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Fertilizer Recommendations for Texas

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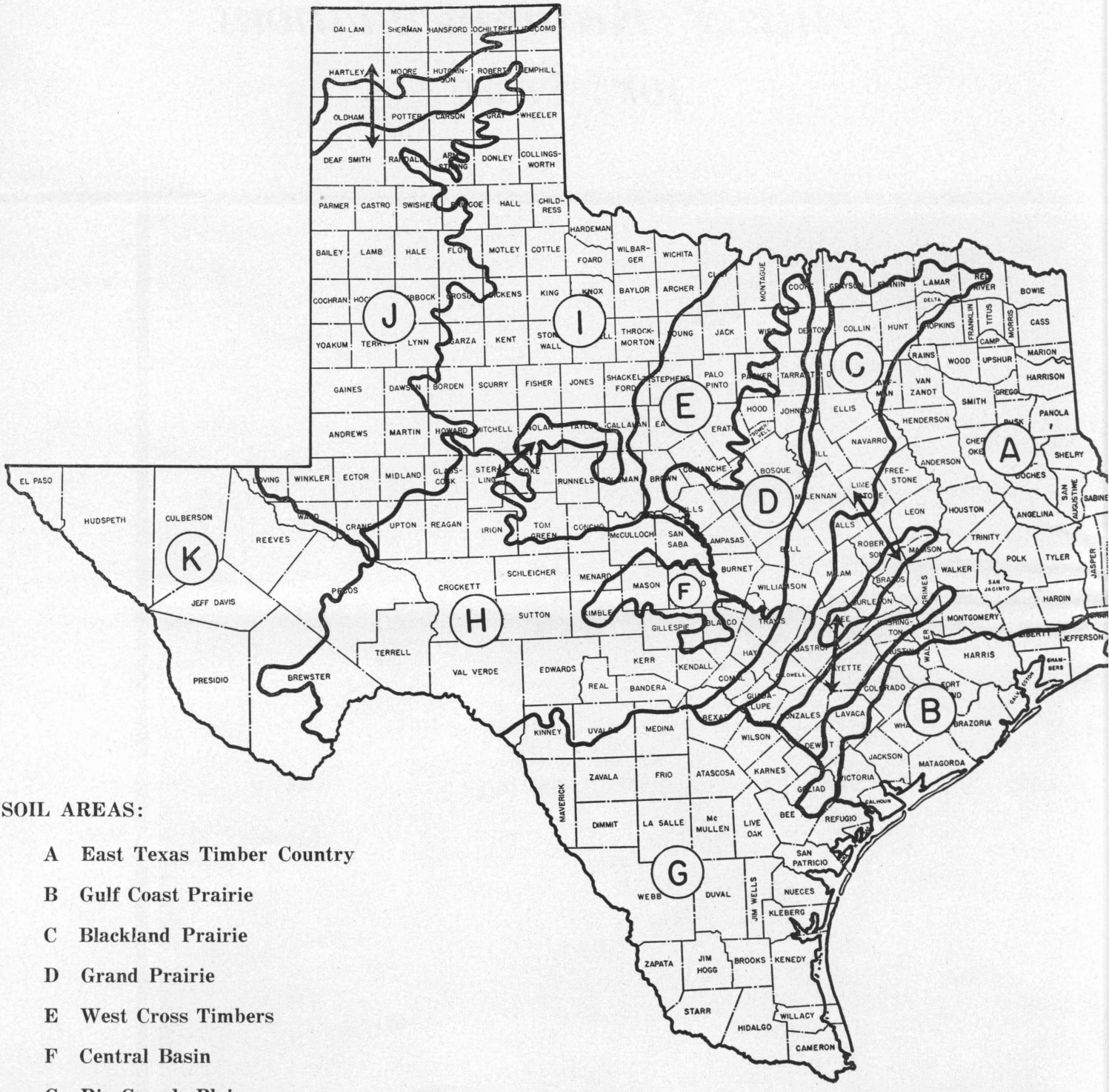
THE SOILS OF TEXAS



SOIL AREAS:

- **A** East Texas Timber Country
- **B** Gulf Coast Prairie
- **C** Blackland Prairie
- **D** Grand Prairie
- **E** West Cross Timbers
- **F** Central Basin
- **G** Rio Grande Plain
- **H** Edwards Plateau
- **I** Rolling Plains
- **J** High Plains
- **K** Mountains and Basins

Adapted from Texas Agricultural Experiment Station Bulletin 431, by W. T. Carter.

