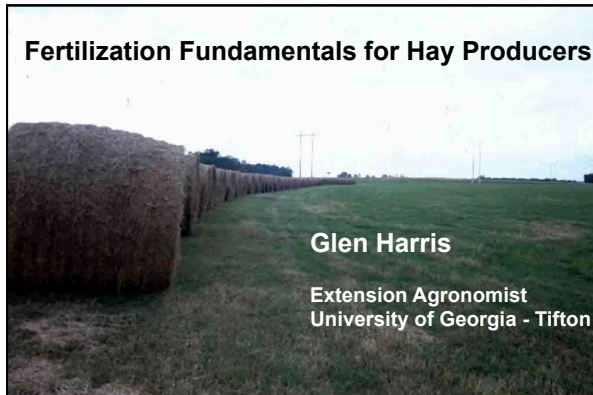



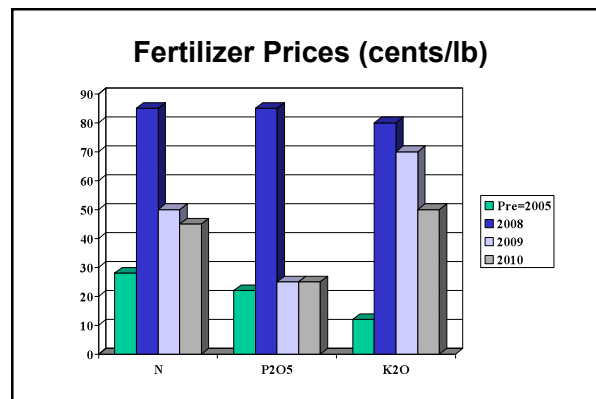
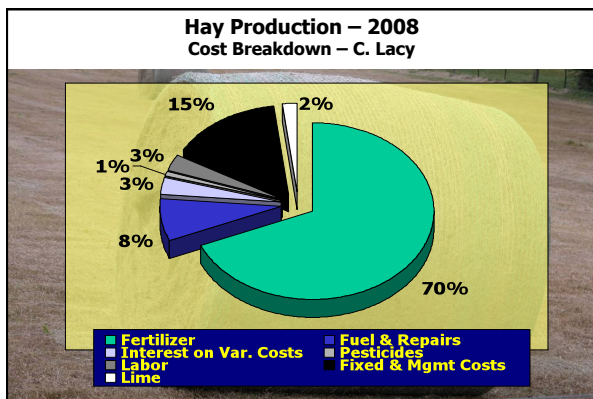
2011 Southeast Hay Convention

Fertilization Fundamentals for Hay Producers



Basics of Soil Fertility for Forages

- Nitrogen
- pH and Liming
- Potassium
- Soil Testing





Fertilizer Materials

- Single Nutrient –
 - Ex. 46-0-0, 0-46-0, 0-0-60
- Mixed Grades/Homogenous –
 - Ex. 5-10-15
- Complete
 - Ex. 5-10-15SR, 10-10-10SR
- Blends –
 - Ex. 46-0-0 + 0-46-0 + 0-0-60
- Alternative/Organic
 - Ex. Chicken Litter

The Value of a Ton of Broiler Litter

Assumptions:
 Analysis = 3-3-2
 2010 Fertilizer Prices = .45-.25-.50
 Availability of N-P-K = 60-80-80 %



- 60#N x .45 x .6 = 16.20
- 60#P2O5 x .25 x .8 = 12.00
- 40#K2O x .50 x .8 = 16.00

»Total = **\$44.20**

Other Nutrients ?
 Organic Matter ?
 Liming ?
 Nematode Suppression ?

