

0-20 ppm Nitrate-N Range

Posted 12-11-2006

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| AFRICAN MILLET | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| ALFALFA (IRRIGATED , ESTABLISHMENT) | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| ALFALFA (IRRIGATED / 6 TON/A , ANNUALLY) | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| ALFALFA (IRRIGATED 8-12 TON/A , ANNUALLY) | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| ALFALFA (NON-IRRIGATED , ANNUALLY) | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| ALFALFA (NON-IRRIGATED , ESTABLISHMENT) | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| BAHIA GRASS (1 HAY CUTTING PLUS GRAZING) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| BAHIA GRASS (3 HAY CUTTINGS) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| BAHIA GRASS (4 TO 6 HAY CUTTINGS) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| BAHIA GRASS ESTABLISHMENT | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| BAHIA GRASS, GRAZING (1 A.U. PER 1 TO 1.5 ACRES) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| BAHIA GRASS, GRAZING (1 A.U. PER 1.5 TO 2 ACRES) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| BARLEY (HEAVY GRAZING ON SANDY SOILS) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| BARLEY (HEAVY GRAZING) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| BARLEY GRAIN (70-90 BU/A WITH LIGHT GRAZING) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| BERMUDA (COMMON, MIDLAND) GRASS (4 TO 6 HAY CUTTINGS) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| BLUE PANIC (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| BLUE PANIC (GRAZING) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| BLUESTEM (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| BLUESTEM (GRAZING OR HAY) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| BLUESTEM (IMPROVED-GRAZING OR HAY) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| BUFFEL GRASS (3 HAY CUTTINGS) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| BUFFEL GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| BUFFEL GRASS (HEAVY GRAZING OR HAY PLUS GRAZING) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| BUFFEL GRASS (MODERATE GRAZING) | 50 | 45 | 40 | 35 | 30 | 30 | 25 | 20 | 15 | 10 | 10 |
| CANE | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| CLOVER (PREPARED SEEDBED) | 10 | 5 | 0 | -0 | -5 | -10 | -10 | -15 | -20 | -25 | -30 |
| CLOVER (SOD SEEDED) | 10 | 5 | 0 | -0 | -5 | -10 | -10 | -15 | -20 | -25 | -30 |
| CLOVER WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED) | 10 | 5 | 0 | -0 | -5 | -10 | -10 | -15 | -20 | -25 | -30 |
| CLOVER WITH RYEGRASS OR SMALL GRAIN (SOD SEEDED) | 10 | 5 | 0 | -0 | -5 | -10 | -10 | -15 | -20 | -25 | -30 |
| COMMON BERMUDA GRASS (1 A.U. PER 1 TO 1.5 ACRES) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| COMMON BERMUDA GRASS (1 A.U. PER 1.5 TO 2 ACRES) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| COMMON BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING , ANNUALLY) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| COMMON BERMUDA GRASS (3 HAY CUTTINGS , ANNUALLY) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| COMMON BERMUDA GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| DALLIS GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| DALLIS GRASS (GRAZING 1 A.U. PER 1.5 TO 2 ACRES) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| DALLIS GRASS(GRAZING 1 AU PER 1 TO 1.5 ACRES OR 1 HAY CUTTING PLUS GRAZING) | 50 | 45 | 40 | 35 | 30 | 30 | 25 | 20 | 15 | 10 | 10 |
| DESOTO GRASS | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| FESCUE (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| FESCUE , HAY OR GRAZING AT 3-4 AU/A | 120 | 115 | 110 | 105 | 100 | 100 | 95 | 90 | 85 | 80 | 80 |
| FORAGE SORGHUM | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| HAY GRAZER , 1 HAY CUTTING OR LIGHT GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| HAY GRAZER , 2 HAY CUTTINGS OR MODERATE GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| HAY GRAZER , 3 HAY CUTTINGS OR HEAVY GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| HEGARI | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| HUBAN CLOVER | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-1.5 TONS/A) | 75 | 70 | 65 | 60 | 55 | 55 | 50 | 45 | 40 | 35 | 35 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2 TONS/A) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2.5 TONS/A) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-3 TONS/A) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-1.5 TONS/A AVG.) | 75 | 70 | 65 | 60 | 55 | 55 | 50 | 45 | 40 | 35 | 35 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-1.5 TONS/A AVG.) | 75 | 70 | 65 | 60 | 55 | 55 | 50 | 45 | 40 | 35 | 35 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-1.5 TONS/A AVG.) | 75 | 70 | 65 | 60 | 55 | 55 | 50 | 45 | 40 | 35 | 35 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2 TONS/AAVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

