

## GENERAL COMMENTS FOR AGRONOMIC CROPS

1 Apply dolomitic limestone at the recommended rate. (When lime is recommended and soil test calcium and/or magnesium is low)

4 Apply 100-150 lbs magnesium sulfate, or 20-30 lbs magnesium oxide, or 90-140 lbs sulfate-of-potash-magnesium per acre, or a mixed fertilizer to supply 10-15 lbs magnesium per acre. (When the soil test magnesium is low, and for Soil Codes 1, 2, or 3 when the soil pH is greater than 6.5 or for Soil Code 4 when the soil pH is greater than 7.0 or for Soil Code 6 when the soil pH is greater than 6.0)

5 Apply 100-150 lbs magnesium sulfate, or 20-30 lbs magnesium oxide, or 90-140 lbs sulfate-of-potash-magnesium per acre, or a mixed fertilizer to supply 10-15 lbs magnesium per acre, or by applying 1,000 lbs dolomitic limestone per acre. (When the soil test magnesium is low, and for Soil Codes 1, 2, or 3 when the soil pH is between 5.9 and 6.6 or for Soil Code 4 when the soil pH is between 5.9 and 7.1 or for Soil Code 6 when the soil pH is 6.0)

6 Apply 435 lbs gypsum per acre or a calcium-containing fertilizer to supply 100 lbs calcium per acre. (When the soil test calcium is low, and for Soil Codes 1, 2, or 3 when the soil pH is greater than 6.5 or for Soil Code 4 when the soil pH is greater than 7.0 or for Soil Code 6 when the soil pH is greater than 6.0)

7 Apply 435 lbs gypsum per acre, or a calcium-containing fertilizer to supply 100 lbs calcium per acre, or 500 lbs dolomitic or calcitic limestone per acre. (When the soil test calcium is low, and for Soil Codes 1, 2, or 3 when the soil pH is between 5.9 and 6.6 or for Soil Code 4 when the soil pH is between 5.9 and 7.1 or for Soil Code 6 when the soil pH is 6.0)

9 Apply 10 lbs sulfur per acre, or sufficient sulfur-containing fertilizer to supply this amount. (For Soil Codes 1 and 2. For all agronomic crops except Cotton, Rice, Sunflowers, tobacco and peanuts)

650 Level of soil test zinc is potentially toxic at the current soil test pH. Lime according to recommendations. If the pH is greater than 6.2, consult your local county Extension office or the Home and Garden Information Center at 1-888-656-9988. (If soil test zinc is greater than 40 lbs per acre for all crops except peanuts)

### *Crop Code No. 050*

#### **Alfalfa**

Soil Groups 3, or 4			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0-200-300	0-200-200	0-200-100	0-200-50	0-100-0
Medium	0-100-300	0-100-200	0-100-100	0-100-50	0-100-0
Sufficient	0- 50-300	0- 50-200	0- 50-100	0- 50-50	0 -50-0

High	0-	0-300	0-	0-200	0-	0-100	0-	0-50	0	-	0-0
Excessive	0-	0-300	0-	0-200	0-	0-100	0-	0-50	0	-	0-0

**COMMENTS (1, 4, 5, 6, 7, 49, 50, 51, 650, 652, 653)**

49 Broadcast lime, phosphate and potash fertilizer and work into the soil three months before seeding alfalfa. Maintenance fertilizer and lime rates should be applied after the first cutting. To extend the life of any alfalfa stand, apply 100 lbs potash per acre in two equal applications, one-half after the first cutting and one-half after the third cutting.

50 Inoculate the legume seed at planting.

51 This is a boron sensitive crop. Apply 3 lbs boron per acre annually. (Recommendation when soil test boron is less than 3.1 lbs per acre)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 007***

**Annual Legumes (Arrowleaf, Yuchi, Crimson, etc)**

Soil Groups 1, 2, 3, or 4			Desired pH 6.0-6.5			
Phosphorus	Potassium					
	Low	Medium	Sufficient	High	Excessive	
<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>						
Low	0-100-100	0-100-60	0-100-40	0-100-0	0-100-0	
Medium	0- 50-100	0- 50-60	0- 50-40	0- 50-0	0- 50-0	
Sufficient	0- 25-100	0- 25-60	0- 25-40	0- 25-0	0- 25-0	
High	0- 0-100	0- 0-60	0- 0-40	0- 0-0	0- 0-0	
Excessive	0- 0-100	0- 0-60	0- 0-40	0- 0-0	0- 0-0	

**COMMENTS (1, 4, 5, 6, 7, 9, 46, 48, 50, 650, 652, 653)**

46 Broadcast lime, phosphate and potash fertilizer and work into the soil three months before seeding. Maintenance fertilizer and lime rates should be applied after the first cutting.

48 This is a boron sensitive crop. When reseeding clover or for clover seed harvest, apply 1 to 1.5 lbs boron per acre. (Recommendation when soil test boron is less than 3.1 lbs per acre)

50 Inoculate the legume seed at planting.

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 005**

**Annual Legumes on Summer Grass Pasture (Bahia, Dallis, or Bermudagrass)**

Soil Groups 1, 2, 3, or 4			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0-80-80	0-80-60	0-80-40	0-80-0	0-80-0
Medium	0-40-80	0-40-60	0-40-40	0-40-0	0-40-0
Sufficient	0-25-80	0-25-60	0-25-40	0-25-0	0-25-0
High	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0
Excessive	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 46, 48, 50, 650, 652, 653)**

46 Broadcast lime, phosphate and potash fertilizer and work into the soil three months before seeding. Maintenance fertilizer and lime rates should be applied after the first cutting.

48 This is a boron sensitive crop. When reseeding clover or for clover seed harvest, apply 1 to 1.5 lbs boron per acre. (Recommendation when soil test boron is less than 3.1 lbs per acre)

50 Inoculate the legume seed at planting.

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 006**

**Annual Legumes on Winter Grass Pasture (Ryegrass and/or Small Grain)**

Soil Groups 1, 2, 3, or 4			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	60-100-100	60-100-60	60-100-40	60-100-0	60-100-0

Medium	60- 60-100	60- 60-60	60- 60-40	60- 60-0	60- 60-0
Sufficient	60- 40-100	60- 40-60	60- 40-40	60- 40-0	60- 40-0
High	60- 0-100	60- 0-60	60- 0-40	60- 0-0	60- 0-0
Excessive	60- 0-100	60- 0-60	60- 0-40	60- 0-0	60- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 9, 41, 50, 650, 652, 653)

41 For ryegrass and crimson clover mixtures, make 3 equal nitrogen applications. In early fall, apply no more than 60 lbs nitrogen per acre. In the spring, a third nitrogen application will increase total yield and length of grazing period when ryegrass is present. When arrow leaf clover or hairy vetch is seeded with small grain, apply all of the nitrogen (60-100 lbs nitrogen per acre) at planting.

50 Inoculate the legume seed at planting.

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 104***

**Canola**

Soil Groups 1, 2, 3, 4, or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	160- 80-80	160- 80-60	160- 80-40	160- 80-0	160- 80-0
Medium	160- 40-80	160- 40-60	160- 40-40	160- 40-0	160- 40-0
Sufficient	160- 25-80	160- 25-60	160- 25-40	160- 25-0	160- 25-0
High	160- 0-80	160- 0-60	160- 0-40	160- 0-0	160- 0-0
Excessive	160- 0-80	160- 0-60	160- 0-40	160- 0-0	160- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 9, 550, 551, 650, 652, 653)

550 In the spring at planting, broadcast recommended phosphate and potash fertilizer and 30 to 40 lbs nitrogen per acre and work into the soil. Broadcast the balance of nitrogen in two separate applications, one-half 90 days after planting and the remaining half 30 days later. Total nitrogen rate following a legume is 135 lbs nitrogen per acre.