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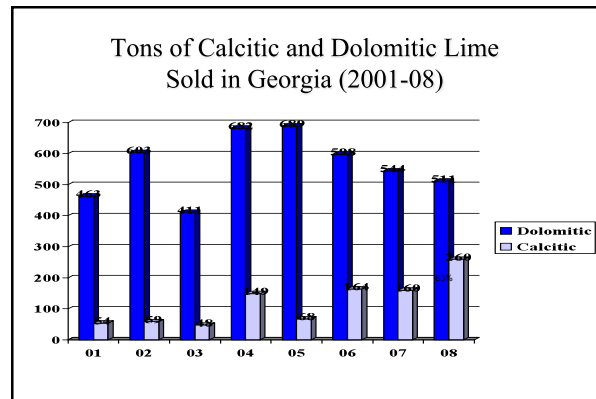
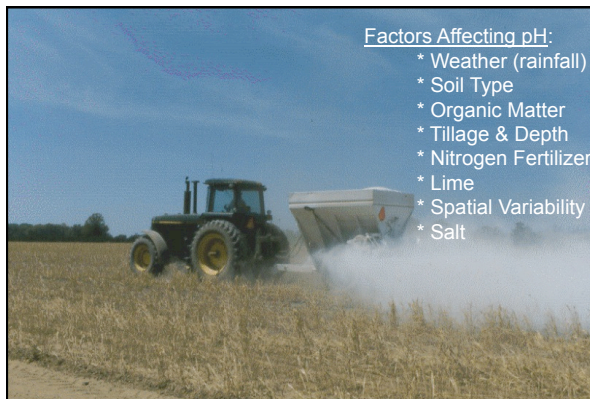
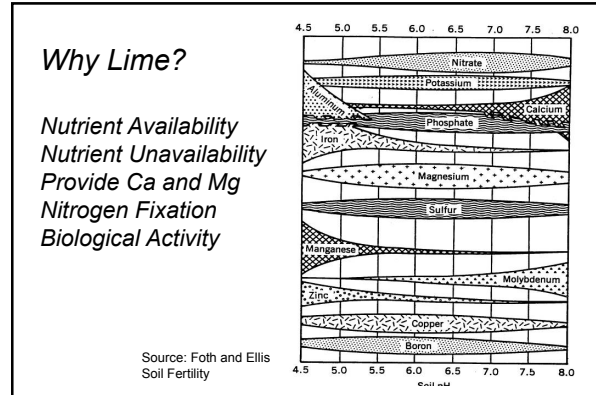
Soil Testing is the Key!

The University of Georgia
College of Agricultural and Environmental Sciences
Cooperative Extension Service
UGFertex-Based Nutrient Application Guidelines

Client: Joe Farmer	Field ID: Back 49
County: Atkinson	Date: 05/08/2003
Soil Group: Coastal Plains	Flow Depth: 8 inches
Crop: Coastal, Hybrid Bermuda Hay	Previous Crop: Coastal, Hybrid Bermuda Hay
Yield Goal: 4 tons	Irrigated: No

Very High	High	Medium	Low	Very High	High	Medium	Low
Phosphorus	Potassium	Calcium	Magnesium	Zinc	Manganese	Soil pH	Lime Index
50	50	450	25	3	9	5.5	7.7
lbs/Acre	lbs/Acre	lbs/Acre	lbs/Acre	lbs/Acre	lbs/Acre		
Buildup: Soil P: 0	Soil K: 0	P ₂ O ₅ Required: 0 lbs/a/year	K ₂ O Required: 0 lbs/a/year	Years Required For Buildup: 1	Starter: N: 0	P ₂ O ₅ : 0	

Limestone	Nitrogen (N)	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Calcium (Ca)	Magnesium (Mg)	Sulfur (S)	Boron (B)	Manganese (Mn)	Zinc (Zn)
0.75	200	60	270	0	Use	0	0	0	0



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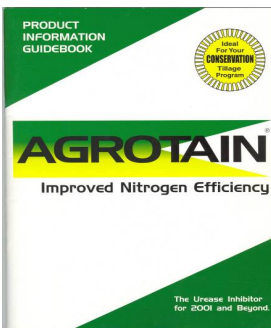
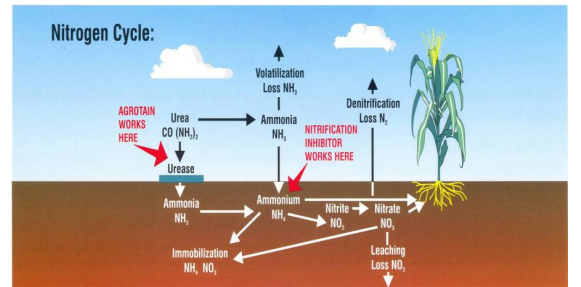
Nitrogen Sources

- Ammonium Nitrate
- Urea
- UAN Solutions
- Ammonium Sulfate
- Anhydrous Ammonia
- Chicken Litter



Urease Inhibitors: Agrotain

Urease Inhibitor + Nitrification Inhibitor: Agrotain Plus, Agrotain Super U (Nutrisphere-N, Excels ?)



