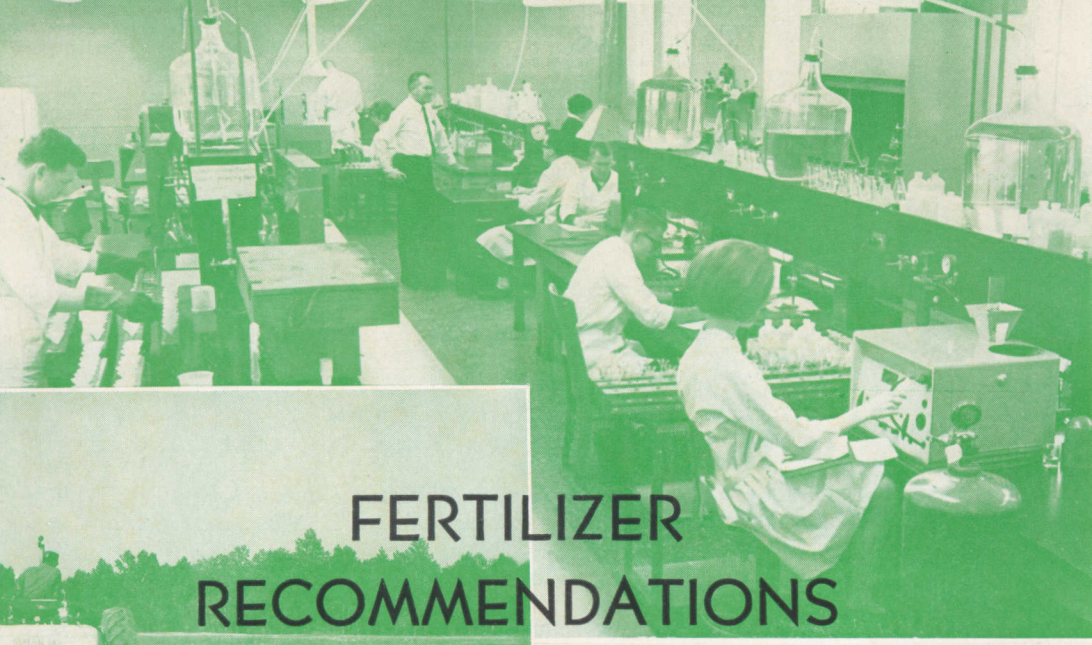


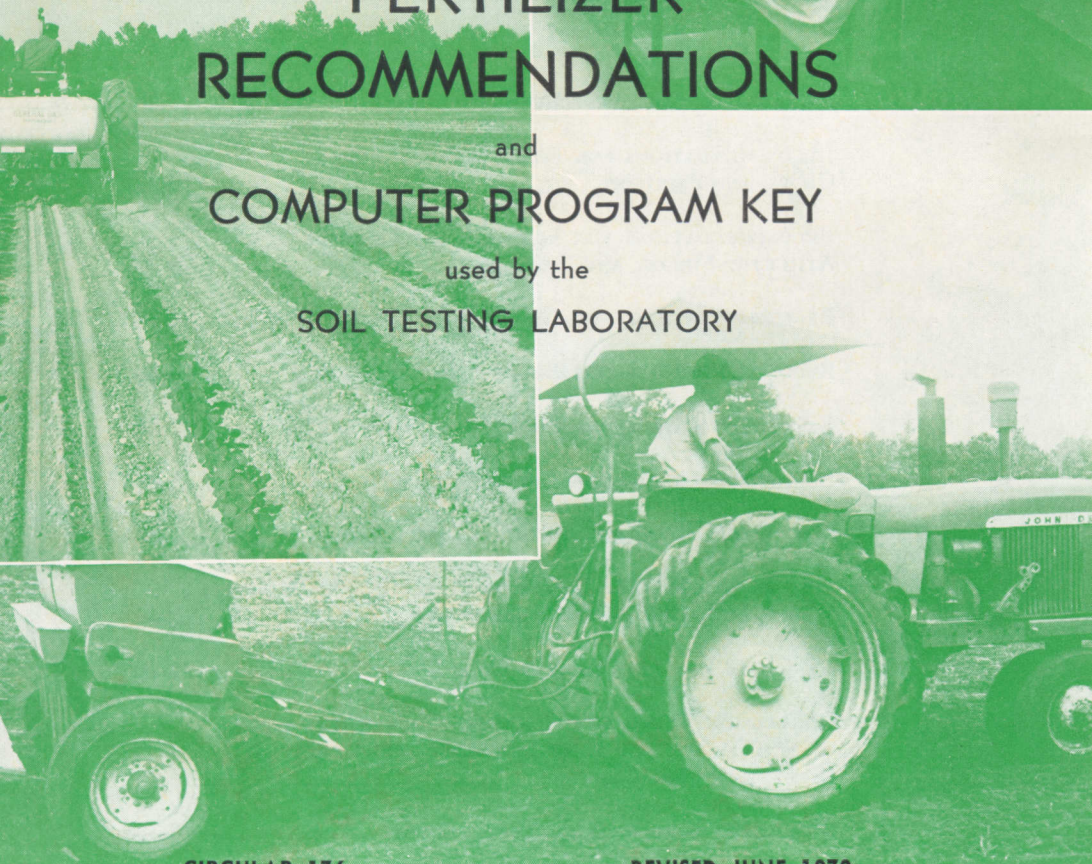
FERTILIZER RECOMMENDATIONS

and

COMPUTER PROGRAM KEY

used by the

SOIL TESTING LABORATORY



CIRCULAR 176 REVISED JUNE 1972

AGRICULTURAL EXPERIMENT STATION
AUBURN UNIVERSITY

E. V. Smith, *Director* Auburn, Alabama

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FERTILIZER RECOMMENDATIONS

and

COMPUTER PROGRAMS KEY

used by the

SOIL TESTING LABORATORY

J. T. COPE[1]

INTRODUCTION

THE SOIL TESTING PROGRAM of Auburn University is a joint program of the Cooperative Extension Service and the Agricultural Experiment Station. The Cooperative Extension Service has primary responsibility for education on soil testing and distribution of supplies. The Agricultural Experiment Station conducts soil test calibration research and operates the soil testing laboratory.

Prior to establishment of the Auburn University Soil Testing Laboratory in 1953, fertilizer recommendations were based on average responses from numerous field experiments conducted on Substations, Experiment Fields, and on fields of cooperating farmers which represented major soil types in the State. Data from these and more recent experiments have been used to calibrate chemical soil tests which now offer the most accurate means of determining fertilizer needs of individual fields. Fertility of most soils has been changed so much by fertilization and management practices that general recommendations based on soil type are no longer dependable.

This publication presents the fertilizer recommendations of the Auburn University Soil Testing Laboratory for all crops. The information is organized for the computer program which is used to make recommendations on samples analyzed by this laboratory.

Crops are divided into 52 classes, about one-half of which are field or forage crops and one-half are horticultural or special crops.

[1] Professor, Department of Agronomy and Soils.

The crops are listed on pages 4 and 5 with a summary of information used in classifying crops based on fertility requirements and making recommendations for each crop code. Detailed instructions and recommendations are presented on individual pages for each crop on pages 10 through 39. These pages contain the following information:

1. **Crop Code Number and a listing** of the crops included in this code number.

2. **P and K Requirement Level Number.** Crops are divided into three classes based on their P and K requirements. These classes are (1) corn and other grasses (2) cotton and legumes (3) gardens, lawns, shrubs, and other special crops. They are presented on page 40 along with the pounds per acre of soil test P, K, Ca, and Mg used to rate the five different soil groups into soil-test ratings from Very Low to Extremely High.

CROP CLASSES AND COMPUTER CODE NUMBERS USED IN RECOMMENDATIONS

Crop code No.	Crop	P and K requirement level (1)	N rate	PK code No. (2)	Lime code No. (3)	Mg code No. (3)	Page No.
Field Crops, Forage Crops, and Pastures							
01	Perennial summer grass pasture	1	60	4	5	1	10
02	Coastal bermuda hay	1	400	6	5	1	10
03	Perennial winter grass pasture	1	60	3	1	1	11
04	Temporary summer grass pasture	1	100	2	1	1	11
05	Annual legume with winter grass	2	60	2	1	1	12
06	White clover (alone)	2	0	1	2	1	12
07	White clover with summer grass	2	0	1	2	1	13
08	White clover with winter grass	2	0	1	2	1	13
09	Annual legume with summer grass	2	0	3	1	1	14
10	Cotton	2	90	2	1	2	14
11	Cotton—peanut rotation	2	90	11	1	2	15
12	Cotton, sandy soils of North Alabama	2	120	2	1	2	15
13	Corn	1	120	4	1	1	16
14	Corn—peanut rotation	1	120	10	1	1	16
15	Corn, sandy soils of North Alabama	1	150	4	1	1	17
16	Corn or sorghum silage	1	180	4	1	1	17
17	Peanuts	10	0	5	1	1	18
18	Small grain—peanut rotation	1	100	11	1	1	18
19	Annual legumes	2	0	3	1	1	19
20	Southern peas	2	20	3	1	1	19
21	Sugar cane, sorghum, sunflower	1	80	4	1	1	19
22	Alfalfa	2	0	7	3	1	20
23	Kudzu or sericea	2	0	5	1	1	20
24	Soybeans	2	0	5	1	1	21
25	Small grain—soybean rotation	1	100	9	1	1	21
26	Tobacco	1	60	8	4	2	22
27	Temporary winter grass pasture	1	100	2	1	1	22

CROP CLASSES AND COMPUTER CODE NUMBERS USED IN RECOMMENDATIONS *(Continued)*

Crop code No.	Crop	P and K requirement level (1)	N rate	PK code No. (2)	Lime code No. (3)	Mg code No. (3)	Page No.
Lawns, Golf Courses, Athletic Fields, and Roadsides							
40	Bermuda lawn	3	80	12	5	1	23
41	Zoysia or St. Augustine lawn	3	80	12	5	1	23
42	Centipede lawn	3	80	13	5	1	24
43	Winter lawn	3	80	12	5	1	24
44	Golf green or tee	3	400	14	1	1	25
45	Golf fairway	3	120	12	5	1	25
46	Athletic field	3	200	12	5	1	26
47	Roadside turf establishment	3	120	15	1	1	26
48	Roadside turf maintenance	3	80	12	1	1	31
Gardens and Truck Crops							
60	Home vegetable garden	3	120	18	1	2	31
61	Truck crops	3	120	18	1	2	32
62	Tomatoes	3	120	18	2	2	32
63	Strawberries	3	120	18	1	2	33
64	Irish potatoes	3	120	17	4	3	33
65	Watermelons, cantaloupes, beans, squash, okra, sweetpotatoes	3	80	19	1	2	33
66	Sweet corn	3	150	2	1	2	34
67	Pepper, pimiento	3	100	18	2	2	34
Shrubs and Flowers							
80	Shrubs and perennial flowers	3	120	16	1	2	35
81	Azaleas, rhododendron, mountain laurel	3	120	16	4	2	35
82	Roses, mums, and annual flowers	3	120	16	1	2	36
83	Greenhouse crops, annuals	3	240	22	1	2	36
Fruits and Nuts							
90	Peaches	2	*	20	1	3	37
91	Muscadines, scuppernongs	2	*	20	1	3	37
92	Apples, pears	2	*	20	1	3	38
93	Plums	2	*	20	1	3	38
94	Pecans	2	*	20	1	3	39
Research							
99	Computer reports pounds per acre of soil-test P, K, Ca, and Mg.						

* N varies according to age of orchard and is given in a final comment.

3. **Lime Recommendation Code Number.** Crops vary in the amount of acidity they can tolerate and still make top yields. They are divided into five classes based on the pH ranges in which they produce best. These classes are presented on page 39.

4. **Magnesium (Mg) Recommendation Code Number.** Crops are divided into 3 classes based on their Mg requirements. These Mg Classes are presented on page 39.

5. **Nitrogn (N) rate.** There is no satisfactory soil test to determine the N supplying power of Alabama soils. Most Alabama soils are low in organic matter and have very low N supplying power. The

amount recommended is based on the crop. This rate may be adjusted by growers where experience has shown that higher or lower rates would be more desirable.

6. **Phosphorus (P) and Potassium (K) recommendations.** These are presented in the table which contains 25 different classifications based on soil-test ratings of P and K. Combinations of P and K recommended are from one of 20 PK Codes presented on pages 41 through 44. Rates of P_2O_5 and K_2O in these PK Codes are in most cases based on fertilizer ratios recommended for use in Alabama and are available in mixed fertilizers. The dark numbers in the center of the table are for soils testing **medium** in P and K. These amounts may be used as a general recommendation when a soil test is not made.

7. **Comments** used with these crops listed by number. Regular comments are given each time one of these crops appears on a soil test report. Final remarks are given only at the end of a soil test report, to save space. Specific comments related to individual recommendations are listed by number in the tables with the fertilizer recommendations. All comments are presented by number on pages 46 through 55. Code numbers of crops on which comments are used are shown in parentheses following the comments.

DEFINITIONS OF SOIL-TEST RATINGS USED FOR PHOSPHORUS (P) AND POTASSIUM (K)

Results of chemical tests are used to rate the fertility status of soils for each nutrient element tested. The ratings range from *very low* to *extremely high.* They are based on the soil type and the requirements of the crop to be grown. The ratings for P and K are based on the relative yield which may be expected without addition of the nutrient rated, and when all other elements are in adequate supply. Fertilizer recommendations are based on these ratings.

Very Low—Soil will yield less than 50 per cent of its potential. Large applications for soil building purposes are usually recommended. Some of the fertilizer should be placed in the drill for row crops.

Low—Soil will yield 50 to 75 per cent of its potential. Some fertilizer should be placed in the drill for row crops.

Medium—Soil will yield 75 to 100 per cent of its potential. Continued annual applications should be made in this range. On some sandy soils which will not retain much K, it may not be economical to attempt to build beyond this medium level.

High—Supply of the nutrient is adequate for the crop. A small amount is usually recommended to maintain this desirable high level.

Very High—Supply of the nutrient is more than double the amount considered adequate and further additions should not be made until the level drops back into the high range.