0-20 ppm Nitrate-N Range

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Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2 TONS/A AVG.) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2.5 TONS/A AVG.) | 125 | 120 | 115 | 110 | 105 | 105 | 100 | 95 | 90 | 85 | 85 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-3 TONS/A AVG.) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (IRRIGATED , ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS, GRAZING | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| JOHNSON GRASS , 1 HAY CUTTING OR LIGHT GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| JOHNSON GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| JOHNSON GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| KLEIN GRASS (1 AU PER 2 TO 3 ACRES OR HAY PRODUCTION) | 50 | 45 | 40 | 35 | 30 | 30 | 25 | 20 | 15 | 10 | 10 |
| KLEIN GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| KLEIN GRASS , 1 AU PER 1.25 TO 1.75 ACRE OR HAY PRODUCTION | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| LOVE GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| LOVE GRASS , GRAZING OR HAY | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| MEXICAN WHEAT | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| MILLET , 2 HAY CUTTINGS OR MODERATE GRAZING | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| MILLET , LIGHT GRAZING OR 1 HAY CUTTING | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| MINIMUM REQUIREMENT: ALFALFA | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| MINIMUM REQUIREMENT: BLUESTEM GRASS | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| MINIMUM REQUIREMENT: CLOVER | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| MINIMUM REQUIREMENT: COOL SEASON PERENNIAL GRASS | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| MINIMUM REQUIREMENT: PEAS | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| MINIMUM REQUIREMENT: S-1 CLOVER OR WHITE CLOVER | 20 | 15 | 10 | 5 | 0 | 0 | -0 | -5 | -10 | -15 | -20 |
| MINIMUM REQUIREMENT: VETCH OR LESPEDZA | 120 | 115 | 110 | 105 | 100 | 100 | 95 | 90 | 85 | 80 | 80 |
| MINIMUM REQUIREMENT: WARM SEASON PERENNIAL GRASS | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| NK-37 OR MIDLAND BERMUDA GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| NK-37 OR MIDLAND BERMUDA GRASS (GRAZING) | 120 | 115 | 110 | 105 | 100 | 100 | 95 | 90 | 85 | 80 | 80 |
| NK-37 OR MIDLAND BERMUDA GRASS , 2 TO 3 HAY CUTTINGS | 200 | 195 | 190 | 185 | 180 | 180 | 175 | 170 | 165 | 160 | 160 |
| OATS (HEAVY GRAZING OR GRAZING PLUS HAY OR GRAIN) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| OATS (LIGHT GRAZING) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| OATS (MODERATE GRAZING) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| OATS (SOD SEEDED) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| OATS ,HAY ONLY (2 -3 TONS/A) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| RANGE GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| RANGE GRASS (GRAZING) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| RED TOP CANE (GRAIN) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| RHODES GRASS | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| RHODES GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| RYE , HEAVY GRAZING | 120 | 115 | 110 | 105 | 100 | 100 | 95 | 90 | 85 | 80 | 80 |
| RYE , MODERATE GRAZING | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| RYEGRASS (SOD SEEDED) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| RYEGRASS , HEAVY GRAZING | 200 | 195 | 190 | 185 | 180 | 180 | 175 | 170 | 165 | 160 | 160 |
| RYEGRASS , MODERATE GRAZING | 130 | 125 | 120 | 115 | 110 | 110 | 105 | 100 | 95 | 90 | 90 |
| SILAGE (CORN 11-15 TON/A) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| SILAGE (CORN 16-20 TON/A) | 200 | 195 | 190 | 185 | 180 | 180 | 175 | 170 | 165 | 160 | 160 |
| SILAGE (CORN 21-25 TON/A) | 250 | 245 | 240 | 235 | 230 | 230 | 225 | 220 | 215 | 210 | 210 |
| SILAGE (CORN 26-30 TON/A) | 300 | 295 | 290 | 285 | 280 | 280 | 275 | 270 | 265 | 260 | 260 |
| SILAGE (CORN 7 TO 10 TON/A) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| SILAGE (SORGHUM 11-15 TON/A) | 130 | 125 | 120 | 115 | 110 | 110 | 105 | 100 | 95 | 90 | 90 |
| SILAGE (SORGHUM 16-20 TON/A) | 180 | 175 | 170 | 165 | 160 | 160 | 155 | 150 | 145 | 140 | 140 |
| SILAGE (SORGHUM 21-25 TON/A) | 220 | 215 | 210 | 205 | 200 | 200 | 195 | 190 | 185 | 180 | 180 |
| SILAGE (SORGHUM 26-30 TON/A) | 260 | 255 | 250 | 245 | 240 | 240 | 235 | 230 | 225 | 220 | 220 |
| SILAGE (SORGHUM 7 TO 10 TON/A) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| SMALL GRAIN AND RYEGRASS (INTENSIVE GRAZING) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| SMALL GRAIN AND RYEGRASS (MODERATE GRAZING) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| SMALL GRAIN AND RYEGRASS (SOD SEEDED) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| SORGHUM ALMUM | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| SUDAN - SORGHUM HYBRID , 1 HAY CUTTING OR LIGHT GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| SUDAN - SORGHUM HYBRID , 2 HAY CUTTINGS OR MODERATE GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| SUDAN - SORGHUM HYBRID , 3 HAY CUTTINGS OR HEAVY GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| SUDAN GRASS , 1 HAY CUTTING OR LIGHT GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| SUDAN GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| SUDAN GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| SWITCH GRASS | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| SWITCH GRASS (ESTABLISHMENT) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| TRITICALE GRAZING | 120 | 115 | 110 | 105 | 100 | 100 | 95 | 90 | 85 | 80 | 80 |
| TURNIPS, TOPS | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| VETCH (PREPARED SEEDBED) | 10 | 5 | 0 | -0 | -5 | -10 | -10 | -15 | -20 | -25 | -30 |
| VETCH (SOD SEEDED) | 10 | 5 | 0 | -0 | -5 | -10 | -10 | -15 | -20 | -25 | -30 |
| VETCH WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

0-20 ppm Nitrate-N Range

Posted 12-11-2006

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| WHEAT (20-29 BU/A) GRAZING & GRAIN | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| WHEAT (30-39 BU/A) GRAZING & GRAIN | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| WHEAT (40-59 BU/A) GRAZING & GRAIN | 120 | 115 | 110 | 105 | 100 | 100 | 95 | 90 | 85 | 80 | 80 |
| WHEAT (60-79 BU/A) GRAZING & GRAIN | 160 | 155 | 150 | 145 | 140 | 140 | 135 | 130 | 125 | 120 | 120 |
| WHEAT (80-100 BU/A) GRAZING & GRAIN | 200 | 195 | 190 | 185 | 180 | 180 | 175 | 170 | 165 | 160 | 160 |
| WHEAT (HEAVY GRAZING) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| WHEAT (LIGHT GRAZING) | 60 | 55 | 50 | 45 | 40 | 40 | 35 | 30 | 25 | 20 | 20 |
| WHEAT (MODERATE GRAZING) | 80 | 75 | 70 | 65 | 60 | 60 | 55 | 50 | 45 | 40 | 40 |
| WHEAT GRASS , JOSE (HEAVY GRAZING) | 300 | 295 | 290 | 285 | 280 | 280 | 275 | 270 | 265 | 260 | 260 |
| WHEAT GRASS , JOSE (LIGHT GRAZING) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| WHEAT GREENCHOP (2 WET TONS/A-75% MOISTURE) | 40 | 35 | 30 | 25 | 20 | 20 | 15 | 10 | 5 | 0 | 0 |
| WHEAT GREENCHOP (3 WET TONS/A-75% MOISTURE) | 55 | 50 | 45 | 40 | 35 | 35 | 30 | 25 | 20 | 15 | 15 |
| WHEAT GREENCHOP (4 WET TONS/A-75% MOISTURE) | 75 | 70 | 65 | 60 | 55 | 55 | 50 | 45 | 40 | 35 | 35 |
| WHEAT GREENCHOP (5 WET TONS/A-75% MOISTURE) | 95 | 90 | 85 | 80 | 75 | 75 | 70 | 65 | 60 | 55 | 55 |
| WHEAT GREENCHOP (6 WET TONS/A-75% MOISTURE) | 110 | 105 | 100 | 95 | 90 | 90 | 85 | 80 | 75 | 70 | 70 |
| WHEAT GREENCHOP (7 WET TONS/A-75% MOISTURE) | 130 | 125 | 120 | 115 | 110 | 110 | 105 | 100 | 95 | 90 | 90 |
| WHEAT GREENCHOP (8 WET TONS/A-75% MOISTURE) | 150 | 145 | 140 | 135 | 130 | 130 | 125 | 120 | 115 | 110 | 110 |
| WHEAT HAY (1 TON/A) | 45 | 40 | 35 | 30 | 25 | 25 | 20 | 15 | 10 | 5 | 5 |
| WHEAT HAY (1.5 TON/A) | 65 | 60 | 55 | 50 | 45 | 45 | 40 | 35 | 30 | 25 | 25 |
| WHEAT HAY (2 TON/A) | 90 | 85 | 80 | 75 | 70 | 70 | 65 | 60 | 55 | 50 | 50 |
| WHEAT HAY (2.5 TON/A) | 110 | 105 | 100 | 95 | 90 | 90 | 85 | 80 | 75 | 70 | 70 |
| WHEAT HAY (3 TON/A) | 135 | 130 | 125 | 120 | 115 | 115 | 110 | 105 | 100 | 95 | 95 |
| WHEAT HAY (3.5 TON/A) | 155 | 150 | 145 | 140 | 135 | 135 | 130 | 125 | 120 | 115 | 115 |
| WHEAT HAY (4 TON/A) | 180 | 175 | 170 | 165 | 160 | 160 | 155 | 150 | 145 | 140 | 140 |
| WHEAT SILAGE (3 WET TONS-65% MOISTURE) | 70 | 65 | 60 | 55 | 50 | 50 | 45 | 40 | 35 | 30 | 30 |
| WHEAT SILAGE (4.5 WET TONS-65% MOISTURE) | 100 | 95 | 90 | 85 | 80 | 80 | 75 | 70 | 65 | 60 | 60 |
| WHEAT SILAGE (6 WET TONS-65% MOISTURE) | 140 | 135 | 130 | 125 | 120 | 120 | 115 | 110 | 105 | 100 | 100 |
| WHEAT SILAGE (7.5 WET TONS-65% MOISTURE) | 170 | 165 | 160 | 155 | 150 | 150 | 145 | 140 | 135 | 130 | 130 |
| WHEAT SILAGE (9 WET TONS-65% MOISTURE) | 210 | 205 | 200 | 195 | 190 | 190 | 185 | 180 | 175 | 170 | 170 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

