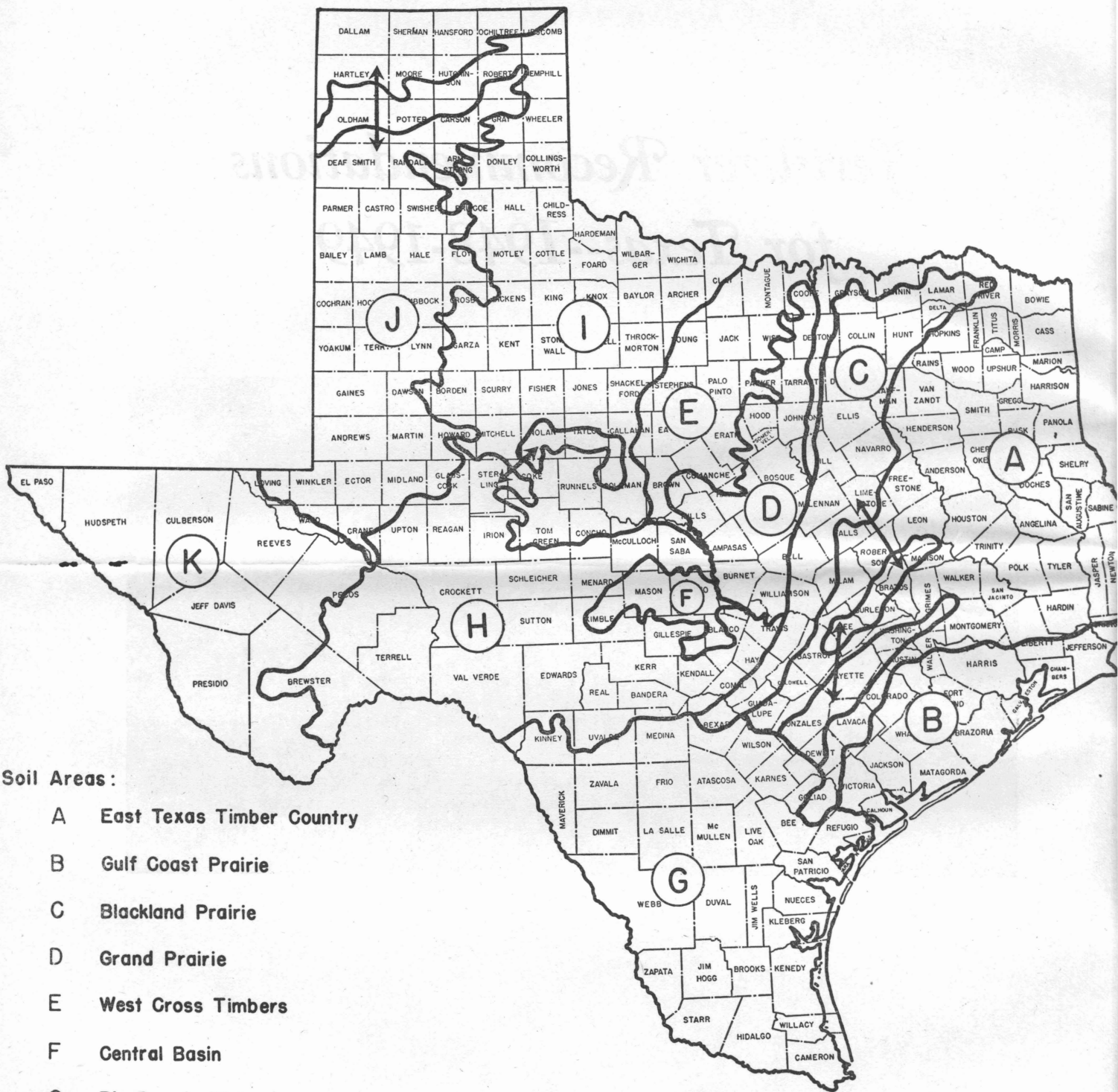


Fertilizer Recommendations for Texas--1948-1949



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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

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The use of commercial fertilizers has increased greatly during the past few years. This circular 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.

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.

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 fertilizer is often profitable. In side-dressing, a special fertilizer attachment for the cultivator should be used.