Fertilizer additive that inhibits degradation of urea by urease (NBPT)

"Agrotain Plus" (for UAN liquids) – also includes a nitrification inhibitor (DCD)

Does not affect microbes (or other soil organisms) directly

Reduces loss of surface applied urea-N to volatilization (up to 14 days under drying conditions) and reduces nitrate leaching



Specialty Fertilizer Products through Southern States

Polymer "Nutrisphere" technology

Active Ingredient = "40 % maleic-itaconic co-polymer"

Claims Urease + Nitrification Inhibition

Mode of action = "shields" N from Nickel for urease and from microbes for nitrification (documented ?)

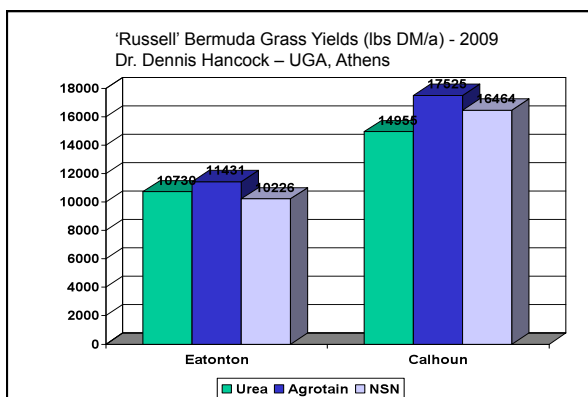
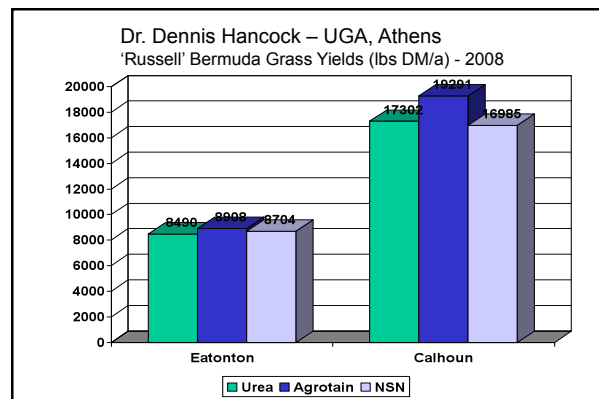
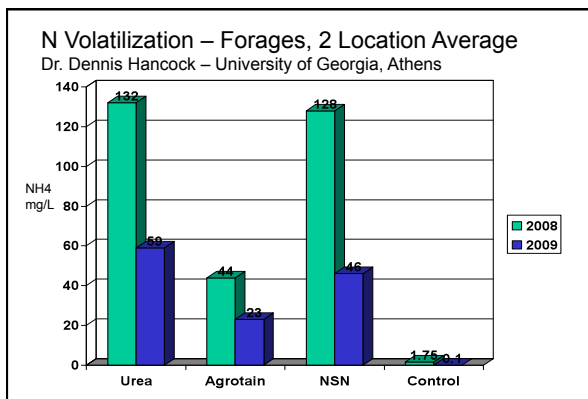
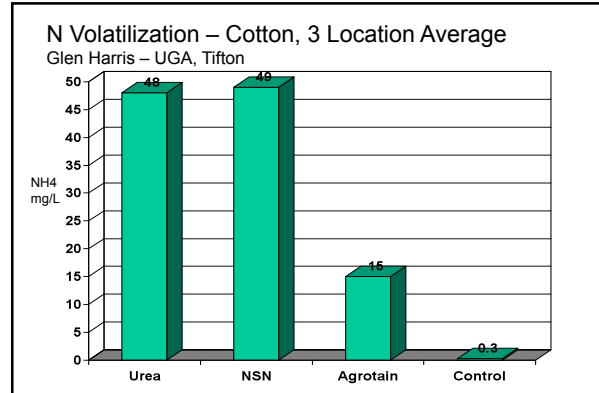


- Agrium Company
- ESN = Environmentally Smart Nitrogen
- Polymer Coated Urea
- Company = Agrium
- "Controlled Release" (not "slow release" ?)
- "Releases as the Soil Warms"
- Slow Release vs. Split Applications



2011 Southeast Hay Convention

Fertilization Fundamentals for Hay Producers



Dr. Glen Harris, Extension Agronomist-
Soil Fertility