Fertilizer Recommendations for Texas

M. K. THORNTON,

Extension Agricultural Chemist, Texas A. & M. College System

The use of commercial fertilizers has increased greatly during the past few years. This bulletin offers suggestions to aid the user of fertilizer in selecting those grades best adapted to the different areas in the state.

For best results with fertilizers, other factors should be favorable; for example, well prepared seed bed, good stand, absence of disease, adequate moisture, and good cultivation. **Good cropping systems with legumes in the rotation generally aid in a favorable response of crops to fertilizers.** It is usually cheaper to use high analysis fertilizers. Low analysis fertilizers cost less per bag, but the cost per acre is greater for the same amount of nutrients. The grades 5-10-5 and 10-20-10 both have the same ratio (1-2-1) of nutrients, but 10-20-10 has twice as much fertilizing value as 5-10-5. It would require only one-half as much per acre to be as efficient as 5-10-5.

Fertilizer is usually applied at the time of planting or just before planting. Mixed fertilizer should not touch the seed. It is best placed in a band two or three inches on one or both sides of the seed and two or three inches below the seed with a fertilizer distributor on the planter. Fertilizers should be put in the ground and not spread on the ground for best results.

Where a large quantity of fertilizer is to be used per acre, part of it may be applied at planting time and the remainder later on after the plants are up and growing.

Side dressing of growing crops with nitrogen is expressed in terms of pounds of actual nitrogen to be applied per acre. These may be converted into pounds of fertilizer by considering the percentage of nitrogen in the fertilizer as shown on the tag. For example the recommendations suggest 30 pounds of nitrogen per acre for side dressing corn. This may be obtained from approximately 100 pounds of ammonium nitrate (33½% N.) or 150 pounds of ammonium sulfate (20% N.) or approximately 200 pounds of sodium nitrate (16% N.). To get 60 pounds of nitrogen, one would use twice the above, and for 20 pounds of nitrogen one would use ⅔ of the quantity needed for 30 pounds.

The river bottom soils of the Trinity, Brazos, Colorado, and others in the central and central western parts of the state may be fertilized according to the recommendations for the Blackland Prairies.

Liquid fertilizers may be used instead of solid fertilizers. The results obtained from the use of liquid fertilizers are in line with those obtained from solid fertilizers. Liquid fertilizers are usually more expensive.

Fertilizers for fruit trees should be applied over the area covered roughly by the spread of the limbs, and worked into the soil by cultivation.

In cases where 20% superphosphate has been recommended, concentrated superphosphate may be used at a proportionally lower rate. For example, 100 pounds of 40% superphosphate will replace 200 pounds of 20% superphosphate.

The quantities suggested in these recommendations are those found best by experiment and by practical experience in the field. Variations from these recommended formulas may be used after experience has been gained in the use of them and the individual has learned for himself what variations are best suited to his conditions and needs.

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*The following collaborated in the preparation of this bulletin: J. E. Adams, Head, Department of Agronomy; Guy Adriance, Head, Department of Horticulture; J. F. Fudge, Professor of Agronomy; L. C. Kapp, Associate Professor of Agronomy; E. B. Reynolds, Agronomist of Texas Agricultural Experiment Station; Fred Brison, Professor of Horticulture; Roy L. Donahue, Extension Agronomist; E. A. Miller, Extension Agronomist; A. W. Crain, Extension Associate Pasture Specialist; John E. Hutchison, Extension Associate Horticulturist; J. F. Rosborough, Extension Horticultural Marketing Specialist; W. R. Cowley, Supt., Weslaco Experiment Sub-station and other Sub-station Superintendents.