The recommendations for side-dressing with nitrogen are 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 secured 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 2/3 of the quantity needed for 30 pounds.

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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HIGH PLAINS

(Irrigated)

Field Crops	Fertilizer	Pounds per Acre
Alfalfa	20% superphosphate	300-400
Grain Sorghum)	Ammonium nitrate as side dressing or	100-200
Sweet Sorghum)	Ammonium sulfate as side dressing or	200-300
Corn)	Cyanamid (10-30 days before planting)	200-300
Sudan)		
Cotton	6-12-0, 10-10-0 or 16-20-0, 12-15-0	200-300 100-200
Legumes, summer	20% superphosphate	200
Legumes, winter	20% superphosphate	200
Oats, wheat, and other small grains	Ammonium nitrate (Top dressed in early spring) or Ammonium sulfate (Top dressed in early spring)	100 150-200
Pastures, grasses only	Ammonium nitrate or Ammonium sulfate	100 150-200
Grasses and Legumes	20% superphosphate	200-400
Establishing pastures on old fields	10-10-0, 6-12-0	300-400
Sugar beets)	6-12-0, 10-10-0 or	300-400
Stock beets)	16-20-0, 12-15-0 Side dress with 20 to 30 lbs. of nitrogen	150-200
Truck Crops	Fertilizer	Pounds per Acre
Cabbage)	6-12-0 or	400-500
Lettuce)	16-20-0, 12-15-0	200-250
Mustard, etc.)	and side dress with 60 lbs. of nitrogen	
Carrots)	6-12-0 or	400-500
Beets)	16-20-0, 12-15-0	200-250
Turnips)		
Sweet Potatoes	5-10-5	400-600
Irish Potatoes	6-10-4, 5-10-5 Side dress with 30-60 lbs. nitrogen	500-600
Onions	6-12-0, 10-10-0 or 16-20-0, 12-15-0	400-600 200-300
Tomatoes)		
Peppers)	5-10-5, 4-12-4	600-800
Cantaloupes)		
Cucumbers)	6-12-0, 10-10-0 or	400-600
Watermelons)	16-20-0, 12-15-0	200-300
Squash)		
Beans)		
Peas, English)	5-10-5	400-600
Peas, Blackeye, Purplehull)	20% superphosphate	200
Etc.)		

ROLLING PLAINS

(On Sandy and Sandy Loam Soils)

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

Field Crops	Fertilizer	Pounds per Acre
Alfalfa (subirrigated soils)	20% superphosphate	200-400
Alfalfa (on old sandy crop land)	0-14-7	300-500
Grain Sorghum)	6-12-0, 10-10-0 or	200-300
Corn)	16-20-0	100
Sweet Sorghum)	Side dress with 20-40 lbs. nitrogen	
Sudan)		
On old sandy crop land	5-10-5, 6-10-4, 8-8-8	200-300
	Side dress with 20-40 lbs. nitrogen	
	Following fertilized legumes	None
Cotton	6-12-0, 10-10-0 or	200-300
	16-20-0	100
	Following fertilized legumes	None
On old sandy crop land	8-8-8, 6-10-4, 5-10-5	200-300
	Following fertilized legumes	None
Legumes, summer	20% superphosphate	200-300
On old sandy crop land	0-14-7	300-400
Legumes, 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 6-12-0, 10-10-0 or 16-20-0 Top dress in early spring with 15-30 lbs. nitrogen	200 100
On old sandy crop land	For grain only, top dress in early spring with 20-40 lbs. nitrogen	
On old sandy crop land	5-10-5, 4-12-4, 8-8-8 Top dress in spring with 15-30 lbs. nitrogen	200-300
Peanuts	4-12-4	150-200
Pastures, (permanent)		
Grasses only	10-10-0, 6-12-0 or 16-20-0	200-300 100-200
On old sandy crop land	5-10-5, 6-10-4	300-400
Pastures, (temporary)		
Small grains only	See oats, wheat and other small grains	
Small grains and legumes	6-12-0, 10-10-0 or 16-20-0 or 20% superphosphate	200-300 100-150 200