551 This is a boron sensitive crop. Apply 1 lb boron per acre with the last nitrogen application. (Recommendation when soil test boron is less than 3.1 lbs per acre)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 033 or 034**

**Coastal Bermudagrass (034) or Bahiagrass (033) Pasture**

Soil Groups 1, 2, 3, or 4	Desired pH 6.0-6.5				
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	150- 80-80	150- 80-60	150- 80-40	150- 80-0	150- 80-0
Medium	150- 40-80	150- 40-60	150- 40-40	150- 40-0	150- 40-0
Sufficient	150- 25-80	150- 25-60	150- 25-40	150- 25-0	150- 25-0
High	150- 0-80	150- 0-60	150- 0-40	150- 0-0	150- 0-0
Excessive	150- 0-80	150- 0-60	150- 0-40	150- 0-0	150- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 47, 650, 651, 652, 653)**

47 Broadcast recommended rate of phosphate and potash fertilizer and 60 lbs nitrogen per acre. Repeat nitrogen application as required to produce sufficient forage up to September. If stocking rate is changed, adjust nitrogen rate accordingly.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 035**

**Coastal Bermudagrass, Establishment**

Soil Groups 1, 2, 3, or 4	Desired pH 6.0-6.5				
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	60-100-100	60-100-75	60-100-50	60-100-0	60-100-0
Medium	60- 50-100	60- 50-75	60- 50-50	60- 50-0	60- 50-0
Sufficient	60- 25-100	60- 25-75	60- 25-50	60- 25-0	60- 25-0
High	60- 0-100	60- 0-75	60- 0-50	60- 0-0	60- 0-0
Excessive	60- 0-100	60- 0-75	60- 0-50	60- 0-0	60- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 42, 650, 651, 652, 653)**

42 Broadcast recommended lime and phosphate fertilizer and incorporate into soil. Broadcast on the surface the recommended nitrogen and potash which will move into the soil profile by rainfall. Apply 60 lbs nitrogen per acre when sprigging and topdress with 60 lbs nitrogen per acre after clipping.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 036***

**Coastal Bermudagrass or Bahiagrass for Hay**

Soil Groups 1, 2, 3, or 4			Desired pH 6.0-6.5		
Phosphorus	Potassium		High	Excessive	
	Low	Medium			
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	240-100-200	240-100-100	240-100-75	240-100-0	240-100-0
Medium	240- 50-200	240- 50-100	240- 50-75	240- 50-0	240- 50-0
Sufficient	240- 25-200	240- 25-100	240- 25-75	240- 25-0	240- 25-0
High	240- 0-200	240- 0-100	240- 0-75	240- 0-0	240- 0-0
Excessive	240- 0-200	240- 0-100	240- 0-75	240- 0-0	240- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 45, 650, 651, 652, 653)**

45 Broadcast recommended phosphate and potash fertilizer and 60-100 lbs nitrogen per acre when growth begins in the spring and 60-100 lbs nitrogen per acre after each harvest. With four harvests, applying 240 lbs nitrogen per acre should produce 4 to 5 tons hay per acre and applying 400 lbs nitrogen per acre should produce 6 to 7 tons per acre on good coastal sod in years with normal rainfall. To reduce chances of winter kill, split the potash application, one-half in the spring and one-half after the second or third clipping. All the phosphate may be applied in the spring or at the same time potash is applied.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 031 or 032**

**Cool-Season Perennial Grass Pasture  
[Fescue (031) or Orchardgrass (032)]**

Soil Groups 3, or 4		Desired pH 6.0-6.5				
Phosphorus	Potassium					
	Low	Medium	Sufficient	High	Excessive	
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	100- 80-80	100- 80-60	100- 80-40	100- 80-0	100- 80-0	
Medium	100- 40-80	100- 40-60	100- 40-40	100- 40-0	100- 40-0	
Sufficient	100- 25-80	100- 25-60	100- 25-40	100- 25-0	100- 25-0	
High	100- 0-80	100- 0-60	100- 0-40	100- 0-0	100- 0-0	
Excessive	100- 0-80	100- 0-60	100- 0-40	100- 0-0	100- 0-0	

**COMMENTS (1, 4, 5, 6, 7, 53, 650, 651, 652, 653)**

53 Broadcast all of the phosphate and potash fertilizer in the fall. Broadcast 100 lbs nitrogen per acre, one-half or not more than 60 lbs nitrogen per acre in late August and balance in February. Profitable nitrogen rates depend on stocking rate and forage needs. If stocking rate is reduced, adjust nitrogen rate accordingly.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 037**

**Cool-Season Perennial Grass-Legume Pasture**

Soil Groups 3, or 4		Desired pH 6.0-6.5				
Phosphorus	Potassium					
	Low	Medium	Sufficient	High	Excessive	
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0-100-100	0-100-60	0-100-40	0-100-0	0-100-0	
Medium	0- 50-100	0- 50-60	0- 50-40	0- 50-0	0- 50-0	
Sufficient	0- 40-100	0- 40-60	0- 40-40	0- 40-0	0- 40-0	
High	0- 0-100	0- 0-60	0- 0-40	0- 0-0	0- 0-0	
Excessive	0- 0-100	0- 0-60	0- 0-40	0- 0-0	0- 0-0	

**COMMENTS (1, 4, 5, 6, 7, 54, 650, 651, 652, 653)**

54 For grass-legume mixtures where the legume is less than one-third of the ground cover, broadcast 60 lbs nitrogen per acre in late August and again in the spring if additional production is needed. If legumes represent one-third or more of the ground cover, do not apply nitrogen. Stocking rate should be adequate to use forage as it is produced on grass-legume pastures.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. C80***

**Corn, Grain**

**Yield Goal: 80 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	100-60-100	100-60-75	100-60-30	100-60-0	100-60-0
Medium	100-45-100	100-45-75	100-45-30	100-45-0	100-45-0
Sufficient	100-20-100	100-20-75	100-20-30	100-20-0	100-20-0
High	100- 0-100	100- 0-75	100- 0-30	100- 0-0	100- 0-0
Excessive	100- 0-100	100- 0-75	100- 0-30	100- 0-0	100- 0-0

***Crop Code No. C90***

**Corn, Grain**

**Yield Goal: 90 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	110-70-105	110-70-75	110-70-35	110-70-0	110-70-0
Medium	110-50-105	110-50-75	110-50-35	110-50-0	110-50-0
Sufficient	110-25-105	110-25-75	110-25-35	110-25-0	110-25-0
High	110- 0-105	110- 0-75	110- 0-35	110- 0-0	110- 0-0
Excessive	110- 0-105	110- 0-75	110- 0-35	110- 0-0	110- 0-0

***Crop Code No. C100***

**Corn, Grain**



**Yield Goal: 100 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	120-80-110	120-80-80	120-80-40	120-80-0	120-80-0
Medium	120-55-110	120-55-80	120-55-40	120-55-0	120-55-0
Sufficient	120-30-110	120-30-80	120-30-40	120-30-0	120-30-0
High	120- 0-110	120- 0-80	120- 0-40	120- 0-0	120- 0-0
Excessive	120- 0-110	120- 0-80	120- 0-40	120- 0-0	120- 0-0

**Crop Code No. C110****Corn, Grain****Yield Goal: 110 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	130-85-115	130-85-80	130-85-45	130-85-0	130-85-0
Medium	130-60-115	130-60-80	130-60-45	130-60-0	130-60-0
Sufficient	130-35-115	130-35-80	130-35-45	130-35-0	130-35-0
High	130- 0-115	130- 0-80	130- 0-45	130- 0-0	130- 0-0
Excessive	130- 0-115	130- 0-80	130- 0-45	130- 0-0	130- 0-0