EAST TEXAS TIMBER COUNTRY

Field Crops	Fertilizer	Pounds Per Acre
Alfalfa (River Bottom)	20% superphosphate	400
On sandy and sandy loam soils	4-12-8, 3-12-12	500
On acid soils	One to two tons lime additional	
Corn) Grain Sorghum) Sweet Sorghum) Sudan)	5-10-5, 4-12-8, 8-8-8 Also side dress with 60 lbs. nitrogen Following fertilized legumes—None	300-400
Cotton	5-10-5, 5-10-10, 8-8-8 Following fertilized legumes—None	300-400
Legumes, summer	5-10-5, 5-10-10, 4-12-8	300-400
Legumes, winter	0-14-7, 0-12-12, 3-12-12 or 20% superphosphate	300-400 200-400
Oats and other small grains	5-10-5	300
For grain	Also top dress in early spring with 30 lbs. nitrogen Following fertilized legumes—None	
Pastures, (permanent)	5-10-5	400-500
Grasses only	Also top dress with 30 lbs. nitrogen per application as needed	
Grasses and legumes	4-12-8, 3-12-12	400-500
On deep sandy soils	4-12-8, 3-12-12, 0-14-7	400-500
Pastures, (temporary)	5-10-5	300
Small grains	Also top dress in fall and in early spring with 30 lbs. nitrogen per application Following fertilized legumes—None	
Small grains and legumes	0-14-7, 0-12-12, 4-12-8, 3-12-12	300-400
On acid soils	Top dress in early fall with 30 lbs. nitrogen One to two tons of lime additional	
Peanuts	5-10-5	200-400
Sugar Cane	5-10-5, 6-10-4, 8-8-8 Also side dress with 30 lbs. nitrogen	400-500

Fruits and Truck Crops	Fertilizer	Pounds Per Acre
Lettuce) Cabbage) Mustard) Collards)	5-10-5, 5-10-10, 8-8-8 Also side dress with 30 lbs. nitrogen	400-600
Carrots) Beets) Turnips)	5-10-10, 4-12-8	400-600
Sweet Potatoes	5-10-10, 4-8-12	600-1000
Irish Potatoes	5-10-10, 4-12-8, 5-10-5 Also top dress with 45 lbs. nitrogen	400-600

Fruits and Truck Crops	Fertilizer	Pounds Per Acre
Tomatoes) Peppers) Eggplants)	5-10-5, 5-10-10 or 5-10-5 at planting time in rows And side dress at first bloom with 400 lbs. of 8-8-8 or 5-10-5 at planting time in rows Followed by 300 lbs. 8-8-8 at first bloom and 200 lbs. 8-8-8 three weeks later	600-800 600 400
Cantaloupes) Squash) Cucumbers) Watermelons)	5-10-5 Also side dress with 30 lbs. nitrogen	400-500
Beans) Peas, English) Peas, Blackeyed, Purplehull) Etc.)	5-10-5	300-500
Blackberries) Dewberries)	5-10-5	600-800
Strawberries	5-10-5 at planting time Also at first bloom Also in late spring after bearing season	400 300 300
		Pounds Per Tree
Apples) Peaches) Plums)	5-10-5 Side dress with ½ lb. nitrogen in April or May	5-8
Pecans (sandy upland)	8-8-8 Also side dress with 2 lbs. nitrogen per tree in May	20-30

GULF COAST PRAIRIE

The following recommendations for the Gulf Coast Prairie are expressed in pounds of nutrients per acre. These nutrients can not be purchased as such, but must be obtained from the fertilizers sold on the market. The amount of fertilizer you should use will be determined as follows: Rice on heavy clay soils should receive 80-40-0. This means 80 lbs. N., 40 lbs. phosphoric acid, no potash. This amount of nutrients will be furnished by:

200 lbs., Ammonium Sulfate, 21%, furnishes ..... 42 lbs. N., No Phosphoric Acid
400 lbs., 10-10-0, furnishes ..... 40 lbs. N., 40 lbs. Phosphoric Acid
Total ..... 82 lbs. N., 40 lbs. Phosphoric Acid

—Or—

240 lbs., Cyanamid, 20%, furnishes ..... 48 lbs. N., No Phosphoric Acid
200 lbs., 16-20-0, furnishes ..... 32 lbs. N., 40 lbs. Phosphoric Acid
Total ..... 80 lbs. N., 40 lbs. Phosphoric Acid

Other recommendations will be converted to fertilizers which are available in the same way.

Field Crops	Lbs. of Nutrients ($N-P_2O_5-K_2O$)	
Alfalfa—On heavy alluvial soils	0-80-0	
On sandy alluvial soils	0-80-60	
On acid soils	One ton lime additional	
Corn) Grain Sorghum)—Blackland Sweet Sorghum) Sudan)	40-40-0	Also side dress with 40 lbs. nitrogen. Following fertilized legumes—none.
On sandy or sandy loam soils	40-40-20	Also side dress with 60 lbs. nitrogen. Following fertilized legumes—none.

