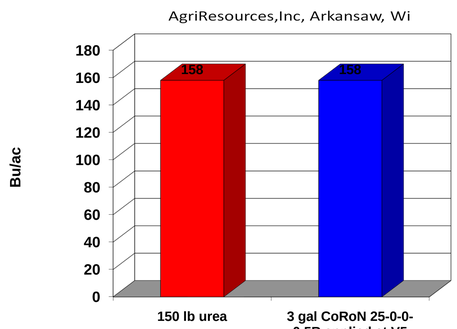
The goal was to **maintain** yields yet **increase** net return to growers by reducing gross expenditures (input costs per acre) and increasing application efficiency by reducing time spent traversing the field by applying with post herbicides between V5 and V8.

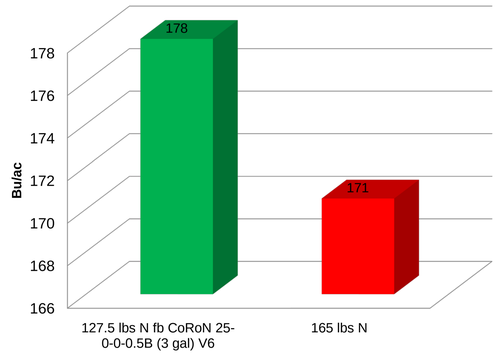
Contract Research



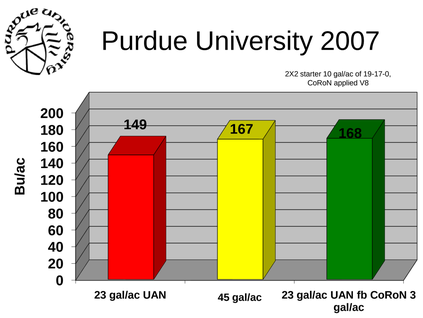


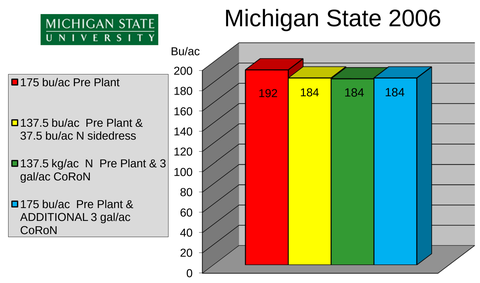


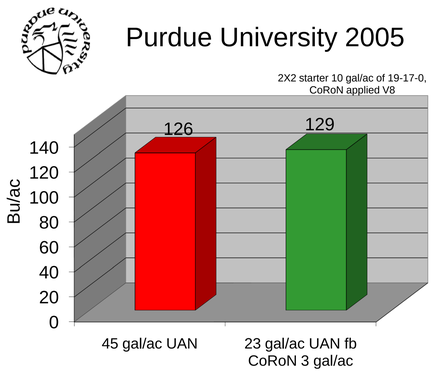


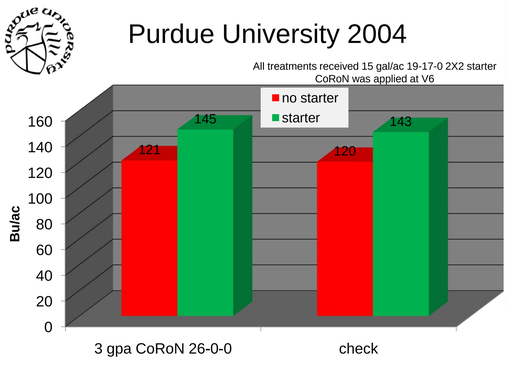


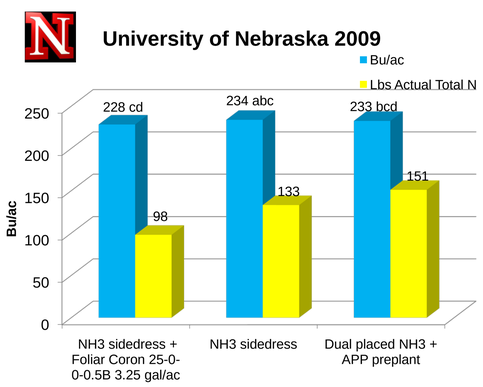
University Trials

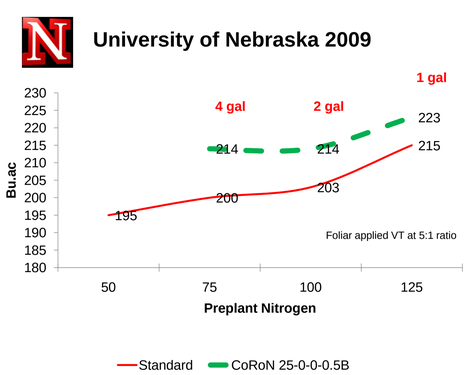






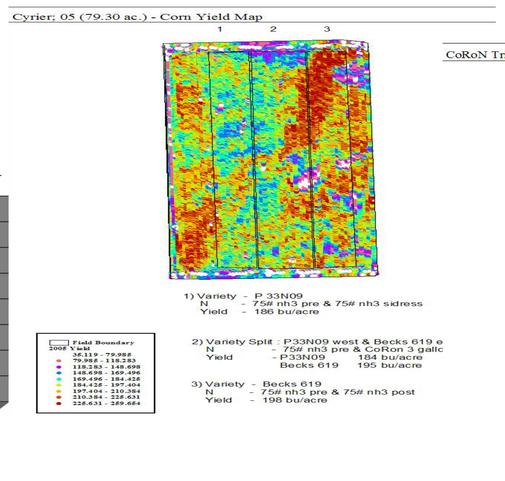


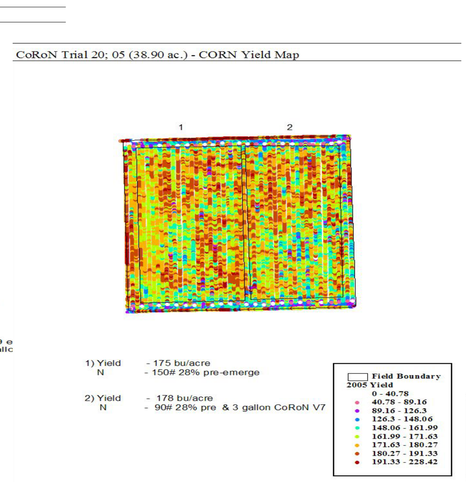


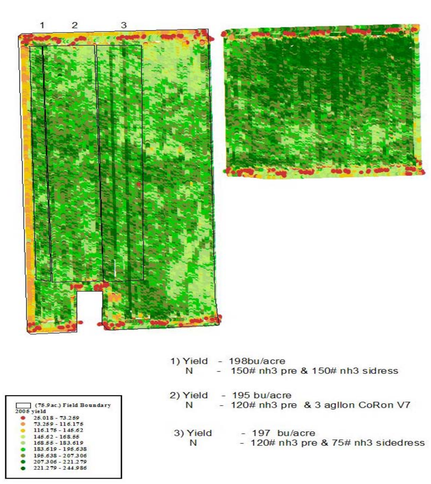


All base Nitrogen rates were from University State Guidelines. In addition CoRoN was used at a 5:1 efficiency ratio (5 lbs Soil Applied N, replaced by 1 lb Foliar applied CoRoN N)

Field Scale Trials - Illinois







Results and Discussion

Yield was not significantly impacted by partially replacing up to 65 units of soil applied nitrogen with up to 5 gallons of CoRoN 25-0-0-0.5B however net returns per acre were increased by $0 up to $2/acre (depending on geography) and a decreases of up 30% in nitrogen introduced into the soil environment for possible loss.

Reduced Nitrogen rates where CoRoN 25-0-0-0.5B was NOT used showed yield loss.

In some cases yields were increased but this was a factor of excessive nitrogen loss from the soil applied system.

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