**Crop Code No. C120****Corn, Grain****Yield Goal: 120 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	140-90-120	140-90-85	140-90-50	140-90-0	140-90-0
Medium	140-65-120	140-65-85	140-65-50	140-65-0	140-65-0
Sufficient	140-40-120	140-40-85	140-40-50	140-40-0	140-40-0
High	140- 0-120	140- 0-85	140- 0-50	140- 0-0	140- 0-0
Excessive	140- 0-120	140- 0-85	140- 0-50	140- 0-0	140- 0-0

**Crop Code No. C130****Corn, Grain****Yield Goal: 130 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
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Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	150-95-125	150-95-85	150-95-55	150-95-0	150-95-0
Medium	150-70-125	150-70-85	150-70-55	150-70-0	150-70-0
Sufficient	150-45-125	150-45-85	150-45-55	150-45-0	150-45-0
High	150- 0-125	150- 0-85	150- 0-55	150- 0-0	150- 0-0
Excessive	150- 0-125	150- 0-85	150- 0-55	150- 0-0	150- 0-0

***Crop Code No. C140***

**Corn, Grain**

**Yield Goal: 140 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	160-100-130	160-100-90	160-100-60	160-100-0	160-100-0
Medium	160- 75-130	160- 75-90	160- 75-60	160- 75-0	160- 75-0
Sufficient	160- 50-130	160- 50-90	160- 50-60	160- 50-0	160- 50-0
High	160- 0-130	160- 0-90	160- 0-60	160- 0-0	160- 0-0
Excessive	160- 0-130	160- 0-90	160- 0-60	160- 0-0	160- 0-0

***Crop Code No. C150***

**Corn, Grain**

**Yield Goal: 150 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	170-105-135	170-105-95	170-105-60	170-105-30	170-105-0
Medium	170- 80-135	170- 80-95	170- 80-60	170- 80-30	170- 80-0
Sufficient	170- 55-135	170- 55-95	170- 55-60	170- 55-30	170- 55-0
High	170- 0-135	170- 0-95	170- 0-60	170- 0-30	170- 0-0
Excessive	170- 0-135	170- 0-95	170- 0-60	170- 0-30	170- 0-0

***Crop Code No. C160***

**Corn, Grain**

**Yield Goal: 160 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				

	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	180-110-140	180-110-100	180-110-65	180-110-30	180-110-0
Medium	180- 85-140	180- 85-100	180- 85-65	180- 85-30	180- 85-0
Sufficient	180- 60-140	180- 60-100	180- 60-65	180- 60-30	180- 60-0
High	180- 0-140	180- 0-100	180- 0-65	180- 0-30	180- 0-0
Excessive	180- 0-140	180- 0-100	180- 0-65	180- 0-30	180- 0-0

**Crop Code No. C170**

**Corn, Grain**

**Yield Goal: 170 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	190-115-145	190-115-105	190-115-65	190-115-30	190-115-0
Medium	190- 90-145	190- 90-105	190- 90-65	190- 90-30	190- 90-0
Sufficient	190- 65-145	190- 65-105	190- 65-65	190- 65-30	190- 65-0
High	190- 0-145	190- 0-105	190- 0-65	190- 0-30	190- 0-0
Excessive	190- 0-145	190- 0-105	190- 0-65	190- 0-30	190- 0-0

**Crop Code No. C180**

**Corn, Grain**

**Yield Goal: 180 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	200-120-150	200-120-110	200-120-70	200-120-30	200-120-0
Medium	200- 95-150	200- 95-110	200- 95-70	200- 95-30	200- 95-0
Sufficient	200- 70-150	200- 70-110	200- 70-70	200- 70-30	200- 70-0
High	200- 0-150	200- 0-110	200- 0-70	200- 0-30	200- 0-0
Excessive	200- 0-150	200- 0-110	200- 0-70	200- 0-30	200- 0-0

**Crop Code No. C190**

**Corn, Grain**

**Yield Goal: 190 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				

Low	210-125-160	210-125-115	210-125-70	210-125-30	210-125-0
Medium	210-100-160	210-100-115	210-100-70	210-100-30	210-100-0
Sufficient	210- 75-160	210- 75-115	210- 75-70	210- 75-30	210- 75-0
High	210- 0-160	210- 0-115	210- 0-70	210- 0-30	210- 0-0
Excessive	210- 0-160	210- 0-115	210- 0-70	210- 0-30	210- 0-0

**Crop Code No. C200**

**Corn, Grain**  
**Yield Goal: 200 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	220-130-170	220-130-120	220-130-75	220-130-40	220-130-0
Medium	220-105-170	220-105-120	220-105-75	220-105-40	220-105-0
Sufficient	220- 80-170	220- 80-120	220- 80-75	220- 80-40	220- 80-0
High	220- 0-170	220- 0-120	220- 0-75	220- 0-40	220- 0-0
Excessive	220- 0-170	220- 0-120	220- 0-75	220- 0-40	220- 0-0

**Crop Code No. C210**

**Corn, Grain**  
**Yield Goal: 210 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	230-135-180	230-135-125	230-135-75	230-135-40	230-135-0
Medium	230-110-180	230-110-125	230-110-75	230-110-40	230-110-0
Sufficient	230- 85-180	230- 85-125	230- 85-75	230- 85-40	230- 85-0
High	230- 0-180	230- 0-125	230- 0-75	230- 0-40	230- 0-0
Excessive	230- 0-180	230- 0-125	230- 0-75	230- 0-40	230- 0-0

**Crop Code No. C220**

**Corn, Grain**  
**Yield Goal: 220 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	240-140-190	240-140-130	240-140-80	240-140-40	240-140-0
Medium	240-115-190	240-115-130	240-115-80	240-115-40	240-115-0

Sufficient	240- 90-190	240- 90-130	240- 90-80	240- 90-40	240- 90-0
High	240- 0-190	240- 0-130	240- 0-80	240- 0-40	240- 0-0
Excessive	240- 0-190	240- 0-130	240- 0-80	240- 0-40	240- 0-0

**Crop Code No. C230**

**Corn, Grain**  
**Yield Goal: 230 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium		High	Excessive	
	Low	Medium			
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	250-145-200	250-145-135	250-145-80	250-145-50	250-145-0
Medium	250-120-200	250-120-135	250-120-80	250-120-50	250-120-0
Sufficient	250- 95-200	250- 95-135	250- 95-80	250- 95-50	250- 95-0
High	250- 0-200	250- 0-135	250- 0-80	250- 0-50	250- 0-0
Excessive	250- 0-200	250- 0-135	250- 0-80	250- 0-50	250- 0-0

**Crop Code No. C240**

**Corn, Grain**  
**Yield Goal: 240 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium		High	Excessive	
	Low	Medium			
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	260-150-210	260-150-140	260-150-85	260-150-50	260-150-0
Medium	260-125-210	260-125-140	260-125-85	260-125-50	260-125-0
Sufficient	260-100-210	260-100-140	260-100-85	260-100-50	260-100-0
High	260- 0-210	260- 0-140	260- 0-85	260- 0-50	260- 0-0
Excessive	260- 0-210	260- 0-140	260- 0-85	260- 0-50	260- 0-0

**Crop Code No. C250**

**Corn, Grain**  
**Yield Goal: 250 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium		High	Excessive	
	Low	Medium			
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	270-155-220	270-155-145	270-155-85	270-155-50	270-155-0
Medium	270-130-220	270-130-145	270-130-85	270-130-50	270-130-0
Sufficient	270-105-220	270-105-145	270-105-85	270-105-50	270-105-0
High	270- 0-220	270- 0-145	270- 0-85	270- 0-50	270- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 9, 21, 22, 23, 25, 28, 63, 201, 650, 652)

21 FOR IRRIGATED CORN - at planting, apply 30 to 40 lbs nitrogen per acre banded by the row. Sidedress the balance of the nitrogen in three applications. Apply the first portion of the balance when corn plants are 12 inches tall, apply the second portion when the plants are 24 – 30 inches tall, and apply the third portion 2 weeks later through the irrigation system. When following soybeans or other legumes in rotation, reduce the nitrogen rate by 20 to 30 lbs nitrogen per acre.