Field Crops	Fertilizer	Pounds per Acre
On old sandy crop land	5-10-5 or 0-14-7	300-400 300

ROLLING PLAINS

Truck Crops	Fertilizer	Pounds per Acre
Peaches (bearing) Plums and Cherry Plums	5-10-5, 6-12-0	300-400
Apples	5-10-5, 6-12-0 Side dress with 30-60 lbs. nitrogen	400-500
Grapes	6-12-0, 10-10-0 or 16-20-0	400-500 200-250

WEST CROSS TIMBERS AND CENTRAL BASIN

Field Crops	Fertilizer	Pounds per Acre
Alfalfa (subirrigated) On deep sands	20% superphosphate 0-14-7	200-400 300-500
Grain Sorghum) Corn) Sweet Sorghum) Sudan)	4-12-4, 5-10-5 Side dress with 20-30 lbs. nitrogen Following fertilized legumes	150-300 None
Cotton	4-12-4, 5-10-5, 6-10-4 Following fertilized legumes	150-300 None
Legumes, summer	20% superphosphate	200
On old sandy crop land	0-14-7	300
Legumes, winter	20% superphosphate	200
On old sandy crop land	0-14-7	300
Oats, wheat, and other small grains	6-12-0, 10-10-0 Top dress in spring with 20-30 lbs. nitrogen Following fertilized legumes	200-300 None
Pastures, (permanent) Grasses only	10-10-0, 10-20-0, 6-12-0 or 16-20-0	200-300 100
On old sandy crop land	5-10-5, 8-8-8	300-500
Grasses and legumes	20% superphosphate	200-400
On old sandy crop land	0-14-7	300-500

Field Crops	Fertilizer	Pounds per Acre
Pastures, (temporary)		
Small grains for grazing	Ammonium nitrate before or at seeding	100
On sandy or sandy loam soils (mixed land)	5-10-5, 4-12-4 Top dress in spring with 20-40 lbs. nitrogen	200
Peanuts	4-12-4, 5-10-5	150-200

WEST CROSS TIMBERS AND CENTRAL BASIN

Truck Crops	Fertilizer	Pounds per Acre
Sweet Potatoes	5-10-5	400-600
Tomatoes) Peppers)	5-10-5	400-600
Cantaloupes) Watermelons)	5-10-5, 4-12-4 Side dress with 15-30 lbs. nitrogen	200-500
Apples) Pears)	5-10-5, 4-12-4 Side dress with 30-60 lbs. nitrogen in May or June	400-600
Peaches) Plums)	5-10-5, 4-12-4 Side dress with 30-60 lbs. nitrogen in May or June	400-600
Berries	4-12-4, 5-10-5	400-600
Pecans	6-12-0, 10-10-0 or 16-20-0	400-500 200

BLACKLAND PRAIRIE AND GRAND PRAIRIE

(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)	6-12-0, 10-10-0, 10-20-0 or 16-20-0 Side dress with 20-40 lbs. nitrogen	200-300 100-200
On sandy and sandy loam soils	5-10-5, 4-12-4 Side dress with 20-40 lbs. nitrogen Following fertilized legumes	300-400 None
Cotton — Blackland	10-10-0, 6-12-0 or 16-20-0 Following fertilized legumes	200-400 100-200 None
On sandy and sandy loam soils (mixed land)	5-10-5, 4-12-4 Following fertilized legumes	300-400 None
Legumes, summer — Blackland	20% superphosphate	200
On sandy and sandy loam soils	4-12-4, 0-14-7	300-400

Field Crops	Fertilizer	Pounds per Acre
Legumes, winter—Blackland	20% superphosphate	200
On sandy and sandy loam soils (mixed land)	0-14-7	300
On acid soils	One ton of lime additional	
Oats, wheat, and other small grains—Blackland	6-12-0, 10-10-0	200-300
	Top dress in spring with 20-40 lbs. nitrogen	
	Following fertilized legumes	None
On sandy or sandy loam soils (mixed land)	5-10-5, 4-12-4	200-300
	Top dress in spring with 20-40 lbs. nitrogen	
Pastures, (permanent)		
Grasses only—Blackland	Ammonium nitrate	100
On sandy or sandy loam soils	5-10-5, 4-12-4	300-400
Grasses and legumes Blackland	20% superphosphate	300-500
On sandy or sandy loam soils	0-14-7	400-600
Pastures, (temporary)		
Small grains for grazing—Blackland	Ammonium nitrate before or at seeding	100
On sandy or sandy loam soils (mixed land)	5-10-5, 4-12-4	200
	Top dress in spring with 20-40 lbs. nitrogen	
Small grains and legumes—Blackland	20% superphosphate	200
On sandy and sandy loam soils	0-14-7	300
Peanuts	4-12-4	200

