2006 CMDC
Slow Release N

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

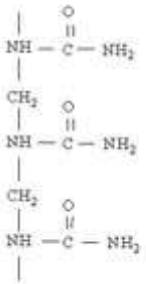
Slow Release Nitrogen Fertilizers

- **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.

2006cmdcjune29-slowreleasen002

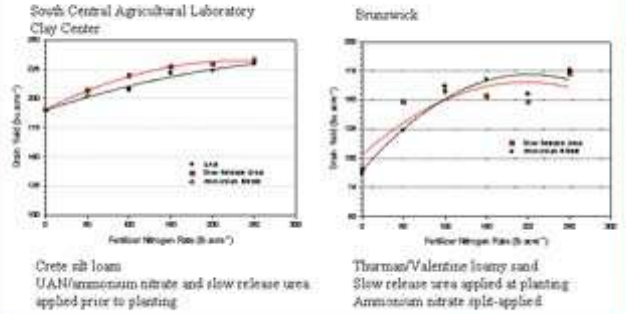
Slow Release Nitrogen Fertilizers

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

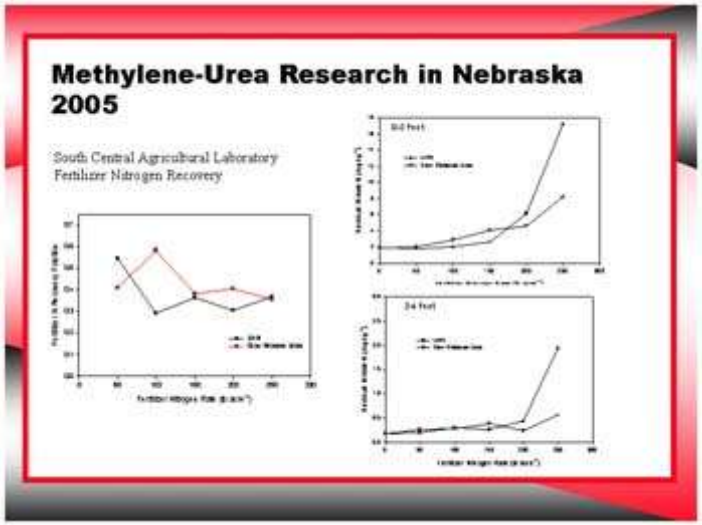


2006cmdcjune29-slowreleasen003

Methylene-Urea Research in Nebraska 2005



2006cmdcjune29-slowreleasen004



2006cmdcjune29-slowreleasen005