22 FOR NON IRRIGATED CORN - At planting, apply 30 to 40 lbs nitrogen per acre banded by the row. Sidedress the balance of nitrogen in two applications. Apply the first half of the balance when corn plants are 12 inches tall and the second half of the balance when corn plants are 24 – 30 inches tall. When following soybeans or other legumes in rotation, reduce the rate by 20 to 30 lbs nitrogen per acre.

23 Higher yield goals may only be obtainable through irrigation and other proper cultural practices.

25 Broadcast recommended phosphate and potash fertilizer and magnesium-, zinc- and sulfur-containing fertilizer when recommended, during land preparation prior to planting.

28 This is a boron sensitive crop. Apply 0.5 lbs boron per acre in fertilizer. (Recommended when soil test boron is less than 3.0 lbs per acre)

63 This is a zinc sensitive crop. Fertilizer should contain sufficient zinc to supply 5 to 10 lbs zinc per acre. (When soil test zinc is low)

201 Use a plant analysis to ensure that plants contain adequate levels of all nutrient elements. Deficient nutrient elements can be sidedressed or added in the irrigation water. Contact your local County Extension Agent for additional information.

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

***Crop Code No. 021***

**Corn in Rotation before Soybeans**

Soil Groups 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	120-120-120	120-120-80	120-120-60	120-120-0	120-120-0
Medium	120- 60-120	120- 60-80	120- 60-60	120- 60-0	120- 60-0
Sufficient	120- 40-120	120- 40-80	120- 40-60	120- 40-0	120- 40-0

High	120-	0-120	120-	0-80	120-	0-60	120-	0-0	120-	0-0
Excessive	120-	0-120	120-	0-80	120-	0-60	120-	0-0	120-	0-0

**COMMENTS** (1, 4, 5, 6, 7, 15, 16, 17, 25, 28, 64, 650, 652)

15 When recommended rates of phosphate and potash fertilizer are applied, additional phosphate and/or potash should not be needed for a following peanut or soybean crop.

16 Most profitable nitrogen rate depends on soil, rainfall, plant population, and cultural practices with 120 lbs nitrogen per acre suggested for most soils. For very sandy soils where the yield potential is 80 bushels per acre or less, 100 lbs nitrogen per acre rate is adequate. In river bottoms or locations where yields of 130 bushels per acre or more are often obtained, apply 150 lbs nitrogen per acre.

17 Preplant by broadcasting or at planting, 30 to 40 lbs nitrogen per acre banded by the row. Sidedress balance of nitrogen when the plants are 18 to 30 inches tall. Following soybeans or other legumes in rotation, reduce the nitrogen rate by 20 to 30 lbs nitrogen per acre.

25 Broadcast recommended phosphate and potash fertilizer, and magnesium-, zinc- and sulfur-containing fertilizer when recommended, during land preparation prior to planting.

28 This is a boron sensitive crop. Apply 0.5 lbs boron per acre in fertilizer. (Recommended when soil test boron is less than 3.0 lbs per acre)

64 This is a zinc sensitive crop. Fertilizer should contain sufficient zinc to supply 5 to 10 lbs zinc per acre if soybeans is following crop. (When soil test zinc is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

**Crop Code No. 023**

**Corn for Silage**

Soil Groups 1, 2, 3, or 4			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	180-100-150	180-100-120	180-100-100	180-100-90	180-100-80
Medium	180- 50-150	180- 50-120	180- 50-100	180- 50-90	180- 50-80
Sufficient	180- 40-150	180- 40-120	180- 40-100	180- 40-90	180- 40-80
High	180- 0-150	180- 0-120	180- 0-100	180- 0-90	180- 0-80
Excessive	180- 0-150	180- 0-120	180- 0-100	180- 0-90	180- 0-80

**COMMENTS** (1, 4, 5, 6, 7, 9, 17, 19, 20, 25, 28, 63, 650, 652)

17 Preplant by broadcasting or at planting, 30 to 40 lbs nitrogen per acre banded by the row. Sidedress balance of nitrogen when the plants are 18 to 30 inches tall. Following soybeans or other legumes in rotation, reduce the nitrogen rate by 20 to 30 lbs nitrogen per acre.

19 If silage is grown for more than 2 years, increase potash rate to equal 200 lbs potash per acre after the first year.

20 If silage is grown for more than 1 year, increase potash rate to equal 100 lbs potash per acre after the first year.

25 Broadcast recommended phosphate and potash fertilizer, and magnesium-, zinc- and sulfur-containing fertilizer when recommended, during land preparation prior to planting.

28 This is a boron sensitive crop. Apply 0.5 lbs boron per acre in fertilizer. (Recommended when soil test boron is less than 3.0 lbs per acre)

63 This is a zinc sensitive crop. Fertilizer should contain sufficient zinc to supply 5 to 10 lbs zinc per acre. (When soil test zinc is not excessive)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

***Crop Code No. 001***

**Cotton (dryland)**

Soil Groups 1, 2, 3 or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	70-120-100	70-120-60	70-120-0	70-120-0	70-120-0
Medium	70- 60-100	70- 60-60	70- 60-0	70- 60-0	70- 60-0
Sufficient	70- 0-100	70- 0-60	70- 0-0	70- 0-0	70- 0-0
High	70- 0-100	70- 0-60	70- 0-0	70- 0-0	70- 0-0
Excessive	70- 0-100	70- 0-60	70- 0-0	70- 0-0	70- 0-0

***Crop Code No. 002***

**Cotton (irrigated)**

Soil Groups 1, 2, 3 or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	100-120-120	100-120-80	100-120-0	100-120-0	100-120-0



Medium	100- 60-120	100- 60-80	100- 60-0	100- 60-0	100- 60-0
Sufficient	100- 0-120	100- 0-80	100- 0-0	100- 0-0	100- 0-0
High	100- 0-120	100- 0-80	100- 0-0	100- 0-0	100- 0-0
Excessive	100- 0-120	100- 0-80	100- 0-0	100- 0-0	100- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 10, 11, 12, 13, 14, 24, 27, 61, 203, 650, 653)

10 Decrease nitrogen rate by 20 to 30 lbs nitrogen per acre when excessive growth, late maturity or boll rot occurs. When vegetative growth is inadequate, increase nitrogen rate by 20 to 30 lbs nitrogen per acre. When cotton follows soybeans or other legume in rotation, reduce nitrogen rate by 20 to 30 lbs nitrogen per acre. Apply one-fourth to one-third of the nitrogen at planting and sidedress the balance by June 15. If necessary to apply nitrogen after July 1, use a nitrate-nitrogen source at a low rate of 10 to 15 lbs nitrogen per acre.

11 For a 500 lbs per acre yield, apply 70 lbs nitrogen per acre and add 6 lbs nitrogen per acre for each additional 100 lbs per acre yield increase expected over 500 lbs.

