

2006 CMDC

Slow Release N

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Increasing N Use Efficiency Through Controlled Release

- **Inhibitors**
 - Nitrification (N-Serve®, DCD)
 - Urease (Agrotain®)
- **Slow Release Formulation**
 - **Slowly soluble**
 - Methylene urea (Nitamin®, Coron®)
 - **Coated**
 - Sulfur-coated
 - Polymer-coated (ESN®)

2006cmdcjune29-slowreleasen001

Slow Release Nitrogen Fertilizers

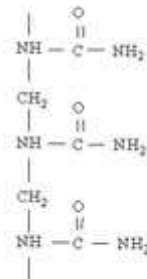
- **Polymer Coated Fertilizers**
 - Fertilizer is released by diffusion through coating.
 - Release rate determined by polymer chemistry, thickness, coating process, temperature.
 - Release can be highly controlled to match plant nutrient uptake.



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Slow Release Nitrogen Fertilizers

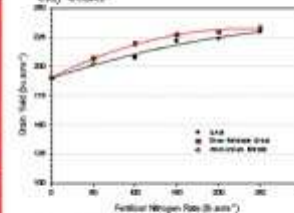
- **Low Solubility Compounds**
 - Mixture of urea and methyl-urea chains of various lengths.
 - Can be formulated in either solid or liquid products.



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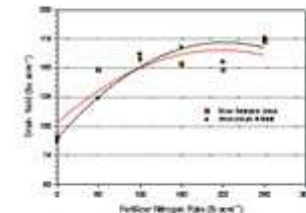
Methylene-Urea Research in Nebraska 2005

South Central Agricultural Laboratory
Clay Center



Clay soil loam
UAN/ammonium nitrate and slow release urea applied prior to planting

Brunswick

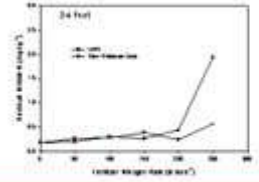
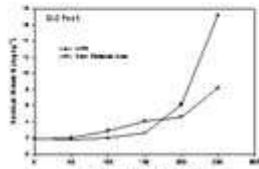
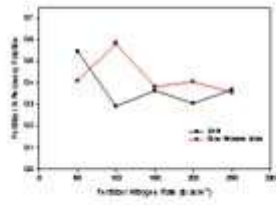


Thurman/Valentine loamy sand
Slow release urea applied at planting
Ammonium nitrate split-applied

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Methylene-Urea Research in Nebraska 2005

South Central Agricultural Laboratory
Fertilizer Nitrogen Recovery



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