25-75 ppm Nitrate-N Range

Posted 12-11-2006

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|------|------|------|------|------|
| | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
| AFRICAN MILLET | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| ALFALFA (IRRIGATED , ESTABLISHMENT) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| ALFALFA (IRRIGATED / 6 TON/A , ANNUALLY) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| ALFALFA (IRRIGATED 8-12 TON/A , ANNUALLY) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| ALFALFA (NON-IRRIGATED , ANNUALLY) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| ALFALFA (NON-IRRIGATED , ESTABLISHMENT) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| BAHIA GRASS (1 HAY CUTTING PLUS GRAZING) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| BAHIA GRASS (3 HAY CUTTINGS) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| BAHIA GRASS (4 TO 6 HAY CUTTINGS) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| BAHIA GRASS ESTABLISHMENT | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| BAHIA GRASS, GRAZING (1 A.U. PER 1 TO 1.5 ACRES) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| BAHIA GRASS, GRAZING (1 A.U. PER 1.5 TO 2 ACRES) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| BARLEY (HEAVY GRAZING ON SANDY SOILS) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| BARLEY (HEAVY GRAZING) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| BARLEY GRAIN (70-90 BU/A WITH LIGHT GRAZING) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| BERMUDA (COMMON, MIDLAND) GRASS (4 TO 6 HAY CUTTINGS) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| BLUE PANIC (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| BLUE PANIC (GRAZING) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| BLUESTEM (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| BLUESTEM (GRAZING OR HAY) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| BLUESTEM (IMPROVED-GRAZING OR HAY) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| BUFFEL GRASS (3 HAY CUTTINGS) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| BUFFEL GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| BUFFEL GRASS (HEAVY GRAZING OR HAY PLUS GRAZING) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| BUFFEL GRASS (MODERATE GRAZING) | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 |
| CANE | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| CLOVER (PREPARED SEEDBED) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -140 |
| CLOVER (SOD SEEDED) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -140 |
| CLOVER WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -140 |
| CLOVER WITH RYEGRASS OR SMALL GRAIN (SOD SEEDED) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -140 |
| COMMON BERMUDA GRASS (1 A.U. PER 1 TO 1.5 ACRES) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| COMMON BERMUDA GRASS (1 A.U. PER 1.5 TO 2 ACRES) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| COMMON BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING , ANNUALLY) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| COMMON BERMUDA GRASS (3 HAY CUTTINGS , ANNUALLY) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| COMMON BERMUDA GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| DALLIS GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| DALLIS GRASS (GRAZING 1 A.U. PER 1.5 TO 2 ACRES) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| DALLIS GRASS(GRAZING 1 AU PER 1 TO 1.5 ACRES OR 1 HAY CUTTING PLUS GRAZING) | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 |
| DESOTO GRASS | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| FESCUE (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| FESCUE , HAY OR GRAZING AT 3-4 AU/A | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 |
| FORAGE SORGHUM | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| HAY GRAZER , 1 HAY CUTTING OR LIGHT GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| HAY GRAZER , 2 HAY CUTTINGS OR MODERATE GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| HAY GRAZER , 3 HAY CUTTINGS OR HEAVY GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| HEGARI | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| HUBAN CLOVER | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-1.5 TONS/A) | 25 | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2 TONS/A) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2.5 TONS/A) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-3 TONS/A) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-1.5 TONS/A AVG.) | 25 | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2 TONS/A AVG.) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2.5 TONS/A AVG.) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-3 TONS/A AVG.) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-1.5 TONS/A AVG.) | 25 | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2.5 TONS/A AVG.) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-3 TONS/A AVG.) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-1.5 TONS/A AVG.) | 25 | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2 TONS/A AVG.) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2.5 TONS/A AVG.) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-3 TONS/A AVG.) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2 TONS/A AVG.) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2.5 TONS/A AVG.) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-3 TONS/A AVG.) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2 TONS/AAVG.) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2.5 TONS/A AVG.) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-3 TONS/A AVG.) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2 TONS/A AVG.) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2.5 TONS/A AVG.) | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-3 TONS/A AVG.) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