12 This is a boron sensitive crop. Apply 0.4 lbs boron per acre in the fertilizer or in the insecticide spray in either one or several applications so long as the total boron applied does not exceed 1.0 lb boron per acre.  
(Recommendation when soil test boron is less than 3.1 lbs per acre)

13 This is a manganese sensitive crop. Apply 10 lbs manganese per acre with the fertilizer when manganese deficiency has been observed in previous years. When manganese deficiency symptoms occur, confirm by a plant analysis. Apply manganese as a foliar spray either singularly or mixed with a pesticide. Make one or two applications of 1 lb manganese per acre.

14 With each additional 100 lbs per acre yield increase over 500 lbs, increase the recommended potash rate by 5 lbs potash per acre.

24 Apply 10 lbs sulfur per acre, or sufficient sulfur containing fertilizer to supply this amount.

27 Petiole analysis can be used to monitor nitrogen during the season for making in-season adjustments of these elements. Leaf blade analysis can also be used to determine the nutrient status of cotton prior to bloom or for troubleshooting anytime during the season. Contact the lab for sampling and interpretation guidelines.

61 Apply 10 to 15 lbs magnesium per acre with the fertilizer. (When lime is not recommended for Soil Codes 1, 2, or 3 and soil test magnesium is medium.)

203 When preparing the soil for planting, broadcast phosphate and potash fertilizer, and when recommended magnesium-, sulfur-, manganese- and/or boron-containing fertilizers.

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 049**

**Fescue Hay**

Soil Groups 1, 2, 3, or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	*- 80- 80	*- 80- 40	*- 80- 20	*- 80- 0	*- 80- 0
Medium	*- 40- 80	*- 40- 40	*- 40- 20	*- 40- 0	*- 40- 0
Sufficient	*- 20- 80	*- 20- 40	*- 20- 20	*- 20- 0	*- 20- 0
High	*- 0- 80	*- 0- 40	*- 0- 20	*- 0- 0	*- 0- 0
Excessive	*- 0- 80	*- 0- 40	*- 0- 20	*- 0- 0	*- 0- 0

**COMMENTS (1, 4, 5, 701)**

701 For establishment, apply 30 to 50 lbs per acre. For two cuttings of hay, apply 60 to 75 lbs of nitrogen per acre in late February and again in September. For three cuttings of hay (recommended), apply 60 – 75 pounds of nitrogen per acre in late February, apply again in May following the first harvest, with a third nitrogen application in September following the second harvest. Where grass tetany (magnesium deficiency in animals) may be a problem, split the nitrogen and potash fertilizer applications. If the potassium soil test level is very high do not apply potash fertilizer. If the soil magnesium level is low, magnesium should be added to the animal diet.

**Crop Code No. 025, 026, 027, or 028**

**Grain Sorghum or Grain sorghum in rotation after wheat (025), Sweet Sorghum (026), Sugarcane (027), or Sunflowers (028)**

Soil Groups 1, 2, 3, or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	100- 90-80	100- 90-60	100- 90-40	100- 90-0	100- 90-0
Medium	100- 50-80	100- 50-60	100- 50-40	100- 50-0	100- 50-0
Sufficient	100- 25-80	100- 25-60	100- 25-40	100- 25-0	100- 25-0
High	100- 0-80	100- 0-60	100- 0-40	100- 0-0	100- 0-0
Excessive	100- 0-80	100- 0-60	100- 0-40	100- 0-0	100- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 34, 315, 650, 651, 652, 653)**

**Grain Sorghum, Sweet Sorghum, or Sugarcane**

34 Broadcast one-half of recommended nitrogen prior to or at planting, and then the remainder as a sidedress.

315 If plants show iron deficiency symptoms (yellow tissue between green veins on upper leaves), apply chelated iron following label directions for the material used, or apply a 2% solution of ferrous sulfate including a surfactant applied at a rate of 120 to 180 gallons per acre. Apply the iron-containing solution to the foliage in the late afternoon when the air temperatures are warm and only to plants that are being adequately watered and fertilized. (Recommendation when soil pH is above 6.0)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

700 For Grain Sorghum in rotation after wheat, if wheat has been fertilized to bring soil test levels of phosphorus and potassium to the sufficient range or above, apply an additional 15 pounds of phosphorus and 20 pounds of potassium per acre at wheat planting to account for phosphorus and potassium removal by the wheat. If soil test levels of phosphorus are high or excessive prior to wheat planting no additional phosphorus is needed but application of 15 pounds of potash per acre is recommended. Apply 100 units of total nitrogen for sorghum following wheat.

**COMMENTS** (1, 4, 5, 6, 7, 12, 34, 650, 652, 653)

***Sunflower***

12 This is a boron sensitive crop. Apply 0.4 lbs boron per acre in the fertilizer or in the insecticide spray in either one or several applications so long as the total boron applied does not exceed 1.0 lb boron per acre. (Recommendation when soil test boron is less than 3.1 lbs per acre)

34 Broadcast one-half of recommended nitrogen prior to or at planting, and then the remainder as a sidedress.

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

635 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 024***

**Grain Sorghum for Silage**

Soil Groups 1, 2, 3, or 4				Desired pH 6.0-6.5	
Phosphorus	Potassium			High	Excessive
	Low	Medium	Sufficient		
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	120-100-100	120-100-60	120-100-50	120-100-0	120-100-0

Medium	120- 50-100	120- 50-60	120- 50-50	120- 50-0	120- 50-0
Sufficient	120- 30-100	120- 30-60	120- 30-50	120- 30-0	120- 30-0
High	120- 0-100	120- 0-60	120- 0-50	120- 0-0	120- 0-0
Excessive	120- 0-100	120- 0-60	120- 0-50	120- 0-0	120- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 9, 17, 19, 20, 26, 315, 650, 651, 652, 653)

17 Preplant by broadcasting or at planting, 30 to 40 lbs nitrogen rate banded by the row. Sidedress balance of nitrogen when the plants are 18 to 30 inches tall. Following soybeans or other legumes in rotation, reduce the nitrogen rate by 20 to 30 lbs nitrogen per acre.

19 If silage is grown for more than 1 year, increase potash rate to 200 lbs potash per acre after the first year. (When soil test potassium is low)

20 If silage is grown for more than 1 year, increase potash rate to 100 lbs potash per acre after the first year. (When soil test potassium is medium)

26 Broadcast the recommended phosphate and/or potash fertilizer and work in during soil preparation.

315 If plants show iron deficiency symptoms (yellow tissue between green veins on upper leaves), apply chelated iron following label directions for the material used, or apply a 2% solution of ferrous sulfate including a surfactant applied at a rate of 120 to 180 gallons per acre. Apply the iron-containing solution to the foliage in the late afternoon when the air temperatures are warm and only to plants that are being adequately watered and fertilized. (Recommendation when soil pH is above 6.0)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 010 or 011***

**Lespedeza, Common (010) or Lespedeza, Sericea (011)**

Soil Groups 1, 2, 3 or 4			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	0-80-80	0-80-60	0-80-40	0-80-0	0-80-0
Medium	0-40-80	0-40-60	0-40-40	0-40-0	0-40-0
Sufficient	0-25-80	0-25-60	0-25-40	0-25-0	0-25-0

High	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0
Excessive	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 9, 37, 38, 650, 651, 652, 653)

37 Fertilizer recommended is sufficient for 2 years. (When soil test phosphorus is low or medium and when soil test potassium is low or medium)

38 When establishing a new stand apply 20 lbs nitrogen per acre.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 008**

**Peanuts**

Soil Groups 1, 2, 3	Desired pH 6.0-6.5				
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	0-80-80	0-80-60	0-80-40	0-80-0	0-80-0
Medium	0-40-80	0-40-60	0-40-40	0-40-0	0-40-0
Sufficient	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0
High	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0
Excessive	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 29, 30, 31, 52, 80, 649)

29 When soil test potassium levels are in the 40-60 lb per acre range, a yield response to potassium application is likely only for high yield production (greater than 4,000 lbs per acre) on sandy soils (depth to clay greater than 15 inches) where subsoil reserves of potassium are less accessible. Potash application can interfere with calcium uptake by the pods. If potash application is necessary prior to peanut planting, it should be incorporated with a disk harrow to reduce the concentration in the pegging zone. In peanut rotations, if the previous crop is fertilized to the medium or high potash level, no potash will be necessary prior to planting peanuts.