Cotton—Blackland	40-40-0	Following fertilized legumes, none.
On sandy or sandy loam soils	40-40-20	Following fertilized legumes, none.
Flax—Blackland	20-40-0	Also top dress with 30 lbs. nitrogen
On sandy or sandy loam soils	20-40-20	Also top dress with 30 lbs. nitrogen
Legumes, summer and winter		
Blackland	0-40-0	
On sandy or sandy loam soils	12-36-24	
Pastures, (permanent)		
Blackland		
Grasses only	40-40-0	Also 30 lbs. nitrogen per application as needed
Grasses and legumes	0-80-0	
On acid soils	One ton of lime additional	
On sandy or sandy loam soils		
Grasses only	40-80-40	Also 30 lbs. nitrogen per application as needed
Grasses and legumes	20-60-40	
On acid soils	One ton of lime additional	
Pastures, (temporary)		
Blackland		
Small grains only	30-30-0	
Small grains and legumes	0-80-0	
On acid soils	One ton of lime additional	
On sandy or sandy loam soils		
Small grains only	20-40-20	Also 30 lbs. nitrogen per application in fall and spring
Small grains and legumes	15-40-40	
On acid soils	One ton of lime additional	
Peanuts	15-30-15	
Rice		
Heavy black clay soils	80-40-0	
Black sandy loam soils	80-40-20	
Gray sandy loam	40-40-0	
Gray sandy loam in Katy Hockley area	40-40-20	

Truck Crops	**Lbs. of Nutrients**	
Lettuce, Cabbage, Mustard, Collards	40-80-80	Also side dress with 60 lbs. nitrogen
Carrots, Beets, Turnips	40-80-80	Also side dress with 60 lbs. nitrogen
Sweet Potatoes	35-70-70	
Irish Potatoes	30-60-60	Also side dress with 40 lbs. nitrogen

Tomatoes) Peppers) Eggplants)	40-80-80	Also side dress with 30 lbs. nitrogen

Fruits and Truck Crops	Lbs. of Nutrients	
Cantaloupes) Squash) Cucumbers) Watermelons)	25-50-25	Also side dress with 30 lbs. nitrogen
Figs	30-60-30	

BLACKLAND PRAIRIE, GRAND PRAIRIE AND EASTERN PART OF EDWARDS PLATEAU

(Including Sandy and Mixed Soils)

Field Crops	Fertilizer	Pounds Per Acre
Alfalfa—Blackland and river bottom	20% superphosphate On acid soils, one to two tons lime additional	300-400
Corn) Grain Sorghum)—Blackland Sweet Sorghum) Sudan)	7-14-0, 10-10-0, 10-20-0 or 16-20-0, 12-15-0 Also side dress with 30 lbs. nitrogen Following fertilized legumes—None	300 200
On sandy and sandy loam soils (mixed land)	5-10-5 Side dress with 30 lbs. nitrogen Following fertilized legumes—None	400
Cotton—Blackland	10-10-0, 7-14-0 or 16-20-0, 12-15-0 Following fertilized legumes—None	300-400 200-250
On sandy and sandy loam soils (mixed land)	5-10-5 Following fertilized legumes—None	400-500
Legumes, summer and winter Blackland	20% superphosphate	200
On sandy and sandy loam soils (mixed land) On acid soils	5-10-5, 0-14-7 One ton of lime additional	300-400
Flax—Blackland	7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also top dress with 30 lbs. nitrogen	200-300 100-200
On sandy and sandy loam soils (mixed land)	5-10-5 Also top dress with 30 lbs. nitrogen	200-300
Oats, wheat, and other small grains—Blackland	7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also top dress in spring with 30 lbs. nitrogen Following fertilized legumes—None	300 200
On sandy or sandy loam soils (mixed land)	5-10-5 Also top dress in spring with 30 lbs. nitrogen Following fertilized legumes—None	300-400

Field Crops	Fertilizer	Pounds Per Acre
Pastures, (permanent)		
Grasses only		
Blackland	Ammonium nitrate (spring and early fall)	100
On sandy or sandy loam soils (mixed land)	5-10-5 Also top dress with 30 lbs. nitrogen as needed	400
Grasses and legumes		
Blackland	20% superphosphate	300-500
On sandy or sandy loam soils (mixed land)	0-14-7	400-600
Pastures, (temporary)		
Small grains	7-14-0, 10-10-0 or	300
Blackland	16-20-0, 12-15-0 Also top dress in spring with 30 lbs. nitrogen Following fertilized legumes—None	200
On sandy or sandy loam soils (mixed land)	5-10-5 Top dress in spring with 30 lbs. nitrogen	300-400
Small grains and legumes		
Blackland	20% superphosphate	200
On sandy and sandy loam soils (mixed land)	0-14-7	300
Peanuts	5-10-5	200