BLACKLAND PRAIRIE

Truck Crops	Fertilizer	Pounds per Acre
Carrots — Blackland	6-12-0, 10-10-0 or 16-20-0	400-600 200
On sandy and sandy loam soils	5-10-5, 4-12-4	600-800
Onions — Blackland	6-12-0, 10-10-0 or 16-20-0	400 200
On sandy and sandy loam soils	5-10-5, 4-12-4	600-800

Truck Crops	Fertilizer	Pounds per Acre
Tomatoes) — Blackland Peppers)	6-12-0, 10-10-0 or 16-20-0	400-600 200
On sandy and sandy loam soils	5-10-5, 4-12-4	600-800

EAST TEXAS TIMBER COUNTRY

Field Crops	Fertilizer	Pounds per Acre
Alfalfa (River Bottoms)	20% superphosphate	400
On sandy and sandy loam soils	0-14-7, 0-12-12	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, 4-12-4 Side dress with 30-60 lbs. nitrogen Following fertilized legumes	200-300 None
Cotton	5-10-5, 4-8-8, 8-8-8, 6-10-4 Following fertilized legumes	300-400 None
Legumes, summer	5-10-5, 4-12-4, 4-8-8, 4-12-8	300-400
Legumes, winter	0-14-7, 0-12-12, or 20% superphosphate	300 200-400

Oats and other small grains	5-10-5, 4-12-4 Top dress in early spring with 20-40 lbs. nitrogen Following fertilized legumes	300 None
Pastures, (permanent) Grasses only	5-10-5, 4-12-4 Top dress with 20-40 lbs. nitrogen	300
Grasses and legumes	20% superphosphate	300-400
On sandy soils	0-14-7, 0-12-12	400-500
Pastures, (temporary) Small grains	5-10-5, 4-12-4 Top dress in early spring with 20-40 lbs. nitrogen Following fertilized legumes	300 None
Small grains and legumes	0-14-7, 0-12-12, or 4-12-8	300 300-400
Peanuts	4-12-4	200-400
Sugar Cane	5-10-5, 8-8-8	200

EAST TEXAS TIMBER COUNTRY

Truck Crops	Fertilizer	Pounds per Acre
Lettuce) Cabbage) Mustard) Collards)	5-10-5, 4-8-8, 8-8-8	400-600

Truck Crops	Fertilizer	Pounds per Acre
Carrots) Beets) Turnips)	4-12-4, 4-8-8, 4-12-8	400-600
Sweet Potatoes	4-8-8, 4-12-8, 5-10-5	600-800
Irish Potatoes	4-8-8, 4-12-8, 5-10-5 Side dress with 30-60 lbs. nitrogen	400-600
Tomatoes) Peppers) Eggplants)	5-10-5, 4-8-8	500-1000
Cantaloupes) Squash) Cucumbers) Watermelons)	5-10-5, 4-12-4 Side dress with 20-40 lbs. nitrogen	200-500
Beans) Peas, English) Peas, Blackeye, Purplehull) Etc.)	4-12-4, 5-10-5	300-500
Blackberries) Dewberries)	5-10-5, 4-12-4	600-800
Strawberries	5-10-5, 4-12-4 Side dress with 30 lbs. nitrogen after harvest	600-1000
Apples) Peaches) Plums)	5-10-5, 4-12-4 Side dress with 30-60 lbs. nitrogen	400-500
Pecans	6-12-0, 10-10-0 or 16-20-0	400-500 200