Extremely High—Supply of the nutrient is excessive and further additions may be detrimental.

Pounds per acre of soil test P, K, Ca, and Mg on which soil-test ratings are based for the different crops and soil groups are presented on page 40.

DESCRIPTION OF SOIL GROUPS ON WHICH P AND K SOIL-TEST RATINGS ARE BASED

Soil Group 1. Sandy Soils with exchange capacities less than 5 meq. per 100 g. Examples of soil types for this group are Norfolk, Kalmia, Ruston, Orangeburg, and Dothan.

Soil Group 2. Clayey Soils not in Group 5 with exchange capacities between 5 and 10 meq. per 100 g. Examples of soil series from this group are Greenville, Lucedale, Savannah, Cecil, Appling, and Colbert.

Soil Group 3. Alkaline Soils of the Black Belt and Limestone Valleys contain free calcium carbonate and range in pH from 7.0 to 8.2. They may have exchange capacities up to 30 or 40 meq. per 100 g. Houston, Sumter, and Hollywood are the most common series in this group. They require different laboratory procedures from other groups.

Soil Group 4. Sandy Soils of North Alabama are classified separately because crops grown on these soils respond to higher rates of nitrogen than do crops on other soils. Hartsells and Dekalb are the most extensive series in this group.

Soil Group 5. Acid Heavy Textured Soils of the Black Belt and Limestone Valleys with exchange capacities greater than 10 meq. per 100 g. Decatur and Dewey series are examples of soils from the limestone valleys. The acid clay soils of the Black Belt frequently have exchange capacities up to 40 meq. per 100 g. The Vaiden, Octibbeha, and Eutaw series are among the most common of these soils. The dilute acid used for extracting nutrients in the soil test procedure removes less P and more K from these soils at given fertility levels than from soils of the other groups. Mixtures of soil and organic matter used for horticultural crops are also included in this group.

SOIL FERTILITY INDEX

A fertility index is used to give a more precise evaluation of the P and K status of soils. The index is the **relative sufficiency** expressed as a percentage of the amount that has been shown by research to be adequate for top yields.

The primary value of the index is in its use for keeping soil fertility records. Over a period of years, the index will indicate how much soil building or fertility depletion is resulting from a management program. It is suggested that growers keep records of the indexes for P and K for each field. The relationship between the index and soil test ratings is as follows:

Soil test rating	*Fertility index Pct.*	*Soil test rating*	*Fertility index Pct.*
Very low	0- 50	High	110-200
Low	60- 70	Very high	210-400
Medium	80-100	Extremely high	410 up

The conversion table for changing pounds per acre of soil-test P and K to fertility index values is on page 45. These figures are based on research at numerous locations which has shown a curvalinear relationship between soil-test P and K and relative yield.

The index values presented on soil test reports for all crops are based on fertility requirements of cotton and legumes. These are calculated from the soil test values for P and K Requirement Level No. 2 on page 40. Index values for P are the same for grasses as for cotton and legumes. Since grasses have lower K requirements than cotton and legumes, the K index values for grasses would be higher than those presented. To convert from the K index presented to a more accurate index for corn and other grasses, for soils rated *low* or *medium* add about 20 to the index given. For soils in the *high* and *very high* ranges, increase the index given by 50 per cent to convert to the index for corn and other grasses.

The K index for gardens, lawns, shrubs, etc. in P and K Requirement Level 3 is the same as that presented for cotton and legumes. Since these crops have higher P requirements than cotton and legumes, the P index values given on soil test reports are higher than if they were based on P requirements of Level 3 crops. To convert from the P index given for these crops to a more accurate index, divide the index given by 2.

The reason for using a constant base for calculating the index is to avoid confusion that would result from changing crops on the

same soil. The index as used is based on the soil groups and is not affected by the crop to be grown.

EXAMPLE OF SOIL TEST REPORT

An example of a soil test report based on recommendations in this key is presented on the center pages of this publication, pages 28 and 29. The information printed on the back of the regular soil test report form is presented on pages 27 and 30. This center sheet therefore serves as an example of the report returned to growers who send in soil samples to the Auburn University Soil Testing Laboratory. Charge for this service is $2.00 per sample.

RECOMMENDATIONS FOR FIELD CROPS, FORAGE CROPS, AND PASTURES

Crop Code No. 01

PERENNIAL SUMMER GRASS PASTURE (BAHIA, BERMUDA, AND DALLIS)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	60- 0-0 (2)	60- 0- 0 (2)	60- 0-40	60- 0-80	60- 0-80
High	60- 0-0 (2)	60-20-20 (3)	60-30-45	60-30-60	60-30-60
Medium	60-40-0	60-45-30	**60-40-40**	60-40-60	60-40-80
Low	60-60-0	60-60-30	60-60-40	60-60-60	60-80-80
Very low	60-80-0	60-80- 0	60-80-40	60-80-80	60-80-80

FINAL REMARK:

1. For summer grass pasture, apply 60 lb. of N and P and K as recommended before growth starts and repeat the N application when more growth is desired up to September 1.

P and K Requirement Level 1
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1
N Rate 60
PK Code No. 4

Crop Code No. 02

COASTAL BERMUDA HAY (COASTAL PASTURE 01 ALSO GIVEN BY COMPUTER)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	400- 0-0 (2)	400- 0-50	400- 0-100	400- 0-200	400- 0-300
High	400- 0-0 (2)	400- 25-50 (4)	400- 25-100 (4)	400- 25-200 (4)	400- 25-300 (4)
Medium	400- 50-0	400- 50-50	**400- 50-100**	400- 50-200	400- 50-300
Low	400- 75-0	400- 75-50	400-100-100	400-100-200	400-100-300
Very low	400-100-0	400-100-50	400-100-100	400-100-200	400-100-300

FINAL REMARK:

22. For coastal bermuda hay, apply 100 lb. of N and P and K as recommended before spring growth begins. Apply 100 lb. of N each time hay is cut.

P and K Requirement Level 1
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1
N Rate 400
PK Code No. 6

Crop Code No. 03

Perennial Winter Grass Pasture (Fescue, Orchardgrass)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	60- 0-0 (2)	60- 0- 0 (2)	60- 0-50	60- 0-100	60- 0-100
High	60- 0-0 (2)	60- 30-30 (3)	60- 30-60	60- 40- 80	60- 0-100
Medium	60- 50-0	60- 60-30	**60- 50-50**	60- 40- 80	60- 50-100
Low	60- 80-0	60- 80-40	60- 80-40	60- 80- 80	60-100-100
Very low	60-100-0	60-100- 0	60-100-50	60-100-100	60-120-120

Comment:

5. Apply 60 to 80 lb. of N and P and K as recommended by September 1. Repeat N application in February.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 60
PK Code No. 3

Crop Code No. 04

Temporary Summer Grass Pasture and Johnsongrass (Millet, Forage Sorghum, Sudangrass, and Johnsongrass)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	100- 0-0 (2)	100- 0- 0 (2)	100- 0-60	100- 0- 90	100- 0-120
High	100- 0-0 (2)	100- 30-30 (3)	100- 40-60	100- 45- 90	100- 40-120
Medium	100- 60-0	100- 60-40	**100- 60-60**	100- 60- 90	100- 60-120
Low	100-100-0	100-100-50	100- 90-60	100- 90- 90	100-120-120
Very low	100-120-0	100-120- 0	100-120-60	100-120-120	100-140-140

Final remark:

6. For temporary summer grass or Johnsongrass, apply 100 lb. of N and P and K as recommended before spring growth begins. Apply 100 lb. of N each time hay is cut or forage is grazed down.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 100
PK Code No. 2

Crop Code No. 05

Annual Legume with Small Grain or Ryegrass (Crimson Clover, Vetch, Caley Peas with Oats, Wheat, Rye, Ryegrass)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	60- 0-0 (2)	60- 0- 0 (2)	60- 0-60	60- 0- 90	60- 0-120
High	60- 0-0 (2)	60- 30-30 (3)	60- 40-60	60- 45- 90	50- 40-120
Medium	60- 60-0	60- 60-40	**60- 60-60**	60- 60- 90	60- 60-120
Low	60-100-0	60-100-50	60- 90-60	60- 90- 90	60-120-120
Very low	60-120-0	60-120- 0	60-120-60	60-120-120	60-140-140

Comment:

8. Where legume does not furnish sufficient N for desired growth of grass, apply 60 lb. of N each time forage is grazed down or cut for hay.

Final remark:

7. For reseeding clover or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 60
PK Code No. 2

Crop Code No. 06

White Clover, Yuchi Clover

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	0- 0-0 (2)	0- 0- 0 (2)	0- 0-80	0- 0-120	0- 0-180
High	0- 0-0 (2)	0- 40-40 (3)	0- 40-80	0- 50-100	0- 0-180
Medium	0- 80-0	0- 80-40	**0- 80-80**	0- 60-120	0- 80-160
Low	0-120-0	0-120-60	0-120-60	0-120-120	0-160-160
Very low	0-180-0	0-180- 0	0-160-80	0-160-160	0-180-180

Final remark:

7. For reseeding clover or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre.

P and K Requirement Level 2
Lime Recommendation Code No. 2
Magnesium Recommendation Code No. 1

N Rate 0
PK Code No. 1

Crop Code No. 07

White Clover and Summer Grass Pasture
(White Clover, Yuchi Clover, Caley Peas with Dallis, Bermuda, Bahia)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N\text{-}P_2O_5\text{-}K_2O$ per acre				
Very high	0- 0-0 (2)	0- 0- 0 (2)	0- 0-80	0- 0-120	0- 0-180
High	0- 0-0 (2)	0- 40-40 (3)	0- 40-80	0- 50-100	0- 0-180
Medium	0- 80-0	0- 80-40	**0- 80-80**	0- 60-120	0- 80-160
Low	0-120-0	0-120-60	0-120-60	0-120-120	0-160-160
Very low	0-180-0	0-180- 0	0-160-80	0-160-160	0-180-180

Comment:

8. Where legume does not furnish sufficient N for desired growth of grass, apply 50 to 60 lb. of N each time forage is grazed down or cut for hay.

Final remark:

7. For reseeding clover or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre.

P and K Requirement Level 2
Lime Recommendation Code No. 2
Magnesium Recommendation Code No. 1
N Rate 0
PK Code No. 1

Crop Code No. 08

White Clover and Winter Grass Pasture
(White Clover, Yuchi Clover with Fescue, Orchardgrass)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N\text{-}P_2O_5\text{-}K_2O$ per acre				
Very high	0- 0-0	0- 0- 0	0- 0-80	0- 0-120	0- 0-180
High	0- 0-0	0- 40-40	0- 40-80	0- 50-100	0- 0-180
Medium	0- 80-0	0- 80-40	**0- 80-80**	0- 60-120	0- 80-160
Low	0-120-0	0-120-60	0-120-60	0-120-120	0-160-160
Very low	0-180-0	0-180- 0	0-160-80	0-160-160	0-180-180

Comment:

9. On grass-legume mixtures, where legume does not furnish sufficient N for desired growth of grass, apply 60 lb. of N in early fall and repeat if needed in early spring.

Final remark:

7. For reseeding clover or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre.

P and K Requirement Level 2
Lime Recommendation Code No. 2
Magnesium Recommendation Code No. 1
N Rate 0
PK Code No. 1

Crop Code No. 09

Annual Legume and Summer Grass Pasture (Ball, Crimson, and Red Clovers; Vetch, and Sericea with Bermuda, Dallis, or Bahia)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	0- 0-0 (2)	0- 0- 0 (2)	0- 0-50	0- 0-100	0- 0-100
High	0- 0-0 (2)	0- 30-30 (3)	0- 30-60	0- 40- 80	0- 0-100
Medium	0- 50-0	0- 60-30	**0- 50-50**	0- 40- 80	0- 50-100
Low	0- 80-0	0- 80-40	0- 80-40	0- 80- 80	0-100-100
Very low	0-100-0	0-100- 0	0-100-50	0-100-100	0-120-120

Comment:

8. Where legume does not furnish sufficient N for desired growth of grass, apply 50 to 60 lb. of N each time forage is grazed down or cut for hay.

Final remark:

7. For reseeding clover or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 0
PK Code No. 3

Crop Code No. 10

Cotton

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	90- 0-0 (2)	90- 0- 0 (2)	90- 0-60	90- 0- 90	90- 0-120
High	90- 0-0 (2)	90- 30-30 (3)	90- 40-60	90- 45- 90	90- 40-120
Medium	90- 60-0	90- 60-40	**90- 60-60**	90- 60- 90	90- 60-120
Low	90-100-0	90-100-50	90- 90-60	90- 90- 90	90-120-120
Very low	90-120-0	90-120- 0	90-120-60	90-120-120	90-140-140

Final remark:

10. For cotton, use the nitrogen (N) rate as a guide. On land where excessive growth has caused problems with late maturity, insects, or boll rot, reduce the N rate 20 to 30 lb. per acre. Where vegetative growth has been inadequate, increase the N rate by this amount. Apply 0.3 lb. of boron (B) per acre in the fertilizer or in the insecticide, spray, or dust.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 90
PK Code No. 2

Crop Code No. 11

COTTON (IN ROTATION BEFORE PEANUTS)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	90- 0-0 (2)	90- 0- 0 (2)	90- 0- 80	90- 0-160	90- 0-160
High	90- 0-0 (2)	90- 40-40 (3)	90- 40- 80	90- 60-120	90- 60-120
Medium	90- 80-0	90- 80-40	**90- 80- 80**	90- 80-120	90- 80-160
Low	90-160-0	90-160-80	90-150-100	90-160-160	90-160-160
Very low	90-160-0	90-160-80	90-150-100	90-160-160	90-160-160

Peanuts next year 0-0-0.

COMMENTS:

13. Apply 250 lb. of gypsum or basic slag at blooming time. (Where calcium is medium and no lime is recommended or where calcium is low and lime is recommended.)