Truck Crops	Fertilizer	Pounds Per Acre
Carrots—Blackland	7-14-0. 10-10-0 or	400-600
	16-20-0	200-300
On sandy and sandy loam soils (mixed land)	5-10-5	600-800
Onions—Blackland	7-14-0. 10-10-0 or	400
	16-20-0	200
On sandy and sandy loam soils (mixed land)	5-10-5	600-800
Tomatoes) Peppers)—Blackland	7-14-0. 10-10-0 or 16-20-0	400-600 200
On sandy and sandy loam soils (mixed land)	5-10-5	600-800

WEST CROSS TIMBERS AND CENTRAL BASIN

Field Crops	Fertilizer	Pounds Per Acre
Alfalfa (subirrigated)	20% superphosphate, 4-16-0	200-400
On deep sands	0-14-7	300-500

Field Crops	Fertilizer	Pounds Per Acre
Grain Sorghum) Corn) Sweet Sorghum) Sudan)	5-10-5 Also side dress with 30 lbs. nitrogen Following fertilized legumes—None	200-300
Cotton	5-10-5, 6-10-4 Following fertilized legumes—None	200-300
Legumes, summer and winter	20% superphosphate	200
On old sandy crop land	0-14-7	300
Oats, wheat and other small grains	7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also top dress in spring with 30 lbs. nitrogen Following fertilized legumes—None	200-300 100-200
Pastures, (permanent)		
Grasses only	10-10-0, 10-20-0, 7-14-0 or 16-20-0, 12-15-0	200-300 100
On old sandy crop land	5-10-5	300-500
Grasses and legumes	20% superphosphate, 4-16-0	200-400
On old sandy crop land	0-14-7	300-500
Pastures, (temporary)		
Small grains for grazing	7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also top dress in early spring with 30 lbs. nitrogen Following fertilized legumes—None	200-300 100-200
On old sandy crop land	5-10-5 Top dress in spring with 30 lbs. nitrogen	200
Peanuts	5-10-5	150-200

Fruits and Truck Crops	Fertilizer	Pounds Per Acre
Sweet Potatoes	5-10-5, 5-10-10	400
Tomatoes) Peppers)	5-10-5 Also side dress with 100 lbs. 16-20-0 or 200 lbs. 10-10-0	400
Berries	5-10-5	400-500
Cantaloupes) Watermelons)	5-10-5 Also side dress with 100 lbs. 16-20-0 or 200 lbs. 10-10-0	300
		Pounds Per Tree
Apples) Pears)	5-10-5 Also side dress with ½ lb. nitrogen in May or June	5-8
For bearing trees		
For young non-bearing trees	Ammonium Nitrate or Ammonium Sulfate	1-5
Peaches) Plums)	5-10-5 with fall cover crop Also side dress with 4 lbs. 5-10-5 in early spring	4
For bearing trees	when needed	
For young non-bearing trees	Ammonium Nitrate or Ammonium Sulfate	1-3

Fruits and Truck Crops	Fertilizer	Pounds Per Tree
Pecan (Upland)		
For bearing trees	5-10-5, 6-10-4	20-30
For young trees	8-8-8	3-10

ROLLING PLAINS

(On Sandy and Sandy Loam Soils)

This is an area of variable rainfall. In some instances fertilizers will not pay.

