

NITROGEN STABILIZATION TO CONSERVE ENERGY AND MACHINE USE

C. R. Farr

Nitrogen stabilizers may be used to reduce materials and machinery use where nutrient leaching is excessive or present practice may not justify split applications. Previous trials have indicated the possible feasibility of single nitrogen applications with stabilizers where two or three nitrogen applications were common practice. Three trials in 1980 on three soil types indicated that split applications were unnecessary and that nitrogen stabilization may be useful on some soil types with present fertilization practices.

LAVEEN LOAM

Phillips Farms - Goodyear

Application	Lbs. Lint Per Plot			Lbs. Lint Per Acre
	1	2	3	
Split 75 lbs. N. + 75 lbs. N.	2360	2400	2420	1765
Single 150 lbs. N. + N-SERVE	2370	2300	2500	1762

GILMAN LOAM

Moore Ranches - Waddell

Application	Lbs. Lint Per Plot, 1st Pick					Lbs. Lint Per Acre 1st Pick	Total Lbs. Lint Per Acre
	1	2	3	4	5		
Split 71 lbs. N. + 71 lbs. N.	909	912	883	886	886	1321	1408
142 lbs. N. + EXTEND	887	859	840	834	818	1296	1393

ANTHO SANDY LOAM

Moore Ranches - Waddell

Application	Lbs. Lint Per Plot, 1st Pick				Lbs. Lint Per Acre 1st Pick	Total Lbs. Lint Per Acre
	1	2	3	4		
Split: 6/2, 6/24 70 lbs. N. + 70 lbs. N.	580	558	577	603	1397	1397
Single: 6/2 150 lbs. N. + N-SERVE	550	590	574	620	1407	1407

CROP HISTORY

Phillips Farms: SOIL TYPE: Laveen Loam. PREVIOUS CROP: Cotton. PLANTING: April 15 at 12 pounds seed. HERBICIDE: 1-1/2 pints Prowl. FERTILIZER: 200 pounds 16-20-0 preplant, April 12. Sidedressed June 4, July 2. IRRIGATION: 1st-April 15, last-September 19, Total-10 applications-7.5 acre-feet. INSECTICIDE: 3 applications. DEFOLIATION: October 16. HARVEST: November 12.

Moore Ranches, Field 3E: SOIL TYPE: Gilman Loam. PREVIOUS CROP: Cotton. PLANTING: April 14 at 12 pounds seed per acre. HERBICIDE: 1-1/4 pints Treflan on March 31; 1 pound Caparol on April 12. FERTILIZER: 150 pounds 11-48-0 on February 8; 20 gallons 32-0-0 on June 11 and July 6. IRRIGATION: 4/22, 6/14, 6/26, 7/7, 7/18, 7/26, 8/6, 8/15, 8/26. DEFOLIATION: September 12, Bottom defoliation, 1-1/2 pints DEF; October 1, 2 gallons sodium chlorate. HARVEST: October 18.

Moore Ranches, Field 3W: SOIL TYPE: Antho Sandy Loam. PREVIOUS CROP: Cotton. PLANTING: April 10. HERBICIDE: 1-1/4 pints Treflan, 1 pound Caparol on April 8, Layby 1-1/2 pounds. FERTILIZER: 150 pounds 11-48-0 preplant; sidedressing June 2, June 24. IRRIGATION: 4/17, 6/10, 6/23, 7/4, 7/15, 7/24, 8/3, 8/11, 8/21. DEFOLIATION: September 10, Bottom defoliation, 1-1/2 pints DEF; September 30, 2 gallons sodium chlorate. HARVEST: November 20.

COTTON STRIPPER COMPARISONS

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Three cotton strippers were compared in a small scale comparison November 12 on the Garth Lamb farm at Chandler. Grades and turnout are reported as follows:

Ben Pearson with cleaner:

<u>Grades</u>	<u>Staple</u>	<u>Micronaire</u>	<u>Turnout</u>
middling	1-3/32	5	26.85%
middling	1-1/8	4	
SLM	1-3/32	5	
SLM	1-3/32	5	

Allis Chalmers with cleaner:

<u>Grades</u>	<u>Staple</u>	<u>Micronaire</u>	<u>Turnout</u>
middling	1-1/8	5	26.24%
middling L.S.	1-3/32	5	
SLM	1-3/32	5	
SLM	1-1/8	5	

John Deere without cleaner:

<u>Grades</u>	<u>Staple</u>	<u>Micronaire</u>	<u>Turnout</u>
middling	1-1/32	5	22.47%
SLM	1-1/16	5	
SLM	1-1/16	5	

Later comparisons by Garth Lamb found stripping without a cleaner tended to fall below 22% so that added ginning charges were made. The cost of ginning with various turnouts for 1125 pounds of lint are shown as follows:

<u>Turnout</u>	<u>Ginning Rate</u>	<u>Ginning Cost</u>
21%	\$2.83/cwt	\$151.60
22%	2.58 "	131.91
26%	2.58 "	111.64
27%	2.58 "	107.48