14. Apply 500 lb. of gypsum or basic slag at blooming time. (Where calcium is low and no lime is recommended.)

137. Fertilizer applied to cotton should be sufficient for peanuts next year.

FINAL REMARK:

10. For cotton, use the nitrogen (N) rate as a guide. On land where excessive growth has caused problems with late maturity, insects, or boll rot, reduce the N rate 20 to 30 lb. per acre. Where vegetative growth has been inadequate, increase the N rate by this amount. Apply 0.3 lb. of boron (B) per acre in the fertilizer or in the insecticide, spray, or dust.

11. For peanuts, apply 0.3 to 0.5 lb. of boron (B) per acre in the fertilizer, gypsum, or disease control spray or dust.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 90
PK Code No. 11

Crop Code No. 12

COTTON (SANDY SOILS OF NORTH ALABAMA)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	120- 0-0 (2)	120- 0- 0 (2)	120- 0-60	120- 0- 90	120- 0-120
High	120- 0-0 (2)	120- 30-30 (3)	120- 40-60	120- 45- 90	120- 40-120
Medium	120- 60-0	120- 60-40	**120- 60-60**	120- 60- 90	120- 60-120
Low	120-100-0	120-100-50	120- 90-60	120- 90- 90	120-120-120
Very low	120-120-0	120-120- 0	120-120-60	120-120-120	120-140-140

FINAL REMARK:

10. For cotton, use the nitrogen (N) rate as a guide. On land where excessive growth has caused problems with late maturity, insects, or boll rot, reduce the N rate 20 to 30 lb. per acre. Where vegetative growth has been inadequate, increase the N rate by this amount. Apply 0.3 lb. of boron (B) per acre in the fertilizer or in the insecticide, spray, or dust.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 120
PK Code No. 2

Crop Code No. 13

CORN

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (2)	120- 0- 0 (2)	120- 0-40	120- 0-80	120- 0-80
High	120- 0-0 (2)	120-20-20 (3)	120-30-45	120-30-60	120-30-60
Medium	120-40-0	120-45-30	**120-40-40**	120-40-60	120-40-80
Low	120-60-0	120-60-30	120-60-40	120-60-60	120-80-80
Very low	120-80-0	120-80- 0	120-80-40	120-80-80	120-80-80

FINAL REMARK:

15. For corn on sandy soils, apply 3 lb. zinc (Zn) in fertilizer after liming or where pH is above 6.0. (Final remark to be used only on Class 1 and 4 soils.)

P and K Requirement Level.....1
Lime Recommendation Code No.....1
Magnesium Recommendation Code No.....1
N Rate.....120
PK Code No.....4

Crop Code No. 14

CORN (IN ROTATION BEFORE PEANUTS)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (2)	120- 0- 0 (2)	120- 0-60	120- 0-120	120- 0-120
High	120- 0-0 (2)	120- 20-20 (3)	120- 30-60	120- 40- 80	120- 40- 80
Medium	120- 60-0	120- 60-30	**120- 60-60**	120- 60-120	120- 60-120
Low	120-120-0	120-120-60	120-120-80	120-120-120	120-120-120
Very low	120-120-0	120-120-60	120-120-80	120-120-120	120-120-120

COMMENTS:

13. Apply 250 lb. of gypsum at blooming time. (Where calcium is medium and no lime is recommended or calcium is low and lime is recommended.)

14. Apply 500 lb. of gypsum at blooming time. (Where calcium is low and no lime is recommended.)

138. Fertilizer applied to corn should be sufficient for peanuts next year.

FINAL REMARK:

11. For peanuts, apply 0.3 to 0.5 lb. of boron (B) per acre in the fertilizer, gypsum, or disease control spray or dust.

15. For corn on sandy soils, apply 3 lb. zinc (Zn) per acre in the fertilizer after liming or where pH is above 6.0.

P and K Requirement Level.....1
Lime Recommendation Code No.....1
Magnesium Recommendation Code No.....1
N Rate.....120
PK Code No.....10

Crop Code No. 15

Corn (Sandy Soils of North Alabama)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	150- 0-0 (2)	150- 0- 0 (2)	150- 0-40	150- 0-80	150- 0-80
High	150- 0-0 (2)	150-20-20 (3)	150-30-45	150-30-60	150-30-60
Medium	150-40-0	150-45-30	**150-40-40**	150-40-60	150-40-80
Low	150-60-0	150-60-30	150-60-40	150-60-60	150-80-80
Very low	150-80-0	150-80- 0	150-80-40	150-80-80	150-80-80

Final remark:

15. For corn on sandy soils, apply 3 lb. zinc (Zn) per acre in fertilizer after liming or where pH is above 6.0. (On Soils Classes 1 and 4 only.)

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 150
PK Code No. 4

Crop Code No. 16

Corn or Sorghum Silage

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	180- 0-0 (2)	180- 0- 0 (2)	180- 0-40 (16)	180- 0-80 (16)	180- 0-80 (16)
High	180- 0-0 (2)	180-20-20 (17)	180-30-45 (18)	180-30-60 (18)	180-30-60 (18)
Medium	180-40-0 (19)	180-45-30 (20)	**180-40-40** (21)	180-40-60 (21)	180-40-80 (21)
Low	180-60-0 (19)	180-60-30 (20)	180-60-40 (21)	180-60-60 (21)	180-80-80 (21)
Very low	180-80-0 (19)	180-80- 0 (19)	180-80-40 (21)	180-80-80 (21)	180-80-80 (21)

Final remark:

15. For corn on sandy soils, apply 3 lb. zinc (Zn) per acre in fertilizer after liming or where pH is above 6.0. (Final remark to be used only on Class 1 or 4 soils.)

Note:

For grain sorghum silage, reduce N to 120 lb.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 180
PK Code No. 4

Crop Code No. 17

PEANUTS

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	0- 0-0 (2)	0- 0-0 (2)	0- 0-40	0- 0- 80	0- 0-120
High	0- 0-0 (2)	0- 0-0 (2)	0- 0-40	0- 0- 80	0- 0-120
Medium	0- 40-0	0- 40-0	**0- 40-40**	0- 40- 80	0- 50-100
Low	0- 80-0	0- 80-0	0- 80-40	0- 80- 80	0-100-100
Very low	0-120-0	0-120-0	0-120-60	0-100-100	0-120-120

COMMENTS:

13. Apply 250 lb. of gypsum at blooming time. (Where calcium is medium and no lime is recommended or calcium is low and lime is recommended.)

14. Apply 500 lb. of gypsum at blooming time. (Where calcium is low and no lime is recommended.)

FINAL REMARK:

11. For peanuts, apply 0.3 to 0.5 lb. of boron (B) per acre in the fertilizer, gypsum, or disease control spray or dust.

NOTE:

For Spanish peanuts, recommend 20 lb. N.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 0
PK Code No. 5

Crop Code No. 18

SMALL GRAIN — PEANUT ROTATION

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	100- 0-0	100- 0- 0	100- 0- 80	100- 0-160	100- 0-160
High	100- 0-0	100- 40-40	100- 40- 80	100- 60-120	100- 60-120
Medium	100- 80-0	100- 80-40	**100- 80- 80**	100- 80-120	100- 80-160
Low	100-160-0	100-160-80	100-150-100	100-160-160	100-160-160
Very low	100-160-0	100-160-80	100-150-100	100-160-160	100-160-160

Peanuts next year 0-0-0

COMMENTS:

11. For peanuts apply 0.3 to 0.5 lb. of boron (B) per acre in the fertilizer, gypsum, or disease control spray or dust.

13. Apply 250 lb. of gypsum at blooming time. (Where calcium is medium and no lime is recommended or calcium is low and lime is recommended.)

14. Apply 500 lb. of gypsum at blooming time. (Where calcium is low and no lime is recommended.)

34. For small grains or ryegrass planted for grazing on fallowed fields in early September, apply 100 lb. of N at planting and repeat in early spring. Crops grown for grain only should receive 20 lb. of N in the fall and 60 lb. in the spring.

137. Fertilizer applied to cotton or small grain should be sufficient for peanuts next year.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 60
PK Code No. 11

Crop Code No. 19

Annual Legumes (Crimson Clover, Ball Clover, Annual Lespedeza, Caley Peas, and Vetch)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	0- 0-0 (2)	0- 0- 0 (2)	0- 0-50	0- 0-100	0- 0-100
High	0- 0-0 (2)	0- 30-30 (3)	0- 30-60	0- 40- 80	0- 0-100
Medium	0- 50-0	0- 60-30	**0- 50-50**	0- 40- 80	0- 50-100
Low	0- 80-0	0- 80-40	0- 80-40	0- 80- 80	0-100-100
Very low	0-100-0	0-100- 0	0-100-50	0-100-100	0-120-120

Comment:

7. For reseeding clover or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 0
PK Code No. 3

Crop Code No. 20

Southern Peas

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	20- 0-0 (2)	20- 0- 0 (2)	20- 0-50	20- 0-100	20- 0-100
High	20- 0-0 (2)	20- 30-30 (3)	20- 30-60	20- 40- 80	20- 0-100
Medium	20- 50-0	20- 60-30	**20- 50-50**	20- 40- 80	20- 50-100
Low	20- 80-0	20- 80-40	20- 80-40	20- 80- 80	20-100-100
Very low	20-100-0	20-100- 0	20-100-50	20-100-100	20-120-120

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 20
PK Code No. 3

Crop Code No. 21

Grain Sorghum, Sweet Sorghum, Sugar Cane, and Sunflower

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0 (2)	80- 0- 0 (2)	80- 0-40	80- 0-80	80- 0-80
High	80- 0-0 (2)	80-20-20 (3)	80-30-45	80-30-60	80-30-60
Medium	80-40-0	80-45-30	**80-40-40**	80-40-60	80-40-80
Low	80-60-0	80-60-30	80-60-40	80-60-60	80-80-80
Very low	80-80-0	80-80- 0	80-80-40	80-80-80	80-80-80

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 80
PK Code No. 4

Crop Code No. 22

Alfalfa

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	0- 0-0 (2)	0- 0 -0 (2)	0- 0-150	0- 0-240	0- 0-300
High	0- 0-0 (2)	0- 40- 80	0- 60-120	0- 40-240	0- 40-300
Medium	0- 80-0	0- 80- 80	**0- 80-160**	0-100-200	0- 80-300
Low	0-120-0	0-120- 60	0-120-120	0-120-240	0-150-300
Very low	0-200-0	0-200-100	0-200-200	0-240-240	0-240-240

Comment:

23. For alfalfa, apply 3 lb. of boron (B) per acre annually.

P and K Requirement Level 2
Lime Recommendation Code No. 3
Magnesium Recommendation Code No. 1
N Rate 0
PK Code No. 7

Crop Code No. 23

Sericea or Kudzu

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	0- 0-0 (2)	0- 0-0 (2)	0- 0-40	0- 0- 80	0- 0-120
High	0- 0-0 (2)	0- 0-0 (2)	0- 0-40	0- 0- 80	0- 0-120
Medium	0- 40-0	0- 40-0	**0- 40-40**	0- 40- 80	0- 50-100
Low	0- 80-0	0- 80-0	0- 80-40	0- 80- 80	0-100-100
Very low	0-120-0	0-120-0	0-120-60	0-100-100	0-120-120

Comment:

24. Fertilizer recommended should be sufficient for two years.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 0
PK Code No. 5

Crop Code No. 24

SOYBEANS

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N\text{-}P_2O_5\text{-}K_2O$ per acre				
Very high	0- 0-0 (2)	0- 0-0 (2)	0- 0-40	0- 0- 80	0- 0-120
High	0- 0-0 (2)	0- 0-0 (2)	0- 0-40	0- 0- 80	0- 0-120
Medium	0- 40-0	0- 40-0	**0- 40-40**	0- 40- 80	0- 50-100
Low	0- 80-0	0- 80-0	0- 80-40	0- 80- 80	0-100-100
Very low	0-120-0	0-120-0	0-120-60	0-100-100	0-120-120

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 0
PK Code No. 5

Crop Code No. 25

SMALL GRAIN — SOYBEAN ROTATION

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N\text{-}P_2O_5\text{-}K_2O$ per acre				
Very high	100- 0-0 (2)	100- 0- 0 (2)	100- 0- 60	100- 0-100	100- 0-150
High	100- 0-0 (2)	100- 50-50	100- 50- 75	100- 50-100	100- 50-150
Medium	100-100-0	100-100-50	**100-100-100**	100-100-150	100-100-150
Low	100-150-0	100-150-50	100-150-100	100-150-150	100-150-150
Very low	100-200-0	100-200- 0	100-200-100	100-200-200	100-200-200

Soybeans next year 0-0-0

COMMENTS:

25. Fertilizer applied to small grain should be sufficient for soybeans.

34. For small grains or ryegrass planted for grazing on fallowed fields in early September, apply 100 lb. of N at planting and repeat in early spring. Crops grown for grain only should receive 20 lb. of N in the fall and 60 lb. in the spring.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 100
PK Code No. 9

Crop Code No. 26

Tobacco (Flue-Cured)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	60- 60-60	60- 60- 60	60- 60- 90	60- 60-120	60- 60-120
High	60- 60-60	60- 90- 90	60-100-150	60- 90-180	60- 90-180
Medium	60- 90-60	60-100-100	**60-100-150**	60-100-200	60-100-200
Low	60-120-60	60-120-120	60-120-180	60-120-180	60-120-180
Very low	60-120-60	60-120-120	60-120-180	60-120-180	60-120-180

Note:

Increase N to 140 lb. per acre for Burley and Darkfire tobacco.

P and K Requirement Level 1
Lime Recommendation Code No. 4
Magnesium Recommendation Code No. 2

N Rate 60
PK Code No. 8

Crop Code No. 27

Temporary Winter Grass Pasture (Oats, Rye, Wheat, Ryegrass)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	100- 0-0 (2)	100- 0- 0 (2)	100- 0-60	100- 0- 90	100- 0-120
High	100- 0-0 (2)	100- 30-30 (3)	100- 40-60	100- 45- 90	100- 40-120
Medium	100- 60-0	100- 60-40	**100- 60-60**	100- 60- 90	100- 60-120
Low	100-100-0	100-100-50	100- 90-60	100- 90- 90	100-120-120
Very low	100-120-0	100-120- 0	100-120-60	100-120-120	100-140-140

Comment:

34. For small grains or ryegrass planted for grazing on fallowed fields in early September, apply 100 lb. of N at planting and repeat in early spring. Crops grown for grain only should receive 20 lb. of N in the fall and 60 lb. in the spring.

