



## MAXIMIZING YOUR NITROGEN DOLLARS IN RICE PRODUCTION

### Facts to Consider When Managing Preflood Nitrogen Efficiently

- The university recommended nitrogen rates should be used for the rice variety grown.
- Preflood nitrogen is critical in obtaining optimum plant growth and yield potential.
- Ammonium N source is preferred over nitrate sources due to denitrification potential.
- Urea with its high nitrogen analysis and low cost is the most widely used source of nitrogen for rice.
- Urea applied several days prior to flooding is first subject to ammonia volatilization loss and after a few days to nitrification, which results in the risk of denitrification losses after flooding.
- Urea applied immediately prior to flooding offers the greatest yield potential.
- Surface applied urea is subject to ammonia volatilization within hours of the application.
- Factors affecting volatilization of urea are; pH, moisture, temperature, residue, wind, and length of time exposed to the surface.
- Some steps in managing volatilization losses from urea are;
  - Applying urea to 4 to 5 leaf rice on dry soil immediately prior to flooding
  - Flood the field in a timely manner (i.e., less than 3 to 5 days)
  - Consider using the new urease inhibitor technology\*
- Agrotain is the only commercially available urease inhibitor.
- Agrotain improves nitrogen efficiency by stopping volatilization for up to 14 days.

The effectiveness of Agrotain can be demonstrated by the smell test (see your local Agrotain Retailer or call 1-888-425-8732 for information about the smell test kit ).

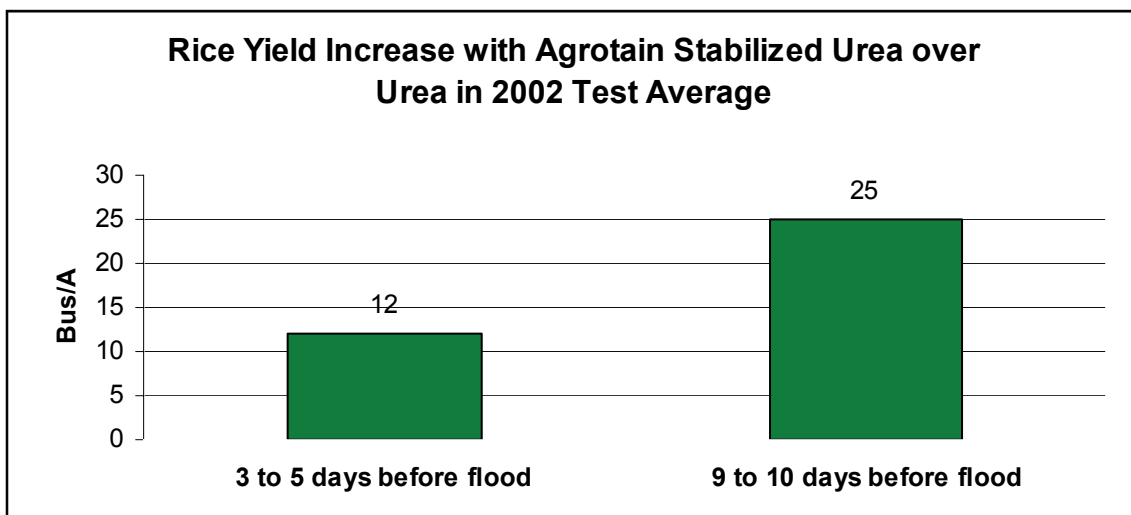
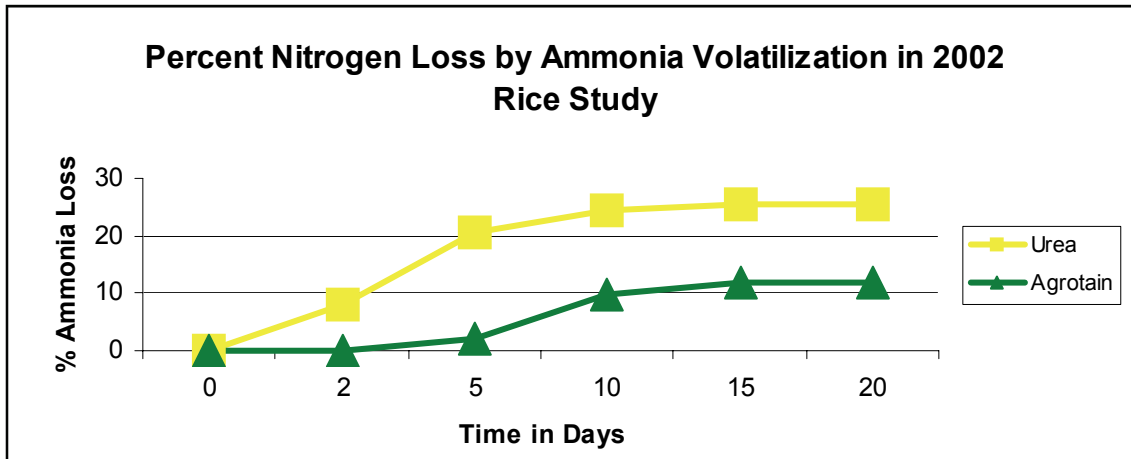
A 2002 university rice volatilization study shows Agrotain stabilized urea had significantly less ammonia volatilization loss than urea. Agrotain had less than 3% loss in the first 5 days while urea had over 20% loss (See graph on the back).

Summary of 2002 university replicated rice studies shows Agrotain stabilized urea had a 12 bu increase when flooded within 3 to 5 days and 25 bu increase when flooded within 9 to 10 days over urea (See graph on the back).

\* Urease inhibitor technology is listed as a Best Management Practices in the 2002 Farm Bill's EQIP options.



Field testing of Agrotain has spanned 19 states during 16 years in over 700 replicated research sites on corn, cotton, rice, wheat, other small grains, forage crops, turf, vegetables, and forestry conducted by 22 universities and 11 industry Research and Development facilities. The following two graphs represent 2002 university replicated rice studies in the Midsouth where ammonia volatilization loss was measured and yield increase was determined for Agrotain stabilized urea verse urea.



Agrotain was recognized as one of the 100 most technologically significant new environmental products by R&D Magazine.



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