Field Crops	Fertilizer	Pounds Per Acre
Alfalfa (subirrigated soils)	20% superphosphate, 4-16-0	300-400
Alfalfa (on old sandy crop land)	4-12-8	500
Grain Sorghum) Corn) Sweet Sorghum) Sudan)	7-14-0, 10-10-0 or 16-20-0 Also side dress with 30 lbs. nitrogen	300 150
On old sandy crop land	5-10-5, 6-10-4 Also side dress with 30 lbs. nitrogen Following fertilized legumes—None	300
Cotton	10-10-0 or 16-20-0, 12-15-0 Following fertilized legumes—None	400-600 100
On old sandy crop land	10-10-5 Following fertilized legumes—None	400-600
Legumes, summer and winter	20% superphosphate	200-300
On old sandy crop land	0-14-7	300-400
Oats, wheat and other small grains	For grazing and grain Fall application 7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also top dress in early spring with 30 lbs. nitrogen For grain only, top dress in early spring with 30 lbs. nitrogen	 200 100
On old sandy crop land	5-10-5 Also top dress in spring with 30 lbs. nitrogen	200-300
Peanuts	5-10-5	200
Pastures, (permanent)		
Grasses only	10-10-0, 7-14-0 or 16-20-0, 12-15-0	200-300 100-200
On old sandy crop land	5-10-5, 6-10-4	300-400
Pastures, (temporary)		
Small grains only	Same as oats, wheat and other small grains	
Small grains and legumes	7-14-0, 10-10-0 or 16-20-0, or 20% superphosphate	200-300 100-150 200
On old sandy crop land	5-10-5	300-400

Fruits and Truck Crops	Fertilizer	Pounds Per Tree
Peaches) Plums)	7-14-0, 10-10-0 or 16-20-0, 12-15-0	3-5 1½-2½
On old sandy crop land	5-10-5	5-7
Apples) Pears)	7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also side dress with ½ lb. nitrogen in May or June	3-5 2½-3
On old sandy crop land	5-10-5	5-7

		Pounds Per Acre
Grapes	7-14-0, 10-10-0 or 16-20-0	400-500 200-250
Vegetables (general)	5-10-5	300-400

HIGH PLAINS

(Irrigated Land)

Field Crops	Fertilizer	Pounds Per Acre
Alfalfa	20% superphosphate, 4-16-0	300-400
Grain Sorghum) Sweet Sorghum) Corn) Sudan)	Ammonium nitrate as side dressing or Ammonium sulfate as side dressing or Cyanamid (10-30 days before planting)	100-200 200-300 200-300
Cotton	7-14-0, 10-10-0 or 16-20-0, 12-15-0	200-300 100-200
Legumes, summer and winter	20% superphosphate, 4-16-0	200-300
Oats, wheat, and other small grains	Ammonium nitrate (Top dress in early spring) or Ammonium sulfate (Top dress in early spring)	100 150-200
Pastures		
Grasses only	Ammonium nitrate or Ammonium sulfate	100 150-200
Grasses and legumes	20% superphosphate, 4-16-0	200-400
Establishing pastures on old fields	10-10-0, 7-14-0 or 16-20-0, 12-15-0	300-400 150-200
Sugar Beets) Stock Beets)	7-14-0, 10-10-0 or 16-20-0, 12-15-0 Also side dress with 30 lbs. nitrogen	300-400 150-200

Truck Crops	Fertilizer	Pounds Per Acre
Cabbage) Lettuce) Mustard, etc.)	7-14-0 or 16-20-0, 12-15-0 And side dress with 60 lbs. of nitrogen	400-500 200-250
Carrots) Beets) Turnips)	5-10-5	400-500
Sweet Potatoes	5-10-5, 5-10-10	400-600
Irish Potatoes	6-10-4, 5-10-5 Also side dress with 30 lbs. nitrogen	500-600

Truck Crops	Fertilizer	Pounds Per Acre
Onions	7-14-0, 10-10-0 or 16-20-0, 12-15-0	400-600 200-300
Tomatoes) Peppers)	5-10-5	600-800
Cantaloupes) Cucumbers) Watermelons) Squash)	5-10-5 Also side dress with 30 lbs. of nitrogen when first blooms appear	400-600
Beans) Peas, English) Peas, Blackeyed, Purplehull) Etc.)	5-10-5 or 20% superphosphate, 4-16-0	400-600 200

RIO GRANDE PLAIN

The following recommendations for the Rio Grande Plain are expressed in pounds of nutrients per acre. These nutrients cannot be purchased as such but must be bought in fertilizers available on the market. The amount of fertilizers you would use will be determined as follows: Cotton, on sandy loam soil, requires 30-30-0 or 30 lbs. nitrogen, 30 lbs. phosphoric acid, no potash. This may be obtained from:

300 lbs. 10-10-0, furnishes ..... 30 lbs. nitrogen, 30 lbs. phosphoric acid

—Or—

160 lbs. 16-20-0, furnishes ..... 27 lbs. nitrogen, 32 lbs. phosphoric acid

which is close enough for practical purposes.