25-75 ppm Nitrate-N Range

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

Posted 12-11-2006

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|------|------|------|------|------|
| | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
| IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| IMPROVED AND HYBRID BERMUDA GRASS (IRRIGATED , ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| IMPROVED AND HYBRID BERMUDA GRASS, GRAZING | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| JOHNSON GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| JOHNSON GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| KLEIN GRASS (1 AU PER 2 TO 3 ACRES OR HAY PRODUCTION) | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 |
| KLEIN GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| KLEIN GRASS , 1 AU PER 1.25 TO 1.75 ACRE OR HAY PRODUCTION | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| LOVE GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| LOVE GRASS , GRAZING OR HAY | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| MEXICAN WHEAT | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| MILLET , 2 HAY CUTTINGS OR MODERATE GRAZING | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| MILLET , LIGHT GRAZING OR 1 HAY CUTTING | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| MINIMUM REQUIREMENT: ALFALFA | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| MINIMUM REQUIREMENT: BLUESTEM GRASS | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| MINIMUM REQUIREMENT: CLOVER | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| MINIMUM REQUIREMENT: COOL SEASON PERENNIAL GRASS | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| MINIMUM REQUIREMENT: PEAS | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| MINIMUM REQUIREMENT: S-1 CLOVER OR WHITE CLOVER | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 |
| MINIMUM REQUIREMENT: VETCH OR LESPEDZA | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 |
| MINIMUM REQUIREMENT: WARM SEASON PERENNIAL GRASS | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| NK-37 OR MIDLAND BERMUDA GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| NK-37 OR MIDLAND BERMUDA GRASS (GRAZING) | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 |
| NK-37 OR MIDLAND BERMUDA GRASS , 2 TO 3 HAY CUTTINGS | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 |
| OATS (HEAVY GRAZING OR GRAZING PLUS HAY OR GRAIN) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| OATS (LIGHT GRAZING) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| OATS (MODERATE GRAZING) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| OATS (SOD SEEDED) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| OATS ,HAY ONLY (2 -3 TONS/A) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| RANGE GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| RANGE GRASS (GRAZING) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| RED TOP CANE (GRAIN) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| RHODES GRASS | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| RHODES GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| RYE , HEAVY GRAZING | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 |
| RYE , MODERATE GRAZING | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| RYEGRASS (SOD SEEDED) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| RYEGRASS , HEAVY GRAZING | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 |
| RYEGRASS , MODERATE GRAZING | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 |
| SILAGE (CORN 11-15 TON/A) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| SILAGE (CORN 16-20 TON/A) | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 |
| SILAGE (CORN 21-25 TON/A) | 200 | 190 | 180 | 170 | 160 | 150 | 140 | 130 | 120 | 110 | 100 |
| SILAGE (CORN 26-30 TON/A) | 250 | 240 | 230 | 220 | 210 | 200 | 190 | 180 | 170 | 160 | 150 |
| SILAGE (CORN 7 TO 10 TON/A) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| SILAGE (SORGHUM 11-15 TON/A) | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 |
| SILAGE (SORGHUM 16-20 TON/A) | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 |
| SILAGE (SORGHUM 21-25 TON/A) | 170 | 160 | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 |
| SILAGE (SORGHUM 26-30 TON/A) | 210 | 200 | 190 | 180 | 170 | 160 | 150 | 140 | 130 | 120 | 110 |
| SILAGE (SORGHUM 7 TO 10 TON/A) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| SMALL GRAIN AND RYEGRASS (INTENSIVE GRAZING) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| SMALL GRAIN AND RYEGRASS (MODERATE GRAZING) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| SMALL GRAIN AND RYEGRASS (SOD SEEDED) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| SORGHUM ALMUM | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| SUDAN - SORGHUM HYBRID , 1 HAY CUTTING OR LIGHT GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| SUDAN - SORGHUM HYBRID , 2 HAY CUTTINGS OR MODERATE GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| SUDAN - SORGHUM HYBRID , 3 HAY CUTTINGS OR HEAVY GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| SUDAN GRASS , 1 HAY CUTTING OR LIGHT GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| SUDAN GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| SUDAN GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| SWITCH GRASS | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| SWITCH GRASS (ESTABLISHMENT) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| TRITICALE GRAZING | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 |
| TURNIPS, TOPS | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| VETCH (PREPARED SEEDBED) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -140 |
| VETCH (SOD SEEDED) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -140 |
| VETCH WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -110 |
| WHEAT (20-29 BU/A) GRAZING & GRAIN | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| WHEAT (30-39 BU/A) GRAZING & GRAIN | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| WHEAT (40-59 BU/A) GRAZING & GRAIN | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 |
| WHEAT (60-79 BU/A) GRAZING & GRAIN | 110 | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| WHEAT (80-100 BU/A) GRAZING & GRAIN | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 |
| WHEAT (HEAVY GRAZING) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |
| WHEAT (LIGHT GRAZING) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -90 |
| WHEAT (MODERATE GRAZING) | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

25-75 ppm Nitrate-N Range

Posted 12-11-2006

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crop

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
| WHEAT GRASS , JOSE (HEAVY GRAZING) | 250 | 240 | 230 | 220 | 210 | 200 | 190 | 180 | 170 | 160 | 150 |
| WHEAT GRASS , JOSE (LIGHT GRAZING) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| WHEAT GREENCHOP (3 WET TONS/A-75% MOISTURE) | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 | -85 | -95 |
| WHEAT GREENCHOP (4 WET TONS/A-75% MOISTURE) | 25 | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 |
| WHEAT GREENCHOP (5 WET TONS/A-75% MOISTURE) | 45 | 35 | 25 | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 |
| WHEAT GREENCHOP (6 WET TONS/A-75% MOISTURE) | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 |
| WHEAT GREENCHOP (7 WET TONS/A-75% MOISTURE) | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 |
| WHEAT GREENCHOP (8 WET TONS/A-75% MOISTURE) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |
| WHEAT HAY (1 TON/A) | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -105 |
| WHEAT HAY (1.5 TON/A) | 15 | 5 | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -75 | -85 |
| WHEAT HAY (2 TON/A) | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 |
| WHEAT HAY (2.5 TON/A) | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 |
| WHEAT HAY (3 TON/A) | 85 | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 | -5 | -15 |
| WHEAT HAY (3.5 TON/A) | 105 | 95 | 85 | 75 | 65 | 55 | 45 | 35 | 25 | 15 | 5 |
| WHEAT HAY (4 TON/A) | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 |
| WHEAT SILAGE (3 WET TONS-65% MOISTURE) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -80 |
| WHEAT SILAGE (4.5 WET TONS-65% MOISTURE) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -50 |
| WHEAT SILAGE (6 WET TONS-65% MOISTURE) | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -10 |
| WHEAT SILAGE (7.5 WET TONS-65% MOISTURE) | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 |
| WHEAT SILAGE (9 WET TONS-65% MOISTURE) | 160 | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

80-150 ppm Nitrate-N Range

Posted 12-11-2006

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|------|------|------|------|------|------|------|------|------|------|
| | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 120 | 130 | 140 | 150 |
| AFRICAN MILLET | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| ALFALFA (IRRIGATED , ESTABLISHMENT) | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| ALFALFA (IRRIGATED / 6 TON/A , ANNUALLY) | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| ALFALFA (IRRIGATED 8-12 TON/A , ANNUALLY) | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| ALFALFA (NON-IRRIGATED , ANNUALLY) | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| ALFALFA (NON-IRRIGATED , ESTABLISHMENT) | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| BAHIA GRASS (1 HAY CUTTING PLUS GRAZING) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| BAHIA GRASS (3 HAY CUTTINGS) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| BAHIA GRASS (4 TO 6 HAY CUTTINGS) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| BAHIA GRASS ESTABLISHMENT | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| BAHIA GRASS, GRAZING (1 A.U. PER 1 TO 1.5 ACRES) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| BAHIA GRASS, GRAZING (1 A.U. PER 1.5 TO 2 ACRES) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| BARLEY (HEAVY GRAZING ON SANDY SOILS) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| BARLEY (HEAVY GRAZING) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| BARLEY GRAIN (70-90 BU/A WITH LIGHT GRAZING) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| BERMUDA (COMMON, MIDLAND) GRASS (4 TO 6 HAY CUTTINGS) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| BLUE PANIC (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| BLUE PANIC (GRAZING) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| BLUESTEM (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| BLUESTEM (GRAZING OR HAY) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| BLUESTEM (IMPROVED-GRAZING OR HAY) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| BUFFEL GRASS (3 HAY CUTTINGS) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| BUFFEL GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| BUFFEL GRASS (HEAVY GRAZING OR HAY PLUS GRAZING) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| BUFFEL GRASS (MODERATE GRAZING) | -110 | -120 | -130 | -140 | -150 | -160 | -170 | -190 | -210 | -230 | -250 |
| CANE | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| CLOVER (PREPARED SEEDBED) | -150 | -160 | -170 | -180 | -190 | -200 | -210 | -230 | -250 | -270 | -290 |
| CLOVER (SOD SEEDED) | -150 | -160 | -170 | -180 | -190 | -200 | -210 | -230 | -250 | -270 | -290 |
| CLOVER WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED) | -150 | -160 | -170 | -180 | -190 | -200 | -210 | -230 | -250 | -270 | -290 |
| CLOVER WITH RYEGRASS OR SMALL GRAIN (SOD SEEDED) | -150 | -160 | -170 | -180 | -190 | -200 | -210 | -230 | -250 | -270 | -290 |
| COMMON BERMUDA GRASS (1 A.U. PER 1 TO 1.5 ACRES) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| COMMON BERMUDA GRASS (1 A.U. PER 1.5 TO 2 ACRES) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| COMMON BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING , ANNUALLY) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| COMMON BERMUDA GRASS (3 HAY CUTTINGS , ANNUALLY) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| COMMON BERMUDA GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| DALLIS GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| DALLIS GRASS (GRAZING 1 A.U. PER 1.5 TO 2 ACRES) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| DALLIS GRASS(GRAZING 1 AU PER 1 TO 1.5 ACRES OR 1 HAY CUTTING PLUS GRAZING) | -110 | -120 | -130 | -140 | -150 | -160 | -170 | -190 | -210 | -230 | -250 |
| DESOTO GRASS | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| FESCUE (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| FESCUE , HAY OR GRAZING AT 3-4 AU/A | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -120 | -140 | -160 | -180 |
| FORAGE SORGHUM | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| HAY GRAZER , 1 HAY CUTTING OR LIGHT GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| HAY GRAZER , 2 HAY CUTTINGS OR MODERATE GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| HAY GRAZER , 3 HAY CUTTINGS OR HEAVY GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| HEGARI | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| HUBAN CLOVER | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-1.5 TONS/A) | -85 | -95 | -105 | -115 | -125 | -135 | -145 | -165 | -185 | -205 | -225 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2 TONS/A) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2.5 TONS/A) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-3 TONS/A) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-1.5 TONS/A AVG.) | -85 | -95 | -105 | -115 | -125 | -135 | -145 | -165 | -185 | -205 | -225 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2 TONS/A AVG.) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2.5 TONS/A AVG.) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-3 TONS/A AVG.) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-1.5 TONS/A AVG.) | -85 | -95 | -105 | -115 | -125 | -135 | -145 | -165 | -185 | -205 | -225 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2.5 TONS/A AVG.) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-3 TONS/A AVG.) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-1.5 TONS/A AVG.) | -85 | -95 | -105 | -115 | -125 | -135 | -145 | -165 | -185 | -205 | -225 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2 TONS/A AVG.) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2.5 TONS/A AVG.) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-3 TONS/A AVG.) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2 TONS/A AVG.) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2.5 TONS/A AVG.) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-3 TONS/A AVG.) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2 TONS/AAVG.) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2.5 TONS/A AVG.) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-3 TONS/A AVG.) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2 TONS/A AVG.) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2.5 TONS/A AVG.) | -35 | -45 | -55 | -65 | -75 | -85 | -95 | -115 | -135 | -155 | -175 |
| IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-3 TONS/A AVG.) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