30 For virginia-type peanuts and all seed peanuts, at bloom, broadcast 1,500 lbs gypsum per acre (or 750 lbs per acre in a 16 – 18 inch band applied over the row). For Spanish and runner types, at bloom, broadcast 1,000 lbs gypsum per acre if soil test calcium is below 700 lbs per acre.

31 This is a boron sensitive crop. Apply 0.5 lbs boron per acre with the broadcast fertilizer or as a tank-mix foliar treatment 30 – 45 days after planting unless the soil test boron level is sufficient. Do not exceed a total of 0.5 lb boron per acre. This is recommended when the fall soil test boron is less than 2.0 lbs per acre.

52 Use a liquid in-furrow inoculant at planting on land not planted in peanuts within the previous three years.

80 Level of soil test zinc is potentially toxic at the current soil pH level. (When soil pH is less than 5.9 and soil test zinc is greater than 5 lbs zinc per acre, or soil pH is less than 6.0 and soil test zinc is greater than 11 lbs zinc per acre, or soil pH is less than 6.1 and soil test zinc is greater than 21 lbs per acre or soil pH is less than 6.2 and soil test zinc is greater than 31 lbs zinc per acre, or soil pH is less than 6.3 and soil test zinc is greater than 41 lbs per acre, or when soil test pH is greater than 6.2 and soil test zinc is greater than 51 lbs per acre)

649 Apply 0.5 lb manganese (2-2.5 lb manganese sulfate or Tecmangam, or 1.5 lb ManGro DF) with both the 60 and 75 DAP fungicide applications. (If soil test manganese is below the sufficiency value at the current pH or the target pH when lime is to be applied)

***Crop Code No. 009***

**Perennial Peanuts**

Soil Groups 1, 2, 3, or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0-80-80	0-80-60	0-80-40	0-80-0	0-80-0
Medium	0-40-80	0-40-60	0-40-40	0-40-0	0-40-0
Sufficient	0-20-80	0-20-60	0-20-40	0-20-0	0-20-0
High	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0
Excessive	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0

**COMMENTS (1, 4, 5, 6, 7, 31, 80, 652)**

31 This is a boron sensitive crop. Apply 0.5 lbs boron per acre with the broadcast fertilizer or as a tank-mix foliar treatment 30 – 45 days after planting unless the soil test boron level is sufficient. This is recommended when the fall soil test boron is less than 2.0 lbs per acre.

80 Level of soil test zinc is potentially toxic at the current soil pH level. (When soil pH is less than 5.9 and soil test zinc is greater than 5 lbs zinc per acre, or soil pH is less than 6.0 and soil test zinc is greater than 11 lbs zinc per acre, or soil pH is less than 6.1 and soil test zinc is greater than 21 lbs per acre or soil pH is less than 6.2 and soil test zinc is greater than 31 lbs zinc per acre, or soil pH is less than 6.3 and soil test zinc is greater than 41 lbs

per acre, or when soil test pH is greater than 6.2 and soil test zinc is greater than 51 lbs per acre)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

***Crop Code No. 012***

**Rice, upland, irrigated**

Soil Groups 1, 2, 3, 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	150-80-100	150-80-80	150-80-60	150-80-0	150-80-0
Medium	150-60-100	150-60-80	150-60-60	150-60-0	150-60-0
Sufficient	150-30-100	150-30-80	150-30-60	150-30-0	150-30-0
High	150- 0-100	150- 0-80	150- 0-60	150- 0-0	150- 0-0
Excessive	150- 0-100	150- 0-80	150- 0-60	150- 0-0	150- 0-0

**COMMENTS (1, 4, 5, 6, 7, 36, 650, 651, 652, 653)**

36 Apply 105 lbs nitrogen per acre as urea pre-flood to a dry soil surface at 5-leaf followed by flooding and 45 lbs nitrogen per acre as urea into the flood water about 4 to 5 weeks after flooding.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 003***

**Sesame**

Soil Groups 1, 2, 3, or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	80-100-80	80-100-60	80-100-40	80-100-0	80-100-0
Medium	80- 50-80	80- 50-60	80- 50-40	80- 50-0	80- 50-0
Sufficient	80- 25-80	80- 25-60	80- 25-40	80- 25-0	80- 25-0
High	80- 0-80	80- 0-60	80- 0-40	80- 0-0	80- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 650, 651, 652, 653)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 029**

**Small Grain**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	90-80-80	90-80-60	90-80-40	90-80-0	90-80-0
Medium	90-40-80	90-40-60	90-40-40	90-40-0	90-40-0
Sufficient	90-20-80	90-20-60	90-20-40	90-20-0	90-20-0
High	90- 0-80	90- 0-60	90- 0-40	90- 0-0	90- 0-0
Excessive	90- 0-80	90- 0-60	90- 0-40	90- 0-0	90- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 8, 9, 33, 35, 650, 651, 653)

8 This is a manganese sensitive crop. Apply 10 lbs manganese per acre with the fertilizer when manganese deficiency has been observed in previous years. If manganese deficiency symptoms are confirmed, apply foliar manganese as soon as possible (1 lb manganese per acre) and reapply if symptoms recur.

33 Reduce nitrogen fertilizer rate by 20 lbs nitrogen per acre for Piedmont soils. (Soil Code 4).

35 When not grazed, apply 30 lbs nitrogen per acre and recommended rate of phosphate and potash at planting. Apply the balance of nitrogen as a top-dress in February. Depending on soil type and residual nitrogen levels, optimal yield response typically occurs at 90 lbs per acre for dryland wheat and 120 lbs per acre for irrigated wheat. When grazed, apply 60 lbs nitrogen per acre in the fall at planting and 60 lbs nitrogen per acre in February. Increase nitrogen rate by 80 to 100 lbs nitrogen per acre for above normal stocking rates.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)



653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 030**

**Small Grain in Rotation before Soybeans**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	90-120-130	90-120-90	90-120-60	90-120-0	90-120-0
Medium	90- 80-130	90- 80-90	90- 80-60	90- 80-0	90- 80-0
Sufficient	90- 40-130	90- 40-90	90- 40-60	90- 40-0	90- 40-0
High	90- 0-130	90- 0-90	90- 0-60	90- 0-0	90- 0-0
Excessive	90- 0-130	90- 0-90	90- 0-60	90- 0-0	90- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 8, 9 15, 33, 35, 650, 651, 653)

8 This is a manganese sensitive crop. Apply 10 lbs manganese per acre with the fertilizer when manganese deficiency has been observed in previous years. If manganese deficiency symptoms are confirmed, apply foliar manganese as soon as possible (1 lb manganese per acre) and reapply if symptoms recur.

15 When recommended rates of phosphate and potash fertilizer were applied to previous crop, additional phosphate and/or potash may not be needed.