P and K Requirement Level 1
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 100
PK Code No. 2

RECOMMENDATIONS FOR LAWNS, GOLF COURSES, ATHLETIC FIELDS, AND ROADSIDES

Crop Code No. 40

Bermuda Lawn

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0 (27)	80- 0- 0 (27)	80- 0-40 (28)	80- 0-80 (29)	80- 0-80 (29)
High	80- 0-0 (27)	80- 0- 0 (27)	80- 0-40 (28)	80- 0-80 (29)	80- 0-80 (29)
Medium	80-40-0 (30)	80-40-40 (31)	**80-40-40** (**31**)	80-40-80 (32)	80-40-80 (32)
Low	80-80-0 (33)	80-40-40 (31)	80-80-80 (35)	80-80-80 (35)	80-80-80 (35)
Very low	80-80-0 (33)	80-80-80 (35)	80-80-80 (35)	80-80-80 (35)	80-80-80 (35)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1
N Rate 80
PK Code No. 12

Crop Code No. 41

Zoysia or St. Augustine Lawn

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0 (36)	80- 0- 0 (36)	80- 0-40 (37)	80- 0-80 (38)	80- 0-80 (38)
High	80- 0-0 (27)	80- 0- 0 (27)	80- 0-40 (28)	80- 0-80 (29)	80- 0-80 (29)
Medium	80-40-0 (30)	80-40-40 (31)	**80-40-40** (**31**)	80-40-80 (32)	80-40-80 (32)
Low	80-80-0 (33)	80-40-40 (31)	80-80-80 (35)	80-80-80 (35)	80-80-80 (35)
Very low	80-80-0 (33)	80-80-80 (35)	80-80-80 (35)	80-80-80 (35)	80-80-80 (35)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1
N Rate 80
PK Code No. 12

Crop Code No. 42

Centipede Lawn

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0 (39)	80- 0- 0 (39)	80- 0-40 (40)	80- 0-40 (40)	80- 0-40 (40)
High	80- 0-0 (41)	80- 0- 0 (41)	80- 0-40 (42)	80- 0-40 (42)	80- 0-40 (42)
Medium	80- 0-0 (41)	80- 0- 0 (41)	**80-40-40 (44)**	80-40-40 (44)	80-40-40 (44)
Low	80-40-0 (43)	80-40-40 (44)	80-40-40 (44)	80-40-40 (44)	80-40-40 (44)
Very low	80-40-0 (43)	80-40-40 (44)	80-40-40 (44)	80-40-40 (44)	80-40-40 (44)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1
N Rate 80
PK Code No. 13

Crop Code No. 43

Winter Lawn
(Ryegrass, Fescue, and Bluegrass)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0 (45)	80- 0- 0 (45)	80- 0-40 (46)	80- 0-80 (47)	80- 0-80 (47)
High	80- 0-0 (45)	80- 0- 0 (45)	80- 0-40 (46)	80- 0-80 (47)	80- 0-80 (47)
Medium	80-40-0 (48)	80-40-40 (49)	**80-40-40 (49)**	80-40-80 (50)	80-40-80 (50)
Low	80-80-0 (51)	80-40-40 (49)	80-40-40 (49)	80-80-80 (53)	80-80-80 (53)
Very low	80-80-0 (51)	80-80-80 (53)	80-80-80 (53)	80-80-80 (53)	80-80-80 (53)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1
N Rate 80
PK Code No. 12

Crop Code No. 44

Golf Green or Tee

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	400- 0-0 (54)	400- 0- 0 (54)	400- 0-100 (55)	400- 0-200 (56)	400- 0-200 (56)
High	400- 0-0 (54)	400- 50- 50 (58)	400- 50-100 (59)	400- 50-200 (60)	400- 50-200 (60)
Medium	400-100-0 (61)	400-100-100 (62)	**400-100-100** (62)	400-100-200 (63)	400-100-200 (63)
Low	400-200-0 (64)	400-200-100 (65)	400-200-100 (65)	400-200-200 (66)	400-200-200 (66)
Very low	400-200-0 (64)	400-200-100 (65)	400-200-100 (65)	400-200-200 (66)	400-200-200 (66)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1

N Rate 400
PK Code No. 14

Crop Code No. 45

Golf Fairway

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0	120- 0- 0	120- 0-40	120- 0-80	120- 0-80
High	120- 0-0	120- 0- 0	120- 0-40	120- 0-80	120- 0-80
Medium	120-40-0	120-40-40	**120-40-40**	120-40-80	120-40-80
Low	120-80-0	120-40-40	120-80-80	120-80-80	120-80-80
Very low	120-80-0	120-80-80	120-80-80	120-80-80	120-80-80

Final remark:

67. On fairways, apply 60 lb. of N with the recommended rates of P_2O_5 and K_2O in the spring. Apply additional N as needed at the rate of 60 lb. per acre per application to maintain desired growth and color.

P and K Requirement Level 3
Lime Recommendation Code No. 5
Magnesium Recommendation Code No. 1

N Rate 120
PK Code No. 12

Crop Code No. 46

Athletic Field

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	200- 0-0	200- 0- 0	200- 0-40	200- 0-80	200- 0-80
High	200- 0-0	200- 0- 0	200- 0-40	200- 0-80	200- 0-80
Medium	200-40-0	200-40-40	**200-40-40**	200-40-80	200-40-80
Low	200-80-0	200-40-40	200-80-80	200-80-80	200-80-80
Very low	200-80-0	200-80-80	200-80-80	200-80-80	200-80-80

Final remark:

68. For athletic fields, nitrogen should be divided into 4 applications at 2-month intervals beginning in March. Apply additional N at the rate of 50 lb. N (150 lb. ammonium nitrate or equivalent) per acre if needed to maintain desired growth and color. A football field plus 20 feet on all sides is about 2 acres.

P and K Requirement Level.....3
Lime Recommendation Code No.....5
Magnesium Recommendation Code No.....1
N Rate.....200
PK Code No.....12

Crop Code No. 47

Roadside Turf Establishment

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0	120- 0- 0	120- 0-80	120- 0-160	120- 0-160
High	120- 0-0	120- 40-40	120- 40-80	120- 40-160	120- 40-160
Medium	120- 80-0	120- 80-40	**120- 80-80**	120- 80-160	120- 80-160
Low	120-160-0	120-160-40	120-160-80	120-160-160	120-160-160
Very low	120-160-0	120-160-40	120-160-80	120-160-160	120-160-160

Final remarks:

69. Before planting turf, mix recommended lime, phosphorus, potassium, and 80 lb. nitrogen into surface soil. One month after planting, apply 40 lb. of N.

70. After establishing turf as recommended above, apply 40 lb. each of N, P_2O_5 and K_2O at 6-month intervals.

P and K Requirement Level.....3
Lime Recommendation Code No.....1
Magnesium Recommendation Code No.....1
N Rate.....120
PK Code No.....15

INTERPRETING REPORT OF SOIL TESTS

All soil samples are tested for pH, lime requirement, available phosphorus (P), potassium (K) and magnesium (Mg). Calcium is also determined on soils where the crop is to be peanuts, tomatoes or pepper.

Soil Test Ratings

Soil test results are rated based on soil type and crop to be grown. **Very Low (VL)** means that the crop may yield less than 50% of its potential if the fertilizer nutrient is not applied. **Low (L)** means that the crop may yield only 50 to 75% of its potential. **Medium (M)** soil will yield 75 to 100% of its potential. **High (H)** is the desirable level which should be the objective of most soil building programs. It means that the supply of the nutrient in the soil is adequate for the crop. A small amount is usually recommended to maintain this level. **Very High (VH)** means that the soil supply of the nutrient is more than double the amount considered adequate, and further additions are not recommended until the level is lowered. **Extremely High (EH)** is used for P on soils where the level is excessive and further additions of P may be detrimental.

Soil test ratings vary with crop and soil type; therefore, a rating for one crop will not apply to all other crops. Some crops require higher fertility levels than others, and different soil with the same soil test values vary in their capacity to supply nutrients to crops.

Soil Fertility Index

In addition to the ratings, a fertility index is used for P and K to give a more precise evaluation of fertility status. It indicates how low or how high the nutrient level is within the ratings. The primary value of the index is in its use for keeping soil fertility records. Over a period of years, the index will indicate how much soil building or fertility depletion is resulting from a management program.

The index is expressed as a percentage of the amount of P or K in the soil that has been shown by research to be adequate for top yields. The relationship between soil test ratings and fertility indexes is as follows:

Soil Test Rating	Fertility Index %	Soil Test Rating	Fertility Index %
VL	0-50	H	110-200
L	60-70	VH	210-400
M	80-100	EH	410 up

The index values presented for all crops are based on fertility requirements of cotton and legumes. Index values for grasses are not used on soil test reports because the use of 2 scales on the same fields would be confusing. Since grasses have lower K requirements than cotton and legumes, the index values for grasses would be higher than those presented. For gardens, lawns, shrubs, and special crops, the index values given for P are double what they would be if they were based on P requirements of these crops.

Fertilizer Recommendations

Fertilizer recommendations are for annual applications unless otherwise indicated. Follow these for 3 years and then resample. Rates of P and K recommended for soils testing High or Medium may be applied broadcast or in the row. On soils testing Low or Very Low, some fertlizer should be placed in the drill for row crops. It is suggested that where fertilizer is broadcast on soils rated Low or Very Low the recommended rate be broadcast and an additional ¼ to ½ of this amount be applied in the drill when planting row crops.

Rates of fertilizer recommended are based on yield response obtained in experiments conducted on soils similar to the one sampled. Phosphorus and potassium recommendations are in most cases in one of the approved P_2O_5 to K_2O ratios. Select a fertilizer grade with the ratio recommended. Plant nutrients are listed on a fertilizer tag or label in the order of N-P_2O_5-K_2O. For example, 100 pounds of 4-8-16 contains

REPORT ON
AUBURN
SOIL TESTING
AUBURN, AL

NAME FARMER BROWN
ADDRESS RT 2 BOX 147
CITY WAR EAGLE, ALA 36830

LAB NO.	SENDER'S SAMPLE DESIGNATION	SOIL* GROUP	SOIL TEST RESULTS			
			pH**	CALCIUM Ca	PHOSPHORUS P***	POTASSIUM K***
9949 1	HILLSIDE	1	6.0		H 110	H 90
	RATES OF P205 AND K20 RECOMMENDED MAY BE DOU					
	FOR CORN ON SANDY SOILS APPLY 3 LB. ZINC (Z WHERE PH IS ABOVE 6.0.					
9949 2	HILLSIDE	1	6.0		H 110	M 90
9950 1	BIG BOTTOM	5	5.2		VL 40	M 80
	APPLY AN ADDITIONAL 60 LB. OF N IN EARLY SP TO SUPPLY N NEEDS OF THE GRASS.					
9951 1	GARDEN	1	5.6		H 150	M 90
	PER 100 FT. OF ROW APPLY 2½ QUARTS 8-8-8 AT					
9952 1	LAWN	2	5.0		H 180	M 90
	PER 1,000 SQ. FT. APPLY 6 LB. 15-0-15 WHEN AMMONIUM NITRATE OR EQUIVALENT) IN MID-SUMME MAKE ADDITIONAL APPLICATIONS OF 1 LB. N AT 2					
	FOR COTTON, USE THE NITROGEN (N) RATE AS A G PROBLEMS WITH LATE MATURITY, INSECTS, OR BOL WHERE VEGETATIVE GROWTH HAS BEEN INADEQUATE, OF BORON (B) PER ACRE IN THE FERTILIZER OR I					
	1.0 TON LIMESTONE PER ACRE IS APPROXIMATELY					
	THE NUMBER OF SAMPLES PROCESSED IN THIS REPO					

* 1. Sandy soils
2. Loams & light clays
3. Alkaline soils
4. Sandy loams of North Alabama
5. Heavy clays

*** Rating & fertili

OIL TESTS
IVERSITY
ABORATORY
AMA 36830

COUNTY LEE
DISTRICT 2
DATE 4/06/72

AGNESIUM Mg	CROP TO BE GROWN	RECOMMENDATIONS				
		LIME-STONE TONS/ACRE	TO SUPPLY Mg	N	P_2O_5	K_2O
				POUNDS PER ACRE		
H	CORN '72	0.0		120	20	20
D AND APPLIED BROADCAST IN ALTERNATE YEARS. PER ACRE IN THE FERTILIZER AFTER LIMING OR						
H	COTTON '73	0.0		90	40	60
L	FESCUE CLOVER	2.0	DOLOMITE	60	120	60
G IF LEGUME DOES NOT MAKE SUFFICIENT GROWTH						
H	GARDEN	1.5		120	60	120
NTING. SIDEDRESS WITH 1½ QUARTS 15-0-15.						
H	ZOYSIA	2.0		80	0	40
ING GROWTH BEGINS AND APPLY 1 LB. N (3 LB. IF MORE GROWTH OR BETTER COLOR IS DESIRED, ONTH INVERVALS.						
DE. ON LAND WHERE EXCESSIVE GROWTH HAS CAUSED ROT, REDUCE THE N RATE 20 TO 30 LB. PER ACRE. NCREASE THE N RATE BY THIS AMOUNT. APPLY 0.3 LB. THE INSECTICIDE SPRAY OR DUST.						
UIVALENT TO 50 LB. PER 1000 SQ. FT.						
IS 4.						

** 7.4 or higher Alkaline
6.6 -7.3 Neutral
6.5 or lower Acid

dex (percent sufficiency)

J. L. Cope Jr.
APPROVED

SOIL TESTING FORM B

4 pounds of N, 8 pounds of P_2O_5 and 16 pounds of K_2O. Calculate the amount required to supply rates of P_2O_5 and K_2O recommended. Additional nitrogen recommended may be applied as a side or top dressing.

Lime Recommendations

Lime should not be applied without a reliable soil test. Lime requirement varies for different crops and soils and is determined by a chemical test. The rate recommended is in tons of agricultural limestone with 90% calcium carbonate equivalent and ground so that at least 90% passes a 10-mesh and 50% passes a 60-mesh sieve.