Other recommendations will be converted to fertilizers which are available in the same way.

Field Crops	Lbs. of Nutrients $N—P_2O_5—K_2O$	
Corn) Grain Sorghum)—Blackland Sweet Sorghum) Sudan)	0-0-0	Side dress with 30 lbs. nitrogen
On sandy or sandy loam soils	20-20-0	Also side dress with 30 lbs. nitrogen
Cotton On sandy or sandy loam soils	20-20-0	Following fertilized legumes, none
Flax	Same as for Gulf Coast Prairie	
Legumes, summer and winter Blackland	0-40-0	
On sandy or sandy loam soils	15-30-15	
Pastures, (permanent) Blackland		
Grasses only	30-0-0	
Grasses and legumes	0-40-0	

Field Crops	Lbs. of Nutrients	
Pastures (temporary)		
Blackland		
Small grains only	30-0-0	Also top dress with 30 lbs. nitrogen
Small grains and legumes	0-40-0	
On sandy or sandy loam soils		
Small grains only	30-30-0	Also top dress with 30 lbs. nitrogen
Peanuts	15-30-15	

Truck Crops	Lbs. of Nutrients	
Lettuce, Cabbage	80-80-0	
Spinach	40-80-0	
Carrots, Beets, Turnips	50-100-0	
Tomatoes, Peppers, Eggplants	50-100-0	
Cantaloupes, Squash, Cucumbers, Watermelons	50-50-0	Also side dress with 30-60 lbs. nitrogen
Grapefruit, Oranges, Lemons	0-0-0	Side dress in spring or early summer with 70 lbs. nitrogen
Onions	40-80-0	

RIO GRANDE, WINTER GARDEN, EL PASO, EDWARDS PLATEAU AND PECOS IRRIGATED AREAS

The following recommendations for these areas are expressed in pounds of nutrients per acre. These nutrients can not be purchased as such, but must be obtained from the fertilizers sold on the market. The amount of fertilizer you should use will be determined as follows: Carrots—30-60-0. This means 30 lbs. of nitrogen, 60 lbs. phosphoric acid, no potash. This amount of nutrients will be furnished by 433 lbs. 7-14-0 or 300 lbs. of 10-20-0.

Other recommendations will be converted into fertilizers which are available in the same manner.

Field Crops	Lbs. of Nutrients $N—P_2O_5—K_2O$	
Alfalfa		
Clays	0-80-0	
Sandy loams	0-100-0	
Corn, Grain Sorghum, Sweet Sorghum, Sudan	30-30-0	Also side dress with 80-120 lbs. nitrogen
Cotton		
Loam and clay loams	60-60-0	
Sandy loams	60-60-0	Also side dress with 30 lbs. nitrogen Following fertilized legumes

Field Crops	Lbs. of Nutrients	
Legumes, summer and winter	0-80-0	
Pasture, (permanent)		
Grasses only	40-40-0 or 40-0-0	Also top dress with 40 lbs. nitrogen
Grasses and legumes	0-80-0 or 20-80-0	
Pasture (temporary)		
Small grains only	50-50-0 or 40-0-0	Also top dress with 30-0-0 (30 lbs. nitrogen)
Small grains and legumes	0-60-0 or 30-60-0	
Sugar Beets) Stock Beets)	40-40-0	Also side dress with 60 lbs. nitrogen

Fruit and Truck Crops	Lbs. of Nutrients	
Lettuce) Cabbage)	60-60-0	Also side dress with 60 lbs. nitrogen
Carrots) Beets) Turnips)	30-60-0	
Irish Potatoes	60-60-0	
Tomatoes) Peppers) Eggplants)	50-100-0	Also side dress with 40 lbs. nitrogen
Squash) Cucumbers) Watermelons) Cantaloupes)	40-80-0	Also side dress at first bloom with 30-60 lbs. nitrogen
Spinach		
On heavy soils	0-80-0	
On light soils	35-70-0	
Grapefruit) Oranges) Lemons)	70-70-0	Also side dress with 60 lbs. nitrogen in spring or early summer
Onions	50-100-0	
Strawberries	40-80-40	Also side dress with 15-30-15 at first bloom

CROPS IN THE LOWER RIO GRANDE VALLEY

(Cameron, Hidalgo, Starr & Willacy Counties)