80-150 ppm Nitrate-N Range

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

Posted 12-11-2006

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|------|------|------|------|------|------|------|------|------|------|
| | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 120 | 130 | 140 | 150 |
| IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| IMPROVED AND HYBRID BERMUDA GRASS (IRRIGATED , ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| IMPROVED AND HYBRID BERMUDA GRASS, GRAZING | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| JOHNSON GRASS , 1 HAY CUTTING OR LIGHT GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| JOHNSON GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| JOHNSON GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| KLEIN GRASS (1 AU PER 2 TO 3 ACRES OR HAY PRODUCTION) | -110 | -120 | -130 | -140 | -150 | -160 | -170 | -190 | -210 | -230 | -250 |
| KLEIN GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| KLEIN GRASS , 1 AU PER 1.25 TO 1.75 ACRE OR HAY PRODUCTION | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| LOVE GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| LOVE GRASS , GRAZING OR HAY | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| MEXICAN WHEAT | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| MILLET , 2 HAY CUTTINGS OR MODERATE GRAZING | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| MILLET , LIGHT GRAZING OR 1 HAY CUTTING | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| MINIMUM REQUIREMENT: ALFALFA | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| MINIMUM REQUIREMENT: BLUESTEM GRASS | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| MINIMUM REQUIREMENT: CLOVER | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| MINIMUM REQUIREMENT: COOL SEASON PERENNIAL GRASS | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| MINIMUM REQUIREMENT: PEAS | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| MINIMUM REQUIREMENT: S-1 CLOVER OR WHITE CLOVER | -140 | -150 | -160 | -170 | -180 | -190 | -200 | -220 | -240 | -260 | -280 |
| MINIMUM REQUIREMENT: VETCH OR LESPEDZA | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -120 | -140 | -160 | -180 |
| MINIMUM REQUIREMENT: WARM SEASON PERENNIAL GRASS | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| NK-37 OR MIDLAND BERMUDA GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| NK-37 OR MIDLAND BERMUDA GRASS (GRAZING) | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -120 | -140 | -160 | -180 |
| NK-37 OR MIDLAND BERMUDA GRASS , 2 TO 3 HAY CUTTINGS | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -40 | -60 | -80 | -100 |
| OATS (HEAVY GRAZING OR GRAZING PLUS HAY OR GRAIN) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| OATS (LIGHT GRAZING) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| OATS (MODERATE GRAZING) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| OATS (SOD SEEDED) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| OATS ,HAY ONLY (2 -3 TONS/A) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| RANGE GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| RANGE GRASS (GRAZING) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| RED TOP CANE (GRAIN) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| RHODES GRASS | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| RHODES GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| RYE , HEAVY GRAZING | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -120 | -140 | -160 | -180 |
| RYE , MODERATE GRAZING | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| RYEGRASS (SOD SEEDED) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| RYEGRASS , HEAVY GRAZING | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -40 | -60 | -80 | -100 |
| RYEGRASS , MODERATE GRAZING | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -110 | -130 | -150 | -170 |
| SILAGE (CORN 11-15 TON/A) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| SILAGE (CORN 16-20 TON/A) | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -40 | -60 | -80 | -100 |
| SILAGE (CORN 21-25 TON/A) | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 10 | -10 | -30 | -50 |
| SILAGE (CORN 26-30 TON/A) | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 60 | 40 | 20 | 0 |
| SILAGE (CORN 7 TO 10 TON/A) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| SILAGE (SORGHUM 11-15 TON/A) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -110 | -130 | -150 | -170 |
| SILAGE (SORGHUM 16-20 TON/A) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -60 | -80 | -100 | -120 |
| SILAGE (SORGHUM 21-25 TON/A) | 60 | 50 | 40 | 30 | 20 | 10 | 0 | -20 | -40 | -60 | -80 |
| SILAGE (SORGHUM 26-30 TON/A) | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 20 | 0 | -20 | -40 |
| SILAGE (SORGHUM 7 TO 10 TON/A) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| SMALL GRAIN AND RYEGRASS (INTENSIVE GRAZING) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| SMALL GRAIN AND RYEGRASS (MODERATE GRAZING) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| SMALL GRAIN AND RYEGRASS (SOD SEEDED) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| SORGHUM ALMUM | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| SUDAN - SORGHUM HYBRID , 1 HAY CUTTING OR LIGHT GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| SUDAN - SORGHUM HYBRID , 2 HAY CUTTINGS OR MODERATE GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| SUDAN - SORGHUM HYBRID , 3 HAY CUTTINGS OR HEAVY GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| SUDAN GRASS , 1 HAY CUTTING OR LIGHT GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| SUDAN GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| SUDAN GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| SWITCH GRASS | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| SWITCH GRASS (ESTABLISHMENT) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| TRITICALE GRAZING | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -120 | -140 | -160 | -180 |
| TURNIPS, TOPS | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| VETCH (PREPARED SEEDBED) | -150 | -160 | -170 | -180 | -190 | -200 | -210 | -230 | -250 | -270 | -290 |
| VETCH (SOD SEEDED) | -150 | -160 | -170 | -180 | -190 | -200 | -210 | -230 | -250 | -270 | -290 |
| VETCH WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED) | -120 | -130 | -140 | -150 | -160 | -170 | -180 | -200 | -220 | -240 | -260 |
| WHEAT (20-29 BU/A) GRAZING & GRAIN | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| WHEAT (30-39 BU/A) GRAZING & GRAIN | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| WHEAT (40-59 BU/A) GRAZING & GRAIN | -40 | -50 | -60 | -70 | -80 | -90 | -100 | -120 | -140 | -160 | -180 |
| WHEAT (60-79 BU/A) GRAZING & GRAIN | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -80 | -100 | -120 | -140 |
| WHEAT (80-100 BU/A) GRAZING & GRAIN | 40 | 30 | 20 | 10 | 0 | -10 | -20 | -40 | -60 | -80 | -100 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