The amount of lime recommended is based on a plow depth of 6 inches. If soil is plowed to a greater depth, the rate of lime should be increased at least 1/6 for each additional inch of depth. For example, if soil is broken to a 9-inch depth the lime rate should be increased 50%. **Lime should be thoroughly mixed** with the soil of the plow layer rather than turned to the bottom of the furrow.

Calcitic and dolomitic limes are about equal in correcting soil acidity (pH). Calcitic lime supplies 700 to 800 pounds of Ca per ton; dolomitic lime supplies about 400 pounds of Ca and 240 pounds of Mg per ton. Where an acid soil tests low in Mg, dolomitic lime is recommended.

Most Frequently Recommended Ratios and Minimum Grades

$N-P_2O_5-K_2O$ ratios	Minimum grade	$N-P_2O_5-K_2O$ ratios	Minimum grade	$N-P_2O_5-K_2O$ ratios	Minimum grade
0-1-1	0-14-14	1-2-3	4- 8-12	2-1-1	12- 6- 6
0-1-2	0-10-20	1-2-4	4- 8-16	2-2-1	10-10- 5
0-2-1	0-16- 8	1-3-2	5-15-10	2-1-2	10- 5-10
1-0-1	10- 0-10	1-4-2	4-16- 8	4-1-1	16- 4- 4
1-1-1	8- 8- 8	1-4-4	5-20-20	4-1-2	16- 4- 8
1-2-2	5-10-10	1-3-3	4-12-12	4-2-1	16- 8- 4
				4-4-1	20-20- 5

Examples of Sources of Micronutrients

Element and Materials	% of Element	Pounds for 1 lb. Nutrient
Magnesium (Mg)		
Dolomitic Limestone	12	8
Magnesium Sulfate	16	6
Sulfate Potash-Magnesium	10	10
Boron (B)		
Borax	11	9
Fertilizer Borate 46	14	7
Fertilizer Borate 65	20	5
Solubor	20	5
Iron (Fe)		
Iron Sulfate	35	3
Iron Chelate	14	7
Iron Chelate	10	10
Iron Chelate	6	17
Nu-Iron	30	3
Zinc (Zn)		
Zinc Sulfate	36	3
Zinc Oxide	68	2
Zinc Chelate	14	7
Nu-Zn	52	2

For additional information contact the County Extension Chairman.

Crop Code No. 48

Roadside Turf Maintenance

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0	80- 0- 0	80- 0-40	80- 0-80	80- 0-80
High	80- 0-0	80- 0- 0	80- 0-40	80- 0-80	80- 0-80
Medium	80-40-0	80-40-40	**80-40-40**	80-40-80	80-40-80
Low	80-80-0	80-40-40	80-80-80	80-80-80	80-80-80
Very low	80-80-0	80-80-80	80-80-80	80-80-80	80-80-80

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 1
N Rate 80
PK Code No. 12

RECOMMENDATIONS FOR GARDENS AND TRUCK CROPS

Crop Code No. 60

Home Vegetable Garden

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (73)	120- 0- 0 (73)	120- 0-120 (74)	120- 0-120 (74)	120- 0-120 (74)
High	120- 0-0 (73)	120- 60- 60 (76)	120- 60-120 (77)	120- 60-120 (77)	120- 60-120 (77)
Medium	120-120-0 (79)	120-120-120 (81)	**120-120-120 (81)**	120-120-120 (81)	120-120-120 81)
Low	120-120-0 (79)	120-120-120 (81)	120-120-120 (81)	120-120-120 (81)	120-120-120 (81)
Very low	120-120-0 (79)	120-120-120 (81)	120-120-120 (81)	120-120-120 (81)	120-120-120 (81)

Final comments:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2
N Rate 120
PK Code No. 21

Crop Code No. 61

Truck Crops

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (2)	120- 0- 0 (2)	120- 0-120	120- 0-120	120- 0-180
High	120- 0-0 (2)	120- 60-60	120- 60-120	120- 60-180	120- 60-180
Medium	120-120-0	120-120-60	**120-120-120**	120-120-180	120-120-180
Low	120-180-0	120-180-90	120-180-120	120-180-180	120-180-180
Very low	120-180-0	120-180-90	120-180-120	120-180-180	120-180-180

Final remark:

71. For cauliflower, broccoli, and root crops, apply 1 lb. of boron (B) per acre.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2
N Rate 120
PK Code No. 18

Crop Code No. 62

Tomatoes

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (2)	120- 0- 0 (2)	120- 0-120	120- 0-120	120- 0-180
High	120- 0-0 (2)	120- 60-60	120- 60-120	120- 60-180	120- 60-180
Medium	120-120-0	120-120-60	**120-120-120**	120-120-180	120-120-180
Low	120-180-0	120-180-90	120-180-120	120-180-180	120-180-180
Very low	120-180-0	120-180-90	120-180-120	120-180-180	120-180-180

Comments:

89. Apply 1,000 lb. of gypsum or basic slag per acre before planting. (Calcium rated low and no lime recommended.)

90. Apply 500 lb. of gypsum or basic slag per acre before planting. (Calcium rated medium and no lime recommended.)

P and K Requirement Level 3
Lime Recommendation Code No. 2
Magnesium Recommendation Code No. 2
N Rate 120
PK Code No. 18

Crop Code No. 63

STRAWBERRIES

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0	120- 0- 0	120- 0-120	120- 0-120	120- 0-180
High	120- 0-0	120- 60-60	120- 60-120	120- 60-180	120- 60-180
Medium	120-120-0	120-120-60	**120-120-120**	120-120-180	120-120-180
Low	120-180-0	120-180-90	120-180-120	120-180-180	120-180-180
Very low	120-180-0	120-180-90	120-180-120	120-180-180	120-180-180

COMMENT:

87. Apply ⅓ of the fertilizer in September, ⅓ about 90 days before ripening, and the remainder after harvesting.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2
N Rate 120
PK Code No. 18

Crop Code No. 64

IRISH POTATOES

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 50-0	120- 50- 50	120- 50-100	120- 50-150	120- 50-150
High	120-100-0	120-100-100	120-100-150	120-100-200	120-100-200
Medium	120-150-0	120-150-100	**120-150-150**	120-120-180	120-120-180
Low	120-200-0	120-200-100	120-180-120	120-200-200	120-200-200
Very low	120-200-0	120-200-100	120-180-120	120-200-200	120-200-200

FINAL REMARK:

88. Where Irish potatoes are grown in rotation with other crops, follow lime recommendation for potatoes.

P and K Requirement Level 3
Lime Recommendation Code No. 4
Magnesium Recommendation Code No. 3
N Rate 120
PK Code No. 17

Crop Code No. 65

WATERMELONS, CANTALOUPES, LIMA BEANS, SNAP BUNCH BEANS, SQUASH, OKRA, AND SWEETPOTATOES

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very Low
	Pounds N-P_2O_5-K_2O per acre				
Very high	80- 0-0 (2)	80- 0- 0 (2)	80- 0-80	80- 0-120	80- 0-120
High	80- 0-0 (2)	80- 40-40	80- 40-80	80- 60-120	80- 60-120
Medium	80- 80-0	80- 80-40	**80- 80-80**	80- 80-120	80- 80-120
Low	80-120-0	80-120-60	80-120-80	80-120-120	80-120-120
Very low	80-120-0	80-120-60	80-120-80	80-120-120	80-120-120

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2
N Rate 80
PK Code No. 19

Crop Code No. 66

Sweet Corn

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	150- 0-0	150- 0- 0	150- 0-60	150- 0- 90	150- 0-120
High	150- 0-0	150- 30-30	150- 40-60	150- 45- 90	150- 40-120
Medium	150- 60-0	150- 60-40	**150- 60-60**	150- 60- 90	150- 60-120
Low	150-100-0	150-100-50	150- 90-60	150- 90- 90	150-120-120
Very low	150-120-0	150-120- 0	150-120-60	150-120-120	150-140-140

Comment:

91. Apply 3 lb. of zinc (Zn) per acre in corn fertilizer.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 150
PK Code No. 2

Crop Code No. 67

Pepper, Pimiento

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds $N-P_2O_5-K_2O$ per acre				
Very high	100- 0-0	100- 0-60	100- 0-120	100- 0-180	100- 0-180
High	100- 60-0	100- 60-60	100- 60-120	100- 60-180	100- 60-180
Medium	100-120-0	100-120-60	**100-120-120**	100-120-180	100-120-180
Low	100-180-0	100-180-60	100-180-120	100-180-180	100-180-180
Very low	100-180-0	100-180-60	100-180-120	100-180-180	100-180-180

P and K Requirement Level 3
Lime Recommendation Code No. 2
Magnesium Recommendation Code No. 2

N Rate 100
PK Code No. 18

RECOMMENDATIONS FOR SHRUBS AND FLOWERS

Crop Code No. 80

Shrubs and Perennial Flowers

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (92)	120- 0- 0 (92)	120- 0- 60 (93)	120- 0-120 (94)	120- 0-120 (94)
High	120- 0-0 (92)	120- 60- 60 (95)	120- 60- 60 (95)	120- 60-120 (96)	120- 60-120 (96)
Medium	120-120-0 (97)	120- 60- 60 (95)	**120-120-120** (**99**)	120-120-120 (99)	120-120-120 (99)
Low	120-120-0 (97)	120-120-120 (99)	120-120-120 (99)	120-120-120 (99)	120-120-120 (99)
Very low	120-120-0 (97)	120-120- 0 (97)	120-120-120 (99)	120-120-120 (99)	120-120-120 (99)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 120
PK Code No. 16

Crop Code No. 81

Azaleas, Rhododendron, and Mountain Laurel

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (92)	120- 0- 0 (92)	120- 0- 60 (93)	120- 0-120 (94)	120- 0-120 (94)
High	120- 0-0 (92)	120- 60- 60 (95)	120- 60- 60 (95)	120- 60-120 (96)	120- 60-120 (96)
Medium	120-120-0 (97)	120- 60- 60 (95)	**120-120-120** (**99**)	120-120-120 (99)	120-120-120 (99)
Low	120-120-0 (97)	120-120-120 (99)	120-120-120 (99)	120-120-120 (99)	120-120-120 (99)
Very low	120-120-0 (97)	120-120- 0 (97)	120-120-120 (99)	120-120-120 (99)	120-120-120 (99)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 4
Magnesium Recommendation Code No. 2

N Rate 120
PK Code No. 16

Crop Code No. 82

Roses, Mums, and Annual Flowers

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	120- 0-0 (103)	120- 0- 0 (103)	120- 0- 60 (104)	120- 0-120 (105)	120- 0-120 (105)
High	120- 0-0 (103)	120- 60- 60 (106)	120- 60- 60 (106)	120- 60-120 (107)	120- 60-120 (107)
Medium	120-120-0 (108)	120- 60- 60 (106)	**120-120-120 (110)**	120-120-120 (110)	120-120-120 (110)
Low	120-120-0 (108)	120-120-120 (110)	120-120-120 (110)	120-120-120 (110)	120-120-120 (110)
Very low	120-120-0 (108)	120-120- 0 (108)	120-120-120 (110)	120-120-120 (110)	120-120-120 (110)

Final remark:

26. 1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft.

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 120
PK Code No. 16

Crop Code No. 83

Greenhouse Crops (Annuals)

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	240- 0-0 (202)	240- 0-120 (203)	240- 0-120 (203)	240- 0-240 (204)	240- 0-240 (204)
High	240-120-0 (205)	240-120-120 (206)	240-120-120 (206)	240-120-240 (207)	240-120-240 (207)
Medium	240-120-0 (205)	240-120-120 (206)	**240-240-240 (208)**	240-240-240 (208)	240-240-240 (208)
Low	240-240-0 (209)	240-240-120 (210)	240-240-240 (208)	240-240-240 (208)	240-240-240 (208)
Very low	240-240-0 (209)	240-240-120 (210)	240-240-240 (208)	240-240-240 (208)	240-240-240 (208)

Comments:

201. To correct acidity, apply dolomitic limestone as recommended. 1.0 ton per acre is 5 lb. per 2 cu. yd. or per 100 sq. ft.

211. The soluble salts reading is .....

P and K Requirement Level 3
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 2

N Rate 240
PK Code No. 22

RECOMMENDATIONS FOR FRUITS AND NUTS

Crop Code No. 90

PEACHES

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	*- 0-0	*- 0-0	*- 0-30 (115)	*- 0-60 (116)	*- 0-60 (116)
High	*- 0-0	*- 0-0	*- 0-30 (115)	*- 0-60 (116)	*- 0-60 (116)
Medium	*-30-0 (117)	*-30-0 (117)	***-30-30 (118)**	*-30-60 (119)	*-30-60 (119)
Low	*-60-0 (120)	*-60-0 (120)	*-60-30 (121)	*-60-60 (122)	*-90-90 (123)
Very low	*-60-0 (120)	*-60-0 (120)	*-60-30 (121)	*-90-90 (123)	*-90-90 (123)

FINAL REMARK:

*114. For peaches apply P_2O_5 and K_2O as recommended above plus 0.1 lb. N (0.3 lb. ammonium nitrate or equivalent) per tree per year of tree age up to a maximum of 1.0 lb. N (3 lb. ammonium nitrate or equivalent) per tree.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 3
N Rate ..... *
PK Code No. 20

Crop Code No. 91

MUSCADINE — SCUPPERNONG

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	*- 0-0	*- 0-0	*- 0-30 (115)	*- 0-60 (116)	*- 0-60 (116)
High	*- 0-0	*- 0-0	*- 0-30 (115)	*- 0-60 (116)	*- 0-60 (116)
Medium	*-30-0 (117)	*-30-0 (117)	***-30-30 (118)**	*-30-60 (119)	*-30-60 (119)
Low	*-60-0 (120)	*-60-0 (120)	*-60-30 (121)	*-60-60 (122)	*-90-90 (123)
Very low	*-60-0 (120)	*-60-0 (120)	*-60-30 (121)	*-90-90 (123)	*-90-90 (123)

FINAL REMARK:

*124. For muscadines or scuppernongs apply P_2O_5 and K_2O as recommended above plus 0.05 lb. N (.15 lb. ammonium nitrate or equivalent) per vine per year of vine age up to a maximum of ½ lb. N (1.5 lb. ammonium nitrate or equivalent) per vine in early spring.