The following recommendations are expressed in pounds of nutrients per acre. To arrive at a fertilizer to be used on cotton under these recommendations, the 40-80-0 becomes 400 pounds of 10-20-0 fertilizer or a combination of approximately 200 pounds of ammonium sulfate or 120 pounds of ammonium nitrate and 400 pounds of 20 per cent superphosphate. This crop will also be sidedressed with 40-60 pounds of nitrogen at squaring time (50 to 75 pounds of anhydrous ammonia, 120 to 180 pounds of ammonium nitrate or 200 to 300 pounds of ammonium sulfate). Other recommendations may be converted to fertilizers which are available in the same manner. The nutrient content of some materials is shown below:

Calcium nitrate	—approximately 15% nitrogen
Sodium nitrate	—approximately 16% nitrogen
Ammonium sulfate	—approximately 20% nitrogen
Ammonium nitrate	—approximately 33½% nitrogen
Anhydrous ammonia	—approximately 80% nitrogen
Superphosphate	—approximately 20% phosphoric acid
Triple-superphosphate	—approximately 45% phosphoric acid

If a sorghum or grass-type cover crop has been turned under with nitrogen, or if a good growth of phosphated legumes has been turned under, the pre-planting application of nitrogen for the following crop may be decreased by 25 to 30 per cent.

All pre-planting fertilizer applications must be banded 3 to 4 inches below (and preferably 2 to 3 inches to the side) of the seed or drill for efficient use.

IRRIGATED

Field Crops	Preplanting Recommendations	Additional (side or top dress)
Alfalfa	40-120-0	0-120-0 each year in chisel furrow
Cotton	40-80-0	40-60 lbs. nitrogen at squaring
Corn) Grain Sorghum)	40-80-0	40-60 lbs. nitrogen when knee high
Sweet Sorghum (hay)	30-60-0	60 lbs. nitrogen after each cutting
Sudan (hay)	30-60-0	60 lbs. nitrogen after each cutting
Legumes (summer and winter annuals)	30-60-0	
Pasture Grasses (Perennial)	80-100-0	65 lbs. nitrogen each February, June and October in chisel furrows
Pastures—Oats & Sudan	60-60-0	60 lbs. nitrogen in chisel furrow every 30 days while grazing
Pastures—Oats & Hubam sweetclover	60-60-0	

Truck Crops—38-40 in. rows	Preplanting Recommendations	Additional (side or top dress)
Cantaloupes, Cucumbers) Squash, Watermelons)	40-80-0	30-40 lbs. nitrogen first bloom

Truck Crops—38-40 in. rows	Preplanting Recommendations	Additional (side or top dress)
Spinach, Escarole, Endive, Dandelion, Collards, Parsley	80-80-0	
Cabbage, Broccoli, Lettuce	40-80-0	40-60 lbs. nitrogen at initial heading
Sweetcorn	30-60-0	30-40 lbs. nitrogen when knee high
Tomatoes	40-80-0	40-50 lbs. nitrogen first bloom
Peppers	80-80-0	40 lbs. nitrogen as side dressing
Eggplants	40-80-0	40 lbs. nitrogen as side dressing
Potatoes	80-80-0	40 lbs. nitrogen as side dressing
Carrots	40-120-0	
Beets, Turnips	40-40-0	
Onions	80-80-0	
Beans & Peas	40-80-0	
Citrus		
Young trees (5-8 yrs. old)	1-0-0 in 2-3 applications per tree per year	
Bearing trees (8-12 yrs. old)	2-0-0 in 2-3 applications per tree per year	
Bearing trees (over 12 yrs. old)	3-0-0 in 2-3 applications per tree per year	

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Field Crops	Lbs. of Nutrients	
Cotton	30-60-0	30 lbs. nitrogen at squaring if adequate moisture available
Corn, Grain Sorghum	40-40-0	
Legumes (summer & winter annuals)	30-60-0	
Pastures—Oats & Sudan	80-40-0	
Pasture Grasses (Perennial)	80-80-0	30-60 lbs. nitrogen in chisel furrow ahead of usual spring & fall rains
Truck Crops—38 to 40 inch rows	**Lbs. of Nutrients**	
Spinach	40-0-0	
Cabbage	40-0-0	40 lbs. nitrogen if adequate moisture available as side dressing
Watermelons, Cucumbers	40-80-0	30 lbs. nitrogen when vines begin to run
Squash, Beans & Peas	40-80-0	

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