80-150 ppm Nitrate-N Range

Posted 12-11-2006

Nitrogen (Nitrate-N by Cd-reduction only) Recommendations for Forage Crops

| Crop | 1 N KCl Soil Test Nitrate-N in Parts Per Million (ppm) or mg/Kg | | | | | | | | | | |
|---|---|------|------|------|------|------|------|------|------|------|------|
| | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 120 | 130 | 140 | 150 |
| WHEAT (HEAVY GRAZING) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| WHEAT (LIGHT GRAZING) | -100 | -110 | -120 | -130 | -140 | -150 | -160 | -180 | -200 | -220 | -240 |
| WHEAT (MODERATE GRAZING) | -80 | -90 | -100 | -110 | -120 | -130 | -140 | -160 | -180 | -200 | -220 |
| WHEAT GRASS , JOSE (HEAVY GRAZING) | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 60 | 40 | 20 | 0 |
| WHEAT GRASS , JOSE (LIGHT GRAZING) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| WHEAT GREENCHOP (7 WET TONS/A-75% MOISTURE) | -30 | -40 | -50 | -60 | -70 | -80 | -90 | -110 | -130 | -150 | -170 |
| WHEAT GREENCHOP (8 WET TONS/A-75% MOISTURE) | -10 | -20 | -30 | -40 | -50 | -60 | -70 | -90 | -110 | -130 | -150 |
| WHEAT HAY (1 TON/A) | -115 | -125 | -135 | -145 | -155 | -165 | -175 | -195 | -215 | -235 | -255 |
| WHEAT HAY (1.5 TON/A) | -95 | -105 | -115 | -125 | -135 | -145 | -155 | -175 | -195 | -215 | -235 |
| WHEAT HAY (2 TON/A) | -70 | -80 | -90 | -100 | -110 | -120 | -130 | -150 | -170 | -190 | -210 |
| WHEAT HAY (2.5 TON/A) | -50 | -60 | -70 | -80 | -90 | -100 | -110 | -130 | -150 | -170 | -190 |
| WHEAT HAY (3 TON/A) | -25 | -35 | -45 | -55 | -65 | -75 | -85 | -105 | -125 | -145 | -165 |
| WHEAT HAY (3.5 TON/A) | -5 | -15 | -25 | -35 | -45 | -55 | -65 | -85 | -105 | -125 | -145 |
| WHEAT HAY (4 TON/A) | 20 | 10 | 0 | -10 | -20 | -30 | -40 | -60 | -80 | -100 | -120 |
| WHEAT SILAGE (3 WET TONS-65% MOISTURE) | -90 | -100 | -110 | -120 | -130 | -140 | -150 | -170 | -190 | -210 | -230 |
| WHEAT SILAGE (4.5 WET TONS-65% MOISTURE) | -60 | -70 | -80 | -90 | -100 | -110 | -120 | -140 | -160 | -180 | -200 |
| WHEAT SILAGE (6 WET TONS-65% MOISTURE) | -20 | -30 | -40 | -50 | -60 | -70 | -80 | -100 | -120 | -140 | -160 |
| WHEAT SILAGE (7.5 WET TONS-65% MOISTURE) | 10 | 0 | -10 | -20 | -30 | -40 | -50 | -70 | -90 | -110 | -130 |
| WHEAT SILAGE (9 WET TONS-65% MOISTURE) | 50 | 40 | 30 | 20 | 10 | 0 | -10 | -30 | -50 | -70 | -90 |

Values with negative numbers represent amount of nitrogen per acre in excess of cutting or recommended application rates. See end of this document for application timing/rates for multiple nitrogen application cropping systems.

Texas Cooperative Extension Soil, Water and Forage Testing Laboratory Nitrogen Fertilizer Recommendations for Forage Crops

Posted 12-11-2006

Crop

AFRICAN MILLET

ALFALFA (IRRIGATED , ESTABLISHMENT)
ALFALFA (IRRIGATED / 6 TON/A , ANNUALLY)
ALFALFA (IRRIGATED 8-12 TON/A , ANNUALLY)
ALFALFA (NON-IRRIGATED , ANNUALLY)
ALFALFA (NON-IRRIGATED , ESTABLISHMENT)
BAHIA GRASS (1 HAY CUTTING PLUS GRAZING)
BAHIA GRASS (3 HAY CUTTINGS)
BAHIA GRASS (4 TO 6 HAY CUTTINGS)
BAHIA GRASS ESTABLISHMENT
BAHIA GRASS, GRAZING (1 A.U. PER 1 TO 1.5 ACRES)
BAHIA GRASS, GRAZING (1 A.U. PER 1.5 TO 2 ACRES)
BARLEY (HEAVY GRAZING ON SANDY SOILS)
BARLEY (HEAVY GRAZING)

BARLEY GRAIN (70-90 BU/A WITH LIGHT GRAZING)
BERMUDA (COMMON, MIDLAND) GRASS (4 TO 6 HAY CUTTINGS)
BLUE PANIC (ESTABLISHMENT)

BLUE PANIC (GRAZING)
BLUESTEM (ESTABLISHMENT)
BLUESTEM (GRAZING OR HAY)
BLUESTEM (IMPROVED-GRAZING OR HAY)
BUFFEL GRASS (3 HAY CUTTINGS)
BUFFEL GRASS (ESTABLISHMENT)
BUFFEL GRASS (HEAVY GRAZING OR HAY PLUS GRAZING)
BUFFEL GRASS (MODERATE GRAZING)

CANE
CLOVER (PREPARED SEEDBED)
CLOVER (SOD SEEDED)
CLOVER WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED)

CLOVER WITH RYEGRASS OR SMALL GRAIN (SOD SEEDED)

COMMON BERMUDA GRASS (1 A.U. PER 1 TO 1.5 ACRES)
COMMON BERMUDA GRASS (1 A.U. PER 1.5 TO 2 ACRES)
COMMON BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING , ANNUALLY)
COMMON BERMUDA GRASS (3 HAY CUTTINGS , ANNUALLY)
COMMON BERMUDA GRASS (ESTABLISHMENT)
DALLIS GRASS (ESTABLISHMENT)
DALLIS GRASS (GRAZING 1 A.U. PER 1.5 TO 2 ACRES)
DALLIS GRASS(GRAZING 1 AU PER 1 TO 1.5 ACRES OR 1 HAY CUTTING PLUS GRAZING)