P and K Requirement Level 2
Lime Recommendation Code No. 1
Magnesium Recommendation Code No. 3
N Rate ..... *
PK Code No. 20

Crop Code No. 92

Apples — Pears

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	*- 0-0	*- 0-0	*- 0-30 (126)	*- 0-60 (127)	*- 0-60 (127)
High	*- 0-0	*- 0-0	*- 0-30 (126)	*- 0-60 (127)	*- 0-60 (127)
Medium	*-30-0 (128)	*-30-0 (128)	***-30-30 (129)**	*-30-60 (130)	*-30-60 (130)
Low	*-60-0 (131)	*-60-0 (131)	*-60-30 (132)	*-60-60 (133)	*-90-90 (134)
Very low	*-60-0 (131)	*-60-0 (131)	*-60-30 (132)	*-90-90 (134)	*-90-90 (134)

Final remark:

*125. For apples or pears apply P_2O_5 and K_2O as recommended above plus 0.1 lb. N (0.3 lb. ammonium nitrate or equivalent) per tree for each year of tree age up to a maximum of 1 lb. of N (3 lb. ammonium nitrate or equivalent) per tree on semidwarf root stock and 2 lb. of N for trees on seedling root stock. Adjust the rate of N to give desirable fruit color and 12 to 18 inches of growth annually. If borated fertilizer is not used to supply boron (B), apply borax at the rate of 2.0 lb. (B) per acre or 5 tablespoons borax per tree. To correct zinc (Zn) deficiency in apples, apply 0.3 lb. zinc (1.0 lb. zinc sulfate) per tree. To prevent zinc deficiency, apply 0.15 lb. zinc (½ lb. zinc sulfate) per tree.

P and K Requirement Level.....2
Lime Recommendation Code No.....1
Magnesium Recommendation Code No.....3

N Rate..... *
PK Code No.....20

Crop Code No. 93

Plums

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	*- 0-0	*- 0-0	*- 0-30 (126)	*- 0-60 (127)	*- 0-60 (127)
High	*- 0-0	*- 0-0	*- 0-30 (126)	*- 0-60 (127)	*- 0-60 (127)
Medium	*-30-0 (128)	*-30-0 (128)	***-30-30 (129)**	*-30-60 (130)	*-30-60 (130)
Low	*-60-0 (131)	*-60-0 (131)	*-60-30 (132)	*-60-60 (133)	*-90-90 (134)
Very low	*-60-0 (131)	*-60-0 (131)	*-60-30 (132)	*-90-90 (134)	*-90-90 (134)

Final remark:

*135. For plums apply P_2O_5 and K_2O as recommended above plus 0.1 lb. N (0.3 lb. ammonium nitrate or equivalent) per tree per year of tree age up to a maximum of 1.0 lb. N (3 lb. ammonium nitrate or equivalent) per tree. If borated fertilizer is not used to supply boron, apply 1.0 lb. boron (B) per acre or 5 tablespoons borax per tree.

P and K Requirement Level.....2
Lime Recommendation Code No.....1
Magnesium Recommendation Code No.....3

N Rate..... *
PK Code No.....20

Crop Code No. 94

PECANS

Phosphorus	Potassium				
	Very high	High	Medium	Low	Very low
	Pounds N-P_2O_5-K_2O per acre				
Very high	*- 0-0	*- 0-0	*- 0-30	*- 0-60	*- 0-60
High	*- 0-0	*- 0-0	*- 0-30	*- 0-60	*- 0-60
Medium	*-30-0	*-30-0	***-30-30**	*-30-60	*-30-60
Low	*-60-0	*-60-0	*-60-30	*-60-60	*-90-90
Very low	*-60-0	*-60-0	*-60-30	*-90-90	*-90-90

FINAL REMARK:

*136. For pecan trees 20 years old or more, apply 8 to 10 lb. of N (30 lb. ammonium nitrate or equivalent) per tree or 100 lb. per acre broadcast in February. For younger trees, apply 0.5 lb. N (1.5 lb. ammonium nitrate or equivalent) per year of tree age. For trees showing zinc deficiency (Rosette) apply 0.25 lb. of zinc per year of tree age up to 3 lb. per tree. To prevent Rosette apply 0.75 lb. of zinc per tree or 3 lb. every 5 years. P and K requirements of pecans are low compared to most other crops. Full benefit from fertilization will not be obtained unless a good spray program for disease and insect control is followed.

P and K Requirement Level.....2
Lime Recommendation Code No.....1
Magnesium Recommendation Code No.....3
N Rate.....*
PK Code No.....20

Crop Code No. 99

This crop code number is used primarily for research samples. The computer prints pounds per acre of soil-test P, K, Ca, and Mg and soil pH on regular soil-test forms. This code can also be used on other samples when this information is desired.

LIME RECOMMENDATION CODES

Code	Lime if below	Lime to	Crops
1*	5.8	6.5	All except those listed below
2	6.0	6.5	Tomatoes, pepper, eggplant and white clover
3	6.0	7.0	Alfalfa
4	5.0	5.5	Irish potatoes, azaleas, tobacco
5	5.5	6.5	Coastal bermuda, common bermuda, bahia, dallisgrass, lawns, fairways, athletic fields

* Code 1 crops are moved to Code 5 when grown on fine textured soils of Soil Group 5.

MAGNESIUM RECOMMENDATION CODES

1. If magnesium is low and lime is recommended, use dolomite.
   If magnesium is low and lime is not recommended, do not mention magnesium.
   (These crops have not been shown to respond to magnesium.)
2. If magnesium is low and lime is recommended, use dolomite.
   If magnesium is low and lime is not recommended, use 25 lb. soluble magnesium.
   (Cotton, vegetable crops, orchards, shrubs and flowers, and tobacco.)
3. If lime is recommended, always recommend dolomite.
   If lime is not recommended and Mg is low, use 25 lb. soluble magnesium.
   (These crops have a high magnesium requirement.)

POUNDS PER ACRE OF SOIL TEST P, K, Ca, AND Mg ON WHICH SOIL-TEST RATINGS ARE BASED

P and K Requirement Level 1. (Corn and other grasses)

Soil group	Phosphorus					Potassium				
	VL	L	M	H	VH	VL	L	M	H	VH
1	0-12*	13-25	26-50	51-100	101+	0-20	21-40	41- 80	81-160	161+
2,3,4	0-12	13-25	26-50	51-100	101+	0-30	31-60	61-120	121-240	241+
5	0- 7	8-15	16-30	31- 60	61+	0-40	41-80	81-160	161-320	321+

P and K Requirement Level 2. (Cotton and legumes)

Soil group	Phosphorus					Potassium				
	VL	L	M	H	VH	VL	L	M	H	VH
1	0-12	13-25	26-50	51-100	101+	0-30	31- 60	61-120	121-240	241+
2,3,4	0-12	13-25	26-50	51-100	101+	0-45	46- 90	91-180	181-360	361+
5	0- 7	8-15	16-30	31- 60	61+	0-60	61-120	121-240	241-480	481+

P and K Requirement Level 3. (Gardens, lawns, shrubs, etc.)

Soil group	Phosphorus					Potassium					
	VL	L	M	H	VH	EH	VL	L	M	H	VH
1	0-25	26-50	51-100	101-200	201-400	401+	0-30	31- 60	61-120	121-240	241+
2,3,4	0-25	26-50	51-100	101-200	201-400	401+	0-45	46- 90	91-180	181-360	361+
5	0-15	16-30	31- 60	61-120	121-240	241+	0-60	61-120	121-240	241-480	481+

	Magnesium (all crops)			Calcium (all soils)			
	L	H		L	M	H
Soil Group 1	0-25	26+	Peanuts	0-175	176-300	301+
Other Soils	0-50	51	Tomatoes	0-300	301-500	501+

* Numbers are pounds per acre of P, K, and Mg extracted in a 4 to 1 solution—soil ratio of .05 N HCl—.025 N H_2SO_4, shaken for 5 minutes. Ca is extracted by the same procedure with 1 N NH_4OAc at pH 7.0.

PK Codes for the Various Crop Classes

Code No.	1	2	3	4	5
Crops	06—White clover 07—White clover S. grass 08—White clover W. grass	04—Ann. grass pasture 05—W. grass legume 10—Cotton 12—Cotton (SM) 27—Temp. w. grass 66—Sweet corn	03—W. grass small grain 09—S. grass legume 19—Annual legume 20—Sou. peas	01—Summer grass 13—Corn 15—Corn (SM) 16—Silage 21—Sorghum sunflowers	17—Peanuts 23—Sericea kudzu 24—Soybeans

	Pounds per acre									
Ratings	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O
VH-VH	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0
M	0	80	0	60	0	50	0	40	0	40
L	0	120	0	90	0	100	0	80	0	80
VL	0	180	0	120	0	100	0	80	0	120
H-VH	0	0	0	0	0	0	0	0	0	0
H	40	40	30	30	30	30	20	20	0	0
M	40	80	40	60	30	60	30	45	0	40
L	50	100	45	90	40	80	30	60	0	80
VL	0	180	40	120	0	100	30	60	0	120
M-VH	80	0	60	0	50	0	40	0	40	0
H	80	40	60	40	60	30	45	30	40	0
M	80	80	60	60	50	50	40	40	40	40
L	60	120	60	90	40	80	40	60	40	80
VL	80	160	60	120	50	100	40	80	50	100
L-VH	120	0	100	0	80	0	60	0	80	0
H	120	60	100	50	80	40	60	30	80	0
M	120	60	90	60	80	40	60	40	80	40
L	120	120	90	90	80	80	60	60	80	80
VL	160	160	120	120	100	100	80	80	100	100
VL-VH	180	0	120	0	100	0	80	0	120	0
H	180	0	120	0	100	0	80	0	120	0
M	160	80	120	60	100	50	80	40	120	60
L	160	160	120	120	100	100	80	80	100	100
VL	180	180	140	140	120	120	80	80	120	120

PK Codes for the Various Crop Classes (Continued)

Code No.	6		7		8		9		10	
Crops	02—Coastal hay		22—Alfalfa		26—Tobacco		25—S. Grain soybeans rotation		14—Corn peanuts rotation	
	Pounds per acre									
Ratings	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O
VH-VH	0	0	0	0	60	60	0	0	0	0
H	0	50	0	0	60	60	0	0	0	0
M	0	100	0	150	60	90	0	60	0	60
L	0	200	0	240	60	120	0	100	0	120
VL	0	300	0	300	60	120	0	150	0	120
H-VH	0	0	0	0	60	60	0	0	0	0
H	25	50	40	80	90	90	50	50	20	20
M	25	100	60	120	100	150	50	75	30	60
L	25	200	40	240	90	180	50	100	40	80
VL	25	300	40	300	90	180	50	150	40	80
M-VH	50	0	80	0	90	60	100	0	60	0
H	50	50	80	80	100	100	100	50	60	30
M	50	100	80	160	100	150	100	100	60	60
L	50	200	100	200	100	200	100	150	60	120
VL	50	300	80	300	100	200	100	150	60	120
L-VH	75	0	120	0	120	60	150	0	120	0
H	75	50	120	60	120	120	150	50	120	60
M	100	100	120	120	120	180	150	100	120	80
L	100	200	120	240	120	180	150	150	120	120
VL	100	300	150	300	120	180	150	150	120	120
VL-VH	100	0	200	0	120	60	200	0	120	0
H	100	50	200	100	120	120	200	0	120	60
M	100	100	200	200	120	180	200	100	120	80
L	100	200	240	240	120	180	200	200	120	120
VL	100	300	240	240	120	180	200	200	120	120

PK Codes for the Various Crop Classes (Continued)

Code No.	11		12		13		14		15	
Crops	11—Cotton peanuts rotation 18—Small grain peanuts rotation		40—Bermuda lawn 41—Zoysia St. Augustine 43—W. lawn 45—Golf fairways 46—Athletic fields 48—Hwy. maint.		42—Centipede		44—Golf greens		47—Hwy. turf, est.	
	Pounds per acre									
Ratings	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O
VH-VH	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0
M	0	80	0	40	0	40	0	100	0	80
L	0	160	0	80	0	40	0	200	0	160
VL	0	160	0	80	0	40	0	200	0	160
H-VH	0	0	0	0	0	0	0	0	0	0
H	40	40	0	0	0	0	50	50	40	40
M	40	80	0	40	0	40	50	100	40	80
L	60	120	0	80	0	40	50	200	40	160
VL	60	120	0	80	0	40	50	200	40	160
M-VH	80	0	40	0	0	0	100	0	80	0
H	80	40	40	40	0	0	100	100	80	40
M	80	80	40	40	40	40	100	100	80	80
L	80	120	40	80	40	40	100	200	80	160
VL	80	160	40	80	40	40	100	200	80	160
L-VH	160	0	80	0	40	0	200	0	160	0
H	160	80	40	40	40	40	200	100	160	40
M	150	100	80	80	40	40	200	100	160	80
L	160	160	80	80	40	40	200	200	160	160
VL	160	160	80	80	40	40	200	200	160	160
VL-VH	160	0	80	0	40	0	200	0	160	0
H	160	80	80	80	40	40	200	100	160	40
M	150	100	80	80	40	40	200	100	160	80
L	160	160	80	80	40	40	200	200	160	160
VL	160	160	80	80	40	40	200	200	160	160

PK Codes for the Various Crop Classes (Continued)