33 Reduce nitrogen fertilizer rate by 20 lbs nitrogen per acre for Piedmont soils. (Soil Code 4)

35 When not grazed, apply 30 lbs nitrogen per acre and recommended rate of phosphate and potash at planting. Apply the balance of nitrogen as a top-dress in February. Depending on soil type and residual nitrogen levels, optimal yield response typically occurs at 90 lbs per acre for dryland wheat and 120 lbs per acre for irrigated wheat. When grazed, apply 60 lbs nitrogen per acre in the fall at planting and 60 lbs nitrogen per acre in February. Increase nitrogen rate by 80 to 100 lbs nitrogen per acre for above normal stocking rates.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 097**

**Small Grain Silage**

Soil Groups 1, 2, 3			Desired pH 6.0		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	140-80-100	140-80-50	140-80-30	140-80-0	140-80-0
Medium	140-60-100	140-60-50	140-60-30	140-60-0	140-60-0
Sufficient	140-40-100	140-40-50	140-40-30	140-40-0	140-40-0
High	140-20-100	140-20-50	140-20-30	140-20-0	140-20-0
Excessive	140- 0-100	140- 0-50	140- 0-30	140- 0-0	140- 0-0

**COMMENTS** (1, 4, 5, 6, 7, 8, 9, 60, 650, 651, 653)

8 This is a manganese sensitive crop. Apply 10 lbs manganese per acre with the fertilizer when manganese deficiency has been observed in previous years. If manganese deficiency symptoms are confirmed, apply foliar manganese as soon as possible (1 lb manganese per acre) and reapply if symptoms recur.

60 For small grain following legume, reduce the N recommendation by 20 lbs nitrogen per acre. Apply 30-50 lbs nitrogen per acre in the fall and the remaining nitrogen in the spring.

The quality of harvested silage will be affected by the stage of growth at harvest, whether in the boot, milk, or dough stage. Percent of dry weight crude protein and *in vitro* digestibility will decrease with increased maturity, while tons per acre of dry matter will increase.

The small grain, whether wheat, oats, or rye, will affect both the yield and quality of silage and its acceptability for livestock type. Seek the advice of an animal specialist.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. S30**

**Soybeans**

**Yield Goal: 30 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0- 90-80	0- 90-60	0- 90-40	0- 90-0	0- 90-0
Medium	0- 60-80	0- 60-60	0- 60-40	0- 60-0	0- 60-0
Sufficient	0- 30-80	0- 30-60	0- 30-40	0- 30-0	0- 30-0
High	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0
Excessive	0- 0-80	0- 0-60	0- 0-40	0- 0-0	0- 0-0

**Crop Code No. S40**

**Soybeans**  
**Yield Goal: 40 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0- 95-90	0- 95-70	0- 95-50	0- 95-0	0- 95-0
Medium	0- 65-90	0- 65-70	0- 65-50	0- 65-0	0- 65-0
Sufficient	0- 35-90	0- 35-70	0- 35-50	0- 35-0	0- 35-0
High	0- 0-90	0- 0-70	0- 0-50	0- 0-0	0- 0-0
Excessive	0- 0-90	0- 0-70	0- 0-50	0- 0-0	0- 0-0

**Crop Code No. S50**

**Soybeans**  
**Yield Goal: 50 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0-100-100	0-100-80	0-100-60	0-100-0	0-100-0
Medium	0- 70-100	0- 70-80	0- 70-60	0- 70-0	0- 70-0
Sufficient	0- 40-100	0- 40-80	0- 40-60	0- 40-0	0- 40-0
High	0- 0-100	0- 0-80	0- 0-60	0- 0-0	0- 0-0
Excessive	0- 0-100	0- 0-80	0- 0-60	0- 0-0	0- 0-0

**Crop Code No. S60**

**Soybeans**  
**Yield Goal: 60 bu/A**

Soil Groups 1, 2, 3, 4 or 6		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	0-105-110	0-105-90	0-105-70	0-105-0	0-105-0
Medium	0- 75-110	0- 75-90	0- 75-70	0- 75-0	0- 75-0
Sufficient	0- 45-110	0- 45-90	0- 45-70	0- 45-0	0- 45-0
High	0- 0-110	0- 0-90	0- 0-70	0- 0-0	0- 0-0
Excessive	0- 0-110	0- 0-90	0- 0-70	0- 0-0	0- 0-0

**Crop Code No. S70**

**Soybeans**  
**Yield Goal: 70 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	0-110-120	0-110-100	0-110-80	0-110-60	0-110-0
Medium	0- 80-120	0- 80-100	0- 80-80	0- 80-60	0- 80-0
Sufficient	0- 50-120	0- 50-100	0- 50-80	0- 50-60	0- 50-0
High	0- 0-120	0- 0-100	0- 0-80	0- 0-60	0- 0-0
Excessive	0- 0-120	0- 0-100	0- 0-80	0- 0-60	0- 0-0

**Crop Code No. S80**

**Soybeans**  
**Yield Goal: 80 bu/A**

Soil Groups 1, 2, 3, 4 or 6			Desired pH 6.0-6.5		
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	0-115-130	0-115-110	0-115-90	0-115-60	0-115-0
Medium	0- 85-130	0- 85-110	0- 85-90	0- 85-60	0- 85-0
Sufficient	0- 55-130	0- 55-110	0- 55-90	0- 55-60	0- 55-0
High	0- 0-130	0- 0-110	0- 0-90	0- 0-60	0- 0-0
Excessive	0- 0-130	0- 0-110	0- 0-90	0- 0-60	0- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 13, 18, 32, 202, 315, 648, 650, 653)**

13 This is a manganese sensitive crop. Apply 10 lbs manganese per acre with the fertilizer when manganese deficiency has been observed in previous years. When manganese deficiency symptoms occur, confirm by a plant analysis. Apply manganese as a foliar spray either singularly or mixed with a pesticide. Make one or two applications of 1 lb manganese per acre.

18 With each 10 bushel per acre yield increase over 30 bushels per acre, the potash recommendation has been increased by 10 lbs per acre.

32 Apply inoculum on soybean seed when soybeans have not been planted within 3 years or when planted in sandy soils.

202 When preparing soil for planting, broadcast phosphate and potash fertilizer and magnesium-, manganese- and sulfur-containing fertilizer when recommended.

315 If plants show iron deficiency symptoms (yellow tissue between green veins on upper leaves), apply chelated iron following label directions for the material used, or apply a 2% solution of ferrous sulfate including a surfactant applied at a rate of 120 to

180 gallons per acre. Apply the iron-containing solution to the foliage in the late afternoon when the air temperatures are warm and only to plants that are being adequately watered and fertilized. (Recommendation when soil pH is above 6.0)

648 Availability of boron decreases substantially as pH increases above 6.5. Boron applications in irrigated soybeans or at high soil pH should be based on leaf concentrations of boron. Soybean yield will respond positively to foliar applied boron when concentrations in leaves are 10 ppm or less. In such instances when boron is needed, it should be applied at 0.2 lbs per acre at the early-pod stage (1/8 to 1/4-inch pods) and can be mixed with insecticides if needed.

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 019***

**Soybeans with Sorghum for Silage**

Soil Groups 1, 2, 3, or 4		Desired pH 6.0-6.5			
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>					
Low	60-100-100	60-100-75	60-120-50	60-120-0	60-120-0
Medium	60- 50-100	60- 50-75	60- 50-50	60- 50-0	60- 50-0
Sufficient	60- 25-100	60- 25-75	60- 25-50	60- 25-0	60- 25-0
High	60- 0-100	60- 0-75	60- 0-50	60- 0-0	60- 0-0
Excessive	60- 0-100	60- 0-75	60- 0-50	60- 0-0	60- 0-0

**COMMENTS (1, 4, 5, 6, 7, 9, 13, 19, 20, 32, 33, 315, 650, 651, 653)**

13 This is a manganese sensitive crop. Apply 10 lbs manganese per acre with the fertilizer when manganese deficiency has been observed in previous years. When manganese deficiency symptoms occur, confirm by a plant analysis. Apply manganese as a foliar spray either singularly or mixed with a pesticide. Make one or two applications of 1 lb manganese per acre.