DESOTO GRASS
FESCUE (ESTABLISHMENT)
FESCUE , HAY OR GRAZING AT 3-4 AU/A
FORAGE SORGHUM

HAY GRAZER , 1 HAY CUTTING OR LIGHT GRAZING
HAY GRAZER , 2 HAY CUTTINGS OR MODERATE GRAZING
HAY GRAZER , 3 HAY CUTTINGS OR HEAVY GRAZING

HEGARI

HUBAN CLOVER

IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING PLUS GRAZING)
IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-1.5 TONS/A)
IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2 TONS/A)
IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-2.5 TONS/A)
IMPROVED AND HYBRID BERMUDA GRASS (1 HAY CUTTING-3 TONS/A)
IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-1.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-2.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (2 HAY CUTTINGS-3 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-1.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-3 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-1.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-2.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (4 HAY CUTTINGS-3 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-2.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (5 HAY CUTTINGS-3 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2 TONS/AAVG.)
IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-2.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (6 HAY CUTTINGS-3 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-2.5 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (7 HAY CUTTINGS-3 TONS/A AVG.)
IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)
IMPROVED AND HYBRID BERMUDA GRASS (IRRIGATED , ESTABLISHMENT)
IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Nitrogen application statements

Topdress with an additional 60 lbs/A of nitrogen after each 4 to 6 week graze down.
After each haying, apply an additional 70 lbs/A of nitrogen.
After each haying, topdress with another 70 lbs/A of nitrogen.
After 75% cover is achieved, apply an additional 40 lbs/A nitrogen.
After each graze down, apply an additional 60 lbs/A of nitrogen.
After each graze down, apply an additional 40 lbs/A of nitrogen.
Apply an additional 80 lbs/A of nitrogen in early spring followed by 40 lbs of nitrogen in late spring.
Apply an additional 80 lbs/A of nitrogen in early spring.

Apply an additional 70 lbs/A of nitrogen for each subsequent hay cuttings.

Apply an additional 30 lbs/A of nitrogen prior to each four to six week graze down..

Apply an additional 30 lbs/A of nitrogen prior to each four to six week graze down..
Apply an additional 80 lbs/A of nitrogen for each subsequent hay cuttings.
Topdress with an additional 80 lbs/A of nitrogen after each haying.
After 75% cover, topdress with an additional 40 lbs/A of nitrogen.
If moisture is adequate, topdress with an additional 50 lbs/A of nitrogen every 6 to 8 weeks as needed.
If moisture is adequate, topdress with an additional 50 lbs/A of nitrogen every 6 to 8 weeks as needed.

In spring, topdress with an additional 50 lbs/A of nitrogen followed by an additional 50 lbs/A after clover production
One month after emergence, topdress with an additional 50 lbs/A of nitrogen followed by an additional 50 lbs/A in December.

One month after emergence, topdress with an additional 50 lbs/A of nitrogen followed by an additional 50 lbs/A in December.

Apply an additional 60 lbs of nitrogen prior to each four to six week graze down..
Apply an additional 40 lbs/A of nitrogen prior to each heavy graze down..
Apply an additional 60 lbs/A of nitrogen prior to each four to six week grazing down..
Apply an additional 70 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 60 lbs/A of nitrogen prior to each four to six week graze down..
After 75% cover, topdress with an additional 40 lbs/A of nitrogen.
Topdress with an additional 50 lbs/A of nitrogen every 6 to 8 weeks as needed.
Topdress with an additional 50 lbs/A of nitrogen every 6 to 8 weeks as needed.

Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting.
Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting.

Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Apply an additional 75 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 75 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 75 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 125 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 150 lbs/A of nitrogen for each subsequent hay cuttings.
Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.
Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.
Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Texas Cooperative Extension Soil, Water and Forage Testing Laboratory Nitrogen Fertilizer Recommendations for Forage Crops

Posted 12-11-2006

Crop

Nitrogen application statements

JOHNSON GRASS , 1 HAY CUTTING OR LIGHT GRAZING
JOHNSON GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING
JOHNSON GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING
KLEIN GRASS (1 AU PER 2 TO 3 ACRES OR HAY PRODUCTION)
KLEIN GRASS (ESTABLISHMENT)
KLEIN GRASS , 1 AU PER 1.25 TO 1.75 ACRE OR HAY PRODUCTION

Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting.
Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting.
If moisture conditions are suitable, apply an additional 30 lbs/A of nitrogen after graze down..

LOVE GRASS (ESTABLISHMENT)
LOVE GRASS , GRAZING OR HAY
MEXICAN WHEAT
MILLET , 2 HAY CUTTINGS OR MODERATE GRAZING
MILLET , LIGHT GRAZING OR 1 HAY CUTTING
MINIMUM REQUIREMENT: ALFALFA
MINIMUM REQUIREMENT: BLUESTEM GRASS
MINIMUM REQUIREMENT: CLOVER
MINIMUM REQUIREMENT: COOL SEASON PERENNIAL GRASS
MINIMUM REQUIREMENT: PEAS
MINIMUM REQUIREMENT: S-1 CLOVER OR WHITE CLOVER
MINIMUM REQUIREMENT: VETCH OR LESPEDZA
MINIMUM REQUIREMENT: WARM SEASON PERENNIAL GRASS
NK-37 OR MIDLAND BERMUDA GRASS (ESTABLISHMENT)
NK-37 OR MIDLAND BERMUDA GRASS (GRAZING)

Apply 1/3 of nitrogen prior to spring greenup, followed by 1/3 after each of two anticipated heavy graze downs or hayings.

Apply 1/2 of nitrogen prior to spring greenup and remainder after haying or graze down.

If moisture conditions are suitable, topdress with an additional 40 lbs/A of nitrogen after heavy graze down.

NK-37 OR MIDLAND BERMUDA GRASS , 2 TO 3 HAY CUTTINGS
OATS (HEAVY GRAZING OR GRAZING PLUS HAY OR GRAIN)
OATS (LIGHT GRAZING)
OATS (MODERATE GRAZING)
OATS (SOD SEEDED)
OATS ,HAY ONLY (2 -3 TONS/A)
RANGE GRASS (ESTABLISHMENT)
RANGE GRASS (GRAZING)
RED TOP CANE (GRAIN)
RHODES GRASS

Apply 1/2 of nitrogen prior to spring greenup and remainder of nitrogen following first heavy graze down. An additional 40 lbs/A nitrogen should be applied if a 3rd heavy graze down is anticipated.
Reserve 70 lbs/A of nitrogen for each subsequent hay cutting.
Topdress an additional 60 lbs of nitrogen/A in late fall and again in late winter.
Topdress an additional 60 lbs of nitrogen/A in late fall and again in late winter.
Apply 1/2 of nitrogen at preplant and topdress remainder of nitrogen after 4 to 5 weeks of grazing.
Topdress an additional 50 lbs/A of nitrogen in late fall and again in late winter.