Code No.	16		17		18		19		20	
Crops	80—Shrubs and per. flowers 81—Rhodedenrons mountain laurel azaleas 82—Roses, mums, ann. flowers		64—Irish potatoes		60—Home garden 61—Truck crops 62—Tomatoes 63—Strawberries 68—Pepper pimento		65—Sw. pot. watermelons cantaloupes lima beans bunch, snap beans squash okra		90—Peaches 91—Muscadines scuppernongs 92—Apples pears 93—Plums 94—Pecans	
	Pounds per acre									
Ratings	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O	P_2O_5	K_2O
VH-VH	0	0	50	0	0	0	0	0	0	0
H	0	0	50	50	0	0	0	0	0	0
M	0	60	50	100	0	120	0	80	0	30
L	0	120	50	150	0	120	0	120	0	60
VL	0	120	50	150	0	180	0	120	0	60
H-VH	0	0	100	0	0	0	0	0	0	0
H	60	60	100	100	60	60	40	40	0	0
M	60	60	100	150	60	120	40	80	0	30
L	60	120	100	200	60	180	60	120	0	60
VL	60	120	100	200	60	180	60	120	0	60
M-VH	120	0	150	0	120	0	80	0	30	0
H	60	60	150	100	120	60	80	40	30	0
M	120	120	150	150	120	120	80	80	30	30
L	120	120	120	180	120	180	80	120	30	60
VL	120	120	120	180	120	180	80	120	30	60
L-VH	120	0	200	0	180	0	120	0	60	0
H	120	120	200	100	180	90	120	60	60	0
M	120	120	180	120	180	120	120	80	60	30
L	120	120	200	200	180	180	120	120	60	60
VL	120	120	200	200	180	180	120	120	90	90
VL-VH	120	0	200	0	180	0	120	0	60	0
H	120	0	200	100	180	90	120	60	60	0
M	120	120	180	120	180	120	120	80	60	30
L	120	120	200	200	180	180	120	120	90	90
VL	120	120	200	200	180	180	120	120	90	90

CONVERSION TABLE FOR CHANGING SOIL-TEST P AND K TO FERTILITY INDEX FOR THE DIFFERENT SOIL GROUPS[1]

Fertility index	Soil Group		Soil Group		
	1,2,3,4	5	1	2,3,4	5
	Lb. per A.			Lb. per A.	
Very low	Soil-Test P			Soil-Test K	
0	0	0	0-20	0-30	0-40
10	1-2	1	21-22	31-34	41-46
20	3-4	2	23-24	35-38	47-52
30	5-7	3	25-26	39-42	53-58
40	8-10	4-5	27-28	43-46	59-64
50	11-12	6-7	29-30	47-50	65-70
Low					
60	13-19	8-11	31-45	51-70	71-95
70	20-25	12-15	46-60	71-90	96-120
Medium					
80	26-34	16-21	61-80	91-120	121-166
90	34-43	22-26	81-100	121-150	167-212
100	44-50	27-30	101-120	151-180	213-240
High					
110-200	51-100	31-60	121-240	181-360	241-480
Very high					
210-400	101-200	61-120	241-480	361-720	481-960
Extremely high					
410 up	201+	121+	481+	721+	961+

[1] The fertility index (percent sufficiency) is based on P and K Requirement Level 2 (Cotton and legumes).

COMMENTS USED ON SOIL TEST REPORTS

Comment number	
	Field Crops, Forage Crops and Pastures
1	On summer grass pastures apply 60 lb. of N and P and K as recommended before growth starts and repeat the N application when more growth is desired up to September 1 (01).
2	Where no P or K are recommended, sample again in 2 years (01 through 25, 41, 42).
3	Rates of P_2O_5 and K_2O recommended may be doubled and applied broadcast in alternate years (01 through 21).
4	Phosphorus (P_2O_5) rate may be doubled and applied every other year (02).
5	Apply 60 to 80 lb. of N and P and K as recommended by September 1. Repeat N application in February.
6	For temporary summer grass or Johnsongrass, apply 100 lb. of N and P and K as recommended before spring growth begins. Apply 100 lb. of N each time hay is cut or forage is grazed down.
7	For reseeding clover, or where clover seed are to be harvested, apply 1.0 to 1.5 lb. boron (B) per acre (06, 07, 08, 19).
8	Where legume does not furnish sufficient N for desired growth of grass, apply 60 lb. of N each time forage is grazed down or cut for hay (05, 07, 09).
9	On grass-legume mixtures, where legume does not furnish sufficient N for desired growth of grass, apply 60 lb. of N in early fall and repeat if needed in early spring (08, 09).
10	For cotton, use the nitrogen (N) rate as a guide. On land where excessive growth has caused problems with late maturity, insects, or boll rot, reduce the N rate 20 to 30 lb. per acre. Where vegetative growth has been inadequate, increase the N rate by this amount. Apply 0.3 lb. of boron (B) per acre in the fertilizer or in the insecticide, spray or dust.
11	For peanuts apply 0.3 to 0.5 lb. of boron (B) per acre in the fertilizer, gypsum, or disease control spray or dust (11, 14, 17, 18).
13	Apply 250 lb. of gypsum at blooming time (11, 14, 17, 18).
14	Apply 500 lb. of gypsum at blooming time (11, 14, 17, 18).
15	For corn on sandy soils apply 3 lb. zinc (Zn) per acre in fertilizer after liming or where pH is above 6.0 (Comment to be used only on Class 1 and 4 soils) (13 through 16).
16	If silage is grown on this field for more than 1 year, increase the rate of K_2O to 100 lb. after the first year (16).
17	If silage is grown on this field for more than one year, increase the rate of P_2O_5 and K_2O to 50 lb. each after the first year (16).
18	If silage is grown on this field more than one year, increase rate of P_2O_5 to 50 lb. and rate of K_2O to 100 lb. per acre after the first year (16).
19	If silage is grown on this field for more than one year, increase the rate of P_2O_5 to 100 lb. after the first year (16).
20	If silage is grown on this field for more than one year, increase the rate of P_2O_5 to 100 lb. and K_2O to 50 lb. after the first year (16).

Comment number	
21	If silage is grown on this field more than one year, increase the rates of P_2O_5 and K_2O to 100 lb. per acre after the first year (16).
22	For coastal bermuda hay, apply 100 lb. of N and P and K as recommended before spring growth begins. Apply 100 lb. of N each time hay is cut (02).
23	For alfalfa apply 3 lb. of boron (B) per acre annually (22).
24	Fertilizer recommended should be sufficient for 2 years (23).
25	Fertilizer applied to small grain should be sufficient for soybeans (25).
	Lawns, Golf Courses, Athletic Fields and Roadsides
26	1.0 ton limestone per acre is approximately equivalent to 50 lb. per 1,000 sq. ft. (40 through 44, 60, 80 through 82).
27	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) when spring growth begins and repeat in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals (40, 41).
28	Per 1,000 sq. ft. apply 6 lb. 15-0-15 when spring growth begins and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals (40, 41).
29	Per 1,000 sq. ft. apply 6 lb. 15-0-15 when spring growth begins and repeat in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals (40-41).
30	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) and 5 lb. superphosphate when spring growth begins and apply 1 lb. N in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals (40-41).
31	Per 1,000 sq. ft. apply 12 lb. 8-8-8 when spring growth begins and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals (40-41).
32	Per 1,000 sq. ft. apply 12 lb. 8-8-8 when spring growth begins and apply 6 lb. 15-0-15 in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals (40-41).
33	Per 1,000 sq. ft. apply 10 lb. superphosphate and 1 lb. N (3 lb. ammonium nitrate or equivalent) when spring growth begins and apply 1 lb. N in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals (40-41).
34	For small grains or ryegrass planted for grazing on fallowed fields in early September, apply 100 lb. of N at planting and repeat in early spring. Crops grown for grain only should receive 20 lb. of N in the fall and 60 lb. in the spring (25, 27).
35	Per 1,000 sq. ft. apply 12 lb. 8-8-8 when spring growth begins and

Comment number	
	repeat in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals (40-41).
36	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) when spring growth begins and repeat in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals. Phosphorus is excessive and fertilizer containing this element should not be used. Excessive phosphorus may cause an iron deficiency. The symptoms normally occur as a general yellowing of new growth. To correct, spray with a soluble source of iron which can be found at garden supply stores. USE AS DIRECTED (41).
37	Per 1,000 sq. ft. apply 6 lb. 15-0-15 when spring growth begins and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N at 2-month intervals. Phosphorus is excessive and fertilizer containing this element should not be used. Excessive phosphorus may cause an iron deficiency. The symptoms normally occur as a general yellowing of new growth. To correct, spray with a soluble source of iron which can be found at garden supply stores. USE AS DIRECTED (41).
38	Per 1,000 sq. ft. apply 6 lb. 15-0-15 when spring growth begins and repeat in mid-summer. If more growth or better color is desired, make additional applications of 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals. Phosphorus is excessive and fertilizer containing this element should not be used. Excessive phosphorus may cause an iron deficiency. The symptoms normally occur as a general yellowing of new growth. To correct, spray with a soluble source of iron which can be found at garden supply stores. USE AS DIRECTED (41).
39	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) when spring growth begins and repeat in mid-summer. Phosphorus is excessive and fertilizer containing this element should not be used. Excessive phosphorus may cause an iron deficiency. The symptoms normally occur as a general yellowing of new growth. To correct, spray with a soluble source of iron which can be found at garden supply stores. USE AS DIRECTED (42).
40	Per 1,000 sq. ft. apply 6 lb. 15-0-15 when spring growth begins and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in mid-summer. Phosphorus is excessive and fertilizer containing this element should not be used. Excessive phosphorus may cause an iron deficiency. This normally occurs as a general yellowing of new growth. To correct, spray with a soluble source of iron which can be found at garden supply stores. USE AS DIRECTED (42).
41	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) when spring growth begins and repeat in mid-summer (42).

Comment number	
42	Per 1,000 sq. ft. apply 6 lb. 15-0-15 when spring growth begins and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in mid-summer (42).
43	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) and 5 lb. superphosphate when spring growth begins and apply 1 lb. N in mid-summer (42).
44	Per 1,000 sq. ft. apply 12 lb. 8-8-8 when spring growth begins and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in mid-summer (42).
45	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in the fall and repeat in the spring. If more growth or better color is desired, add 1 lb. N at 2-month intervals (43).
46	Per 1,000 sq. ft. apply 6 lb. 15-0-15 in the fall and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in the spring. If more growth or better color is desired, add 1 lb. N at 2-month intervals (43).
47	Per 1,000 sq. ft. apply 6 lb. 15-0-15 in the fall and repeat in the spring. If more growth or better color is desired, add 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals (43).
48	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) and 5 lb. superphosphate in the fall and apply 1 lb. N in the spring. If more growth or better color is desired, add 1 lb. N at 2-month intervals (43).
49	Per 1,000 sq. ft. apply 12 lb. 8-8-8 in the fall and apply 1 lb. N (3 lb. ammonium nitrate or equivalent) in the spring. If more growth or better color is desired, add 1 lb. N at 2-month intervals (43).
50	Per 1,000 sq. ft. apply 12 lb. 8-8-8 in the fall and apply 6 lb. 15-0-15 in the spring. If more growth or better color is desired, add 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals (43).
51	Per 1,000 sq. ft. apply 10 lb. superphosphate and 1 lb. N (3 lb. ammonium nitrate or equivalent) in the fall and apply 1 lb. N in the spring. If more growth or better color is desired, add 1 lb. N at 2-month intervals (43).
52	Per 1,000 sq. ft. apply 12 lb. 0-16-8 and 1 lb. N (3 lb. ammonium nitrate or equivalent) in the fall and apply 1 lb. N in the spring. If more growth or better color is desired, add 1 lb. N at 2-month intervals (43).
53	Per 1,000 sq. ft. apply 12 lb. 8-8-8 in the fall and repeat in the spring. If more growth or better color is desired, add 1 lb. N (3 lb. ammonium nitrate or equivalent) at 2-month intervals (43).
54	Per 1,000 sq. ft. apply 1 lb. N (3 lb. ammonium nitrate or equivalent) every 4 weeks, or as needed to maintain desired growth and color (44).
55	Per 1,000 sq. ft. apply 8 lb. of 15-0-15 in the spring and repeat in the fall. Apply 1 lb. N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
56	Per 1,000 sq. ft. apply 6 lb. 15-0-15 in the spring and repeat every

Comment number	
	2 months for a total of 4 applications. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color. (44).
57	Per 1,000 sq. ft. apply 6 lb. of superphosphate. Apply 1¼ lb. of N (4 lb. ammonium nitrate or equivalent) at 6-week intervals for a total of 8 applications (44).
58	Per 1,000 sq. ft. apply 14 lb. 8-8-8. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
59	Per 1,000 sq. ft. apply 14 lb. 8-8-8 in the spring and 6 lb. in the fall. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
60	Per 1,000 sq. ft. apply 4 lb. of 8-8-8 in the spring and 4 applications of 6 lb. 15-0-15 at 2-month intervals. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
61	Per 1,000 sq. ft. apply 6 lb. of superphosphate in the spring and repeat in the fall. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
62	Per 1,000 sq. ft. apply 14 lb. of 8-8-8 in the spring and repeat in the fall. Apply 1 lb. N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
63	Per 1,000 sq. ft. apply 14 lb. 8-8-8 in the spring and repeat in the fall. Apply 2 applications of 6 lb. 15-0-15 at 2-month intervals. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
64	Per 1,000 sq. ft. apply 12 lb. of superphosphate in the spring and repeat in the fall. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
65	Per 1,000 sq. ft. apply 12 lb. superphosphate in the spring to build up soil phosphorus. Apply 14 lb. of 8-8-8 in the spring and repeat in the fall. Apply 1 lb. N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color (44).
66	Per 1,000 sq. ft. apply 14 lb. 8-8-8 in the spring and at 2-month intervals for 4 applications. Apply 1 lb. of N (3 lb. ammonium nitrate or equivalent) at 4-week intervals or as needed to maintain desired growth and color.
67	On fairways, apply 60 lb. of N with the recommended rates of P_2O_5 and K_2O in the spring. Apply additional N as needed at the rate of 60 lb. per acre per application (45).
68	For athletic fields, nitrogen should be divided into 4 applications at 2-month intervals beginning in March. Apply additional nitrogen