19 If silage is grown for more than 1 year, increase potash rate to 200 lbs potash per acre after the first year. (When soil test potassium is low)

20 If silage is grown for more than 1 year, increase potash rate to 100 lbs potash per acre after the first year. (When soil test potassium is medium)

32 Apply inoculum on soybean seed when soybeans have not been planted within 3 years or when planted in sandy soils.

33 Reduce nitrogen fertilizer rate by 20 lbs nitrogen per acre for Piedmont soil. (For Soil Code 4)

315 If plants show iron deficiency symptoms (yellow tissue between green veins on upper leaves), apply chelated iron following label directions for the material used, or apply a 2% solution of ferrous sulfate including a surfactant applied at a rate of 120 to 180 gallons per acre. Apply the iron-containing solution to the foliage in the late afternoon when the air temperatures are warm and only to plants that are being adequately watered and fertilized. (Recommendation when soil pH is above 6.0)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 038 or 039***

**Temporary Annual Grazing, Winter Rye (038) or Summer Millet/Sudan (039)**

Soil Groups 1, 2, 3, or 4		Desired pH 6.0-6.5				
Phosphorus	Potassium					
	Low	Medium	Sufficient	High	Excessive	
<i>pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>						
Low	60- 80-80	60- 80-60	60- 80-40	60- 80-0	60- 80-0	
Medium	60- 40-80	60- 40-60	60- 40-40	60- 40-0	60- 40-0	
Sufficient	60- 20-80	60- 20-60	60- 20-40	60- 20-0	60- 20-0	
High	60- 0-80	60- 0-60	60- 0-40	60- 0-0	60- 0-0	
Excessive	60- 0-80	60- 0-60	60- 0-40	60- 0-0	60- 0-0	

**COMMENTS (1, 4, 5, 6, 7, 9, 39, 315, 650, 651, 652, 653)**

***Summer Millet/Sudan***

39 Broadcast recommended nitrogen, phosphate and potash fertilizer before growth begins. Apply 60 lbs nitrogen per acre each time forage is grazed or hay is cut.

315 If plants show iron deficiency symptoms (yellow tissue between green veins on upper leaves), apply chelated iron following label directions for the material used, or apply a 2% solution of ferrous sulfate including a surfactant applied at a rate of 120 to 180 gallons per acre. Apply the iron-containing solution to the foliage in the late afternoon when the air temperatures are warm and only to plants that are being adequately watered and fertilized. (Recommendation when soil pH is above 6.0)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**COMMENTS** (1, 4, 5, 6, 7, 9, 40, 650, 651, 652, 653)

**Winter Rye**

40 Broadcast 100 lbs nitrogen per acre at planting and 60 lbs nitrogen per acre in early spring for small grain or ryegrass planted in early September for grazing on fallowed fields.

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

**Crop Code No. 099**

**Tobacco**

Soil Groups 1, 2, or 3	Desired pH 5.8 – 6.2				
Phosphorus	Potassium				
	Low	Medium	Sufficient	High	Excessive
	<i>Pounds of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per acre</i>				
Low	70-120-200	70-120-140	70-120-120	70-120-100	70-120-80
Medium	70- 80-200	70- 80-140	70- 80-120	70- 80-100	70- 80-80
Sufficient	70- 40-200	70- 40-140	70- 40-120	70- 40-100	70- 40-80
High	70- 20-200	70- 20-140	70- 20-120	70- 20-100	70- 20-80
Excessive	70- 0-200	70- 0-140	70- 0-120	70- 0-100	70- 0-80

**COMMENTS** (1, 70, 72, 89, 90, 650, 651, 652, 653)

70 Apply 100-150 lbs magnesium sulfate (Epsom salts), or 20-30 lbs magnesium oxide, or 90-140 lbs sulfate of potash-magnesium per acre, or as a mixed fertilizer containing sufficient magnesium to supply 10 to 15 lbs magnesium per acre. (When lime is not recommended and soil test magnesium is low)

72 Apply 435 lbs gypsum per acre, or a calcium-containing fertilizer to supply 100 lbs calcium per acre, or 500 lbs dolomitic or calcitic limestone per acre. (When lime is not recommended and soil test Ca is less than 400 lbs calcium per acre)

89 Apply "preplant" fertilizer in two bands about 8 to 12 inches apart and slightly below the root crown at time of transplanting or within 10 days after transplanting. If the clay layer is within 12 inches of the surface, the nitrogen rate should be decreased to 60 lbs nitrogen per acre, and if the clay layer is deeper than 16 inches from the surface, increase to 80 lbs nitrogen per acre. For the tobacco following soybeans or highly fertilized corn (greater than 120 lbs nitrogen per acre), reduce nitrogen rate to 50 to 60 lbs nitrogen per acre.

Any nitrogen in addition to that applied preplant and recommended potassium should be sidedressed. For sidedressing nitrogen the nitrate form is preferable but recent studies indicate that nitrogen solutions or ammonium nitrate can be successfully used. All nitrogen should be in the nitrate form. Use calcium nitrate if no potassium is recommended. Potassium nitrate is preferred if additional potassium is needed. If formulated fertilizer is used, it is preferred that all the nitrogen should be in the nitrate form and potassium should be in the nitrate or sulfate form. Potassium chloride (muriate of potash) should not be used as a potassium source.

For Extended Harvest System use the following adjustments to the normal rate:

Early Harvest: 3/4 normal nitrogen rate

Mid-harvest: normal nitrogen rate

Late Harvest: 1 and 1/4 normal nitrogen rate

90 If lime is to be applied to the previous crop to raise the soil pH to 6.5, then lime rate should be reduced by 25%. If the soil pH is greater than 6.2, call your County Agent for additional information. (When soil pH is above 6.2)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)

***Crop Code No. 098***

**Tobacco Bed**

Soil Groups 1, 2 or 3

Desired pH 5.8-6.2

**COMMENTS** (1, 68, 69, 96, 97, 650, 651, 652, 653)

68 Broadcast Epsom salts (magnesium sulfate) at the rate of 0.5 lbs per 100 square feet or 5.0 lbs per 1,000 square feet or a fertilizer containing magnesium. (When lime is not recommended and soil test magnesium is low)

69 Broadcast 5 lbs gypsum (calcium sulfate) per 100 square feet or 50 lbs gypsum per 1,000 square feet. (When lime is not recommended and soil test calcium is less than 400 lbs calcium per acre)

96 Apply 50 lbs supersphosphate (0-20-0) and 50 to 75 lbs 12-6-6 per 1,000 square feet or 300 lbs 12-5-6 per 300 feet row of plant bed. Mix the fertilizer within the top 2 to 3 inches of soil. Wet the bed thoroughly after seeding. Recommendations given for 1,000 square feet will also be satisfactory for 100 square yards.

**Caution:** Fertilizer injury may occur if excessive fertilizer rates are used. (When soil test phosphorus level is low)

97 Apply 50 to 75 lbs 12-6-6 per 1,000 square feet. Use the lower rate of 12-6-6 when plants are grown under plastic cover. Mix the fertilizer within the top 2 to 3



inches of soil. Wet the bed thoroughly after seeding. Recommendations given for 1,000 square feet will also be satisfactory for 100 square yards.

**Caution:** Fertilizer injury may occur if excessive fertilizer rates are used.  
(When soil test phosphorus level is medium or higher)

651 The soil test boron is low, however, this is not a boron sensitive crop, therefore no boron is recommended. (When soil test boron is low)

652 The soil test manganese is low, however, this is not a manganese sensitive crop, therefore no manganese is recommended. (When soil test manganese is low)

653 The soil test zinc is low, however, this is not a zinc sensitive crop, therefore no zinc is recommended. (When soil test zinc is low)