RHODES GRASS (ESTABLISHMENT)
RYE , HEAVY GRAZING
RYE , MODERATE GRAZING
RYEGRASS (SOD SEEDED)
RYEGRASS , HEAVY GRAZING
RYEGRASS , MODERATE GRAZING
SILAGE (CORN 11-15 TON/A)
SILAGE (CORN 16-20 TON/A)
SILAGE (CORN 21-25 TON/A)
SILAGE (CORN 26-30 TON/A)
SILAGE (CORN 7 TO 10 TON/A)
SILAGE (SORGHUM 11-15 TON/A)
SILAGE (SORGHUM 16-20 TON/A)
SILAGE (SORGHUM 21-25 TON/A)
SILAGE (SORGHUM 26-30 TON/A)
SILAGE (SORGHUM 7 TO 10 TON/A)

Nitrogen: After 75% cover, topdress with an additional 40 lbs/A of nitrogen.
Topdress an additional 80 lbs of nitrogen/A in late fall and again in late spring.
Apply 1/2 of nitrogen at preplant and topdress remainder of nitrogen after 4 to 5 weeks of grazing.
Apply 1/2 of nitrogen at preplant and topdress remainder of nitrogen after 4 to 5 weeks of grazing.
Apply 1/3 of nitrogen at preplant and topdress 1/3rd of recommendation every 4-6 weeks there after or as needed.
Apply 1/2 of nitrogen at preplant and topdress remainder of nitrogen after 4 to 6 weeks of grazing.

SMALL GRAIN AND RYEGRASS (INTENSE GRAZING)
SMALL GRAIN AND RYEGRASS (MODERATE GRAZING)
SMALL GRAIN AND RYEGRASS (SOD SEEDED)
SORGHUM ALMUM

Topdress with 40 lbs/A of nitrogen every 6 to 8 weeks as needed.
Topdress with an additional 50 lbs/A of nitrogen in late fall and again in late winter.

SUDAN - SORGHUM HYBRID , 1 HAY CUTTING OR LIGHT GRAZING
SUDAN - SORGHUM HYBRID , 2 HAY CUTTINGS OR MODERATE GRAZING
SUDAN - SORGHUM HYBRID , 3 HAY CUTTINGS OR HEAVY GRAZING
SUDAN GRASS , 1 HAY CUTTING OR LIGHT GRAZING
SUDAN GRASS , 2 HAY CUTTINGS OR MODERATE GRAZING
SUDAN GRASS , 3 HAY CUTTINGS OR HEAVY GRAZING
SWITCH GRASS
SWITCH GRASS (ESTABLISHMENT)
TRITICALE GRAZING
TURNIPS, TOPS
VETCH (PREPARED SEEDBED)
VETCH (SOD SEEDED)
VETCH WITH RYEGRASS OR SMALL GRAIN (PREPARED SEEDBED)

Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting or heavy graze down.
Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting or heavy graze down.

Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting or heavy graze down.
Apply an additional 50-60 lbs/A of nitrogen for each subsequent hay cutting or heavy graze down.

Apply 1/2 of nitrogen at preplant and topdress remainder prior to spring growth.
Topdress with 40 lbs/A of nitrogen as needed to promote growth.

WHEAT (20-29 BU/A) GRAZING & GRAIN
WHEAT (30-39 BU/A) GRAZING & GRAIN
WHEAT (40-59 BU/A) GRAZING & GRAIN
WHEAT (60-79 BU/A) GRAZING & GRAIN
WHEAT (80-100 BU/A) GRAZING & GRAIN
WHEAT (HEAVY GRAZING)
WHEAT (LIGHT GRAZING)
WHEAT (MODERATE GRAZING)
WHEAT GRASS , JOSE (HEAVY GRAZING)
WHEAT GRASS , JOSE (LIGHT GRAZING)

In spring, topdress with an additional 50 lbs/A of nitrogen if vetch production is adequate.
Topdress with an additional 50 lbs/A of nitrogen one month after emergence and an additional 50 lbs/A in December.
Topdress with an additional 30 lbs/A of nitrogen after livestock removal and prior to jointing.
Topdress with an additional 30 to 50 lbs/A of nitrogen after livestock removal and prior to jointing.
Topdress with an additional 40 to 60 lbs/A of nitrogen after livestock removal and prior to jointing.
Topdress with an additional 50 to 70 lbs/A of nitrogen after livestock removal and prior to jointing.
Topdress with an additional 60 to 80 lbs/A of nitrogen after livestock removal and prior to jointing.
Topdress with an additional 80 lbs/A of nitrogen in late fall and again in late winter.
Topdress with an additional 50 lbs/A of nitrogen in late fall and again in late winter.
Topdress with an additional 60 lbs/A of nitrogen in late fall and again in late winter.
Apply 1/3 of nitrogen recommendation or up to 100 lbs/A of nitrogen after each heavy graze down.
Apply 1/3 nitrogen recommendation or up to 50 lbs/A of nitrogen after each graze down.

Texas Cooperative Extension Soil, Water and Forage Testing Laboratory Nitrogen Fertilizer Recommendations for Forage Crops

Posted 12-11-2006

Crop

Nitrogen application statements

WHEAT GREENCHOP (2 WET TONS/A-75% MOISTURE)
WHEAT GREENCHOP (3 WET TONS/A-75% MOISTURE)
WHEAT GREENCHOP (4 WET TONS/A-75% MOISTURE)
WHEAT GREENCHOP (5 WET TONS/A-75% MOISTURE)
WHEAT GREENCHOP (6 WET TONS/A-75% MOISTURE)
WHEAT GREENCHOP (7 WET TONS/A-75% MOISTURE)
WHEAT GREENCHOP (8 WET TONS/A-75% MOISTURE)
WHEAT HAY (1 TON/A)
WHEAT HAY (1.5 TON/A)
WHEAT HAY (2 TON/A)
WHEAT HAY (2.5 TON/A)
WHEAT HAY (3 TON/A)
WHEAT HAY (3.5 TON/A)
WHEAT HAY (4 TON/A)
WHEAT SILAGE (3 WET TONS-65% MOISTURE)
WHEAT SILAGE (4.5 WET TONS-65% MOISTURE)
WHEAT SILAGE (6 WET TONS-65% MOISTURE)
WHEAT SILAGE (7.5 WET TONS-65% MOISTURE)
WHEAT SILAGE (9 WET TONS-65% MOISTURE)

Apply 2/3 of recommended nitrogen at preplant and remainder 3 weeks prior to greenchop.
Apply 2/3 of recommended nitrogen at preplant and remainder 3 weeks prior to greenchop.
Apply 2/3 of recommended nitrogen at preplant and remainder 3 weeks prior to greenchop.
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Apply 2/3 of recommended nitrogen at preplant and remainder 3 weeks prior to greenchop.
Apply 2/3 of recommended nitrogen at preplant and remainder 3 weeks prior to greenchop.
Apply 2/3 of recommended nitrogen at preplant and remainder 5-6 weeks prior to hay cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 5-6 weeks prior to hay cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 5-6 weeks prior to hay cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 5-6 weeks prior to hay cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 5-6 weeks prior to hay cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 5-6 weeks prior to hay cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 4 weeks prior to silage cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 4 weeks prior to silage cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 4 weeks prior to silage cutting.
Apply 2/3 of recommended nitrogen at preplant and remainder 4 weeks prior to silage cutting.