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	at the rate of 50 lb. of N (150 lb. ammonium nitrate or equivalent) per acre if needed to maintain desired growth and color. A football field plus 20 feet on all sides is about 2 acres.
69	Before planting turf, mix recommended lime, phosphorus, potassium, and 80 lb. of N into the surface soil before planting. One month after planting, apply 40 lb. of N (47).
70	After establishing turf as recommended above, apply 40 lb. each of N, P_2O_5, K_2O at 6-month intervals (47).
	Gardens and Truck Crops
71	For cauliflower, broccoli and root crops, apply 1 lb. of boron (B) per acre (61).
73	Per 100 ft. of row, apply 0.4 lb. N (1 pint ammonium nitrate or equivalent) at planting. Sidedress with 0.4 lb. N (60).
74	Per 100 ft. of row, apply 1½ quarts 15-0-15 at planting. Sidedress with 1½ quarts 15-0-15 (60).
76	Per 100 ft. of row, apply 2½ quarts 8-8-8 at planting. Sidedress with 0.4 lb. N (1 pint ammonium nitrate or equivalent) (60).
77	Per 100 ft. of row apply 2½ quarts 8-8-8 at planting. Sidedress with 1½ quarts 15-0-15 (60).
79	Per 100 ft. of row apply 2 quarts of superphosphate and 0.4 lb. N (1 pint ammonium nitrate or equivalent) at planting. Sidedress with 0.4 lb. N (60).
81	Per 100 ft. of row apply 3 quarts 8-8-8 at planting. Sidedress with 2 quarts 8-8-8 (60).
87	Apply about ⅓ of the fertilizer in September, about ⅓ 90 days before ripening and the remainder after harvesting (63).
88	Where Irish potatoes are grown in rotation with other crops, follow lime recommendation for potatoes (64).
89	Apply 1,000 lb. of gypsum per acre to tomatoes before planting (Calcium rated low and no lime recommended) (62).
90	Apply 500 lb. of gypsum per acre to tomatoes before planting (Calcium rated medium and no lime recommended) (62).
91	Apply 3 lb. of zinc (Zn) per acre in corn fertilizer (66).
	Shrubs and Flowers
92	Per 100 sq. ft. apply 1 cup ammonium nitrate or equivalent in early spring and repeat in early summer (80-81).
93	Per 100 sq. ft. apply 1 pint 15-0-15 in early spring and then apply 1 cup ammonium nitrate or equivalent in early summer (80, 81).
94	Per 100 sq. ft. apply 1 pint 15-0-15 in early spring and repeat in early summer (80, 81).
95	Per 100 sq. ft apply 1 quart 8-8-8 in early spring and then apply 1 cup ammonium nitrate or equivalent in early summer (80, 81).
96	Per 100 sq. ft. apply 1 quart 8-8-8 in early spring and then apply 1 pint 15-0-15 in early summer (80, 81).

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97	Per 100 sq. ft. apply 1½ pints superphosphate and 1 cup ammonium nitrate or equivalent in early spring and then apply 1 cup ammonium nitrate in early summer (80, 81).
99	Per 100 sq. ft. apply 1 quart 8-8-8 in early spring and repeat in early summer (80, 81).
103	Per 100 sq. ft. apply ½ cup ammonium nitrate or equivalent when spring growth begins and repeat monthly until August 1 (82).
104	Per 100 sq. ft. apply alternately 1 cup 15-0-15 and ½ cup ammonium nitrate or equivalent monthly starting when spring growth begins. Make last application about August 1 (82).
105	Per 100 sq. ft. apply 1 cup 15-0-15 when spring growth begins and repeat monthly until August 1 (82).
106	Per 100 sq. ft. apply alternately 2 cups 8-8-8 and ½ cup ammonium nitrate or equivalent at monthly intervals starting when spring growth begins. Make last application about August 1 (82).
107	Per 100 sq ft. apply alternately 2 cups 8-8-8 and 1 cup 15-0-15 at monthly intervals starting when spring growth begins. Make last application about August 1 (82).
108	Per 100 sq. ft. apply 2½ cups superphosphate. Apply ½ cup ammonium nitrate or equivalent when spring growth begins and repeat ammonium nitrate application monthly until August 1 (82).
110	Per 100 sq. ft. apply 1½ cups 8-8-8 when spring growth begins and repeat monthly until August 1 (82).
	Fruits and Nuts
114	Peaches – final remark. Apply P_2O_5 and K_2O as recommended above plus 0.1 lb. N (0.3 lb. ammonium nitrate or equivalent) per tree per year of tree age up to a maximum of 1.0 lb. N (3 lb. ammonium nitrate or equivalent) per tree (90).
115	Apply ½ pint muriate of potash per tree or vine in early spring (90, 91).
116	Apply 1 pint muriate of potash per tree or vine in early spring (90, 91).
117	Apply 1½ pints superphosphate per tree or vine in early spring (90, 91).
118	Apply 2½ pints 0-14-14 per tree or vine in early spring (90, 91).
119	Apply 2½ pints 0-10-20 per tree or vine in early spring (90, 91).
120	Apply 2½ pints superphosphate per tree or vine in early spring (90, 91).
121	Apply 3 pints 0-16-8 per tree or vine in early spring (90, 91).
122	Apply 3½ pints 0-14-14 per tree or vine in early spring (90, 91).
123	Apply 2½ quarts 0-14-14 per tree or vine in early spring (90, 91).
124	Muscadines – scuppernongs – final remark. Apply P_2O_5 and K_2O as recommended above plus 0.05 lb. N (.15 lb. ammonium nitrate or equivalent) per vine per year of vine age up to a maximum of ½ lb. N (1½ lb. ammonium nitrate or equivalent) per vine in early spring (91).

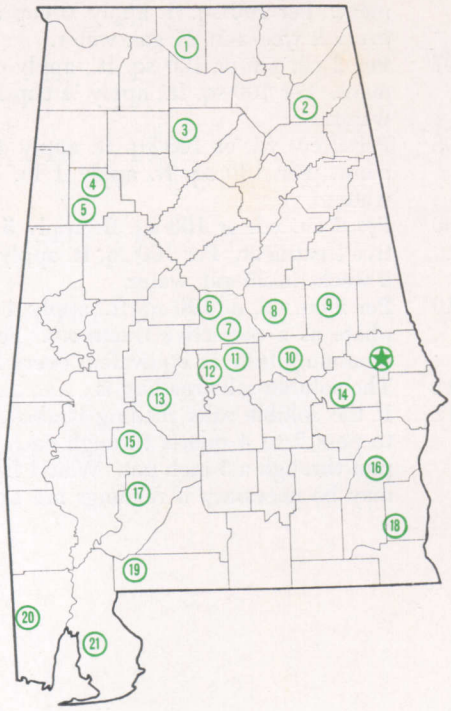
Comment number	
125	Apples – pears – final remark. Apply P_2O_5 and K_2O as recommended above plus 0.1 lb. N (0.3 lb. ammonium nitrate or equivalent) per tree for each year of tree age up to a maximum of 1 lb. of N (3 lb. ammonium nitrate or equivalent) per tree on semidwarf root stock and 2 lb. of N for trees on seedling root stock. Adjust the rate of N to give desirable fruit color and 12 to 18 inches of growth annually. If borated fertilizer is not used to supply boron (B), apply borax at the rate of 2.0 lb. (B) per acre or 5 tablespoons borax per tree. To correct zinc (Zn) deficiency in apples, apply 0.3 lb. zinc (1.0 lb. zinc sulfate) per tree. To prevent zinc deficiency, apply 0.15 lb. zinc (½ lb. zinc sulfate) per tree (92).
126	Apply 1 pint muriate of potash per tree in early spring (92, 93).
127	Apply 1 quart muriate of potash per tree in early spring (92, 93).
128	Apply 1½ quarts superphosphate per tree in early spring (92, 93).
129	Apply 2 quarts 0-14-14 per tree in early spring (92, 93).
130	Apply 3 quarts 0-10-20 per tree in early spring (92, 93).
131	Apply 3 quarts superphosphate per tree in early spring (92, 93).
132	Apply 4 quarts 0-16-8 per tree in early spring (92, 93).
133	Apply 4 quarts 0-14-14 per tree in early spring (92, 93).
134	Apply 5 quarts 0-14-14 per tree in early spring (92, 93).
135	Plums – final remark. Apply P_2O_5 and K_2O as recommended above plus 0.1 lb. N (0.3 lb. ammonium nitrate or equivalent) per tree per year of tree age up to a maximum of 1.0 lb. N (3 lb. ammonium nitrate or equivalent) per tree. If borated fertilizer is not used to supply boron, apply 1.0 lb. boron (B) per acre or 5 tablespoons borax per tree (93).
136	Pecans – final remark. For pecan trees 20 years old or more, apply 8 to 10 lb. of N (30 lb. ammonium nitrate or equivalent) per tree or 100 lb. per acre broadcast in February. For younger trees, apply 0.5 lb. of N (1.5 lb. ammonium nitrate or equivalent) per year of tree age. For trees showing zinc deficiency (Rosette), apply 0.25 lb. of zinc per year of tree age up to 3 lb. per tree. To prevent Rosette, apply 0.75 lb. of zinc per tree or 3 lb. every 5 years. P and K requirements of pecans are low compared to most other crops. Full benefit from fertilization will not be obtained unless a good spray program for disease and insect control is followed (94).
137	Fertilizer applied to cotton or small grain should be sufficient for peanuts next year (11, 18).
138	Fertilizer applied to corn should be sufficient for peanuts next year (14).
139	Phosphorus is excessive and fertilizer containing this element should not be used (40-94).
	Special Comments that may be added by the computer when needed.
140	Increase N rate to 140 pounds per acre for Burley or Darkfire tobacco.

Comment number	
141	For irrigated potatoes, increase above fertilizer recommendation by ¼.
142	For plant 2, skip 1 cotton, fertilizer recommended will cover 1 acre.
143	For plant 2, skip 2 cotton, fertilizer recommended should be applied on 1½ acres.
144	Where peanuts are to be grown in rotation with corn or cotton, it is recommended that the soil be sampled before the crop preceding peanuts.
145	For Spanish peanuts, apply 15 to 25 pounds of N in the fertilizer at planting time.
146	Type of pasture plants to be grown was unknown. If other than above, please notify the Soil Testing Laboratory and proper recommendations will be given.
147	For dwarf shrubs and ground cover plants, decrease the rate of fertilizer to ½ the above recommended rate.
148	Do not apply fertilizer to mums after color begins to show.
149	Crops to be grown were unknown. If other than above, please notify the Soil Testing Laboratory for proper recommendations.
150	For a nematode analysis, contact your County Extension Office for supplies and instructions.
151	Type of lawn grass that you are growing was unknown. If it is other than above, notify the Soil Testing Laboratory for proper recommendations.
152	It was not known if grass species is for a lawn or pasture. Therefore, we have given you both recommendations for this grass and you should follow the appropriate one.
153	If above lawn grasses are mixed, follow the recommendation for the grass which you prefer.
154	For additional information, contact your local County Extension Office.
155	The charge for analyzing soil samples is $2.00 per sample. We are enclosing your overpayment in cash with your soil test report.
156	The sample identification listed on your information sheet was different from that listed on your boxes. The identification used on your soil test report is the same as you listed on your_____.
	Greenhouse Crops
201	To correct acidity, apply dolomitic limestone as recommended. 1.0 ton per acre is 5 lb. per cu. yd. or per 100 sq. ft.
202	Per 100 sq. ft. apply ½ cup ammonium nitrate or equivalent every 2 weeks in 25 gal. water.
203	Per 100 sq. ft., apply alternately 1 cup 15-0-15 and ½ cup ammonium nitrate or equivalent every 2 weeks in 25 gal. water.
204	Per 100 sq. ft., apply 1 cup 15-0-15 every 2 weeks in 25 gal. water.
205	Per 2 cu. yd. or 100 sq. ft., apply 2½ lbs. superphosphate as a corrective treatment. Per 100 sq. ft., apply ½ cup ammonium nitrate or equivalent every 2 weeks in 25 gal. water.

Comment number	
206	Per 2 cu. yd. or 100 sq. ft., apply 4 lb. 8-8-8 as a corrective treatment. Per 100 sq. ft. apply ¼ cup ammonium nitrate or equivalent every 2 weeks in 25 gal. water.
207	Per 2 cu. yd. or 100 sq. ft., apply 4 lb. 8-8-8 as a corrective treatment. Per 100 sq. ft., apply ½ cup 15-0-15 every 2 weeks in 25 gal. water.
208	Per 2 cu. yd. or 100 sq. ft. apply 4 lb. 8-8-8 as a corrective treatment. Per 100 sq. ft. apply 1 lb. 8-8-8 every 2 weeks in 25 gal. water.
209	Per 2 cu. yd. or 100 sq. ft. apply 5 lb. superphosphate as a corrective treatment. Per 100 sq. ft. apply ½ cup ammonium nitrate every 2 weeks in 25 gal. water.
210	Per 2 cu. yd. or 100 sq. ft., apply 4 lb. 8-8-8 plus 2½ lb. superphosphate as a corrective treatment. Per 100 sq. ft., apply ¼ cup ammonium nitrate or equivalent every 2 weeks in 25 gal. water.
211	The soluble salts reading is_____.
212	If the soluble salts reading is above 175, leach with enough water to pass 2 to 4 quarts through each square foot of bench area or 1 pint through a 5 inch pot. Wait 1 hour and repeat. A third leaching may be necessary if readings are excessively high.

AGRICULTURAL EXPERIMENT STATION SYSTEM OF ALABAMA'S LAND-GRANT UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the State has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Thorsby Foundation Seed Stocks Farm, Thorsby.
7. Chilton Area Horticulture Substation, Clanton.
8. Forestry Unit, Coosa County.
9. Piedmont Substation, Camp Hill.
10. Plant Breeding Unit, Tallassee.
11. Forestry Unit, Autauga County.
12. Prattville Experiment Field, Prattville.
13. Black Belt Substation, Marion Junction.
14. Tuskegee Experiment Field, Tuskegee.
15. Lower Coastal Plain Substation, Camden.
16. Forestry Unit, Barbour County.
17. Monroeville Experiment Field, Monroeville.
18. Wiregrass Substation, Headland.
19. Brewton Experiment Field, Brewton.
20. Ornamental Horticulture Field Station, Spring Hill.
21. Gulf Coast Substation, Fairhope.