GULF COAST PRAIRIE

Field Crops	Fertilizer	Pounds per Acre
Alfalfa—On heavy alluvial soils	20% superphosphate	400
Alfalfa—On sandy alluvial soils	0-14-7, 0-12-12	500
On acid soils	One ton lime additional	
Corn) Grain Sorghum)—Blackland Sweet Sorghum) Sudan)	10-10-0, 6-12-0 or 16-20-0 Side dress with 30-40 lbs. nitrogen Following fertilized legumes	300-400 200 None
On sandy or sandy loam soils	5-10-5, 4-12-4 Side dress with 30-40 lbs. nitrogen Following fertilized legumes	300-400 None

Field Crops	Fertilizer	Pounds per Acre
Cotton—Blackland	6-12-0, 10-10-0 or 16-20-0 Following fertilized legumes	300-400 200 None
On sandy or sandy loam soils	5-10-5, 6-10-4 Following fertilized legumes	300-400 None
Legumes, summer Blackland	20% superphosphate	200
On sandy or sandy loam soils	0-14-7, 4-12-8	300
Legumes, winter Blackland—	20% superphosphate	200
On sandy or sandy loam soils	0-14-7, 4-12-8	300
Pastures, (permanent) Blackland— Grasses only	6-12-0, 10-10-0 or 16-20-0	400 200
Grasses and legumes	20% superphosphate	400
On acid soils	One ton of lime additional	
On sandy or sandy loam soils— Grasses only	5-10-5, 4-12-8	300-500
Grasses and legumes	0-14-7, 4-12-8	500
On acid soils	One ton of lime additional	
Pastures, (temporary) Blackland— Small grains only	6-12-0, 10-10-0 or 16-20-0	200-300 100
Small grains and legumes	20% superphosphate	300-400
On acid soils	One ton of lime additional	
On sandy or sandy loam soils— Small grains only	5-10-5, 4-12-8	200-300
Small grains and legumes	0-14-7, 4-12-8	300-400
On acid soils	One ton of lime additional	
Peanuts	4-12-4	200-300

GULF COAST PRAIRIE

Truck Crops	Fertilizer	Pounds per Acre
Lettuce) Cabbage) Mustard) Collards)	5-10-5, 4-12-4, 4-12-8 Side dress with 20-40 lbs. nitrogen	400-800
Carrots) Beets) Turnips)	4-12-4, 4-12-8, 5-10-5	400-800
Sweet Potatoes	4-8-8, 4-12-8, 5-10-5	300-600
Irish Potatoes	5-10-5, 4-12-8, 4-8-8	400-600
Tomatoes) Peppers) Eggplants)	5-10-5, 4-8-8	400-600
Cantaloupes) Squash) Cucumbers) Watermelons)	5-10-5, 4-12-4 Side dress with 20-40 lbs. nitrogen	200-500
Figs	5-10-5, 4-12-4	400-600

RIO GRANDE PLAIN

Field Crops	Fertilizer	Pounds per Acre
Grain Sorghum) Sweet Sorghum)—Blackland Sudan)	Ammonium nitrate	100
On sandy or sandy loam soils	6-12-0, 10-10-0 or 16-20-0 Top dress with 15-30 lbs. nitrogen	100-200
Cotton—On sandy or sandy loam soils	6-12-0, 10-10-0 or 16-20-0	200-300 100-200
Legumes, summer Blackland	20% superphosphate	200
Legumes, winter Blackland	20% superphosphate	200
Legumes, summer On sandy and sandy loam soils	4-12-4	200
Legumes, winter On sandy and sandy loam soils	20% superphosphate	200
Pastures, (permanent) Blackland— Grasses only	Ammonium nitrate	100-200

Field Crops	Fertilizer	Pounds per Acre
Grasses and legumes	20% superphosphate	200
Pastures, (permanent)		
On sandy and sandy loam soils—	6-12-0, 10-10-0 or 16-20-0	200-300
Grasses only		100-200
Grasses and legumes	20% superphosphate	200
Pastures, (temporary)		
Blackland—		
Small grains only	Ammonium nitrate	100
Small grains & legumes	20% superphosphate	200
On sandy or sandy loam soils—	6-12-0, 10-10-0 or 16-20-0	200-300
Small grains only		100-200
Small grains & legumes	20% superphosphate	200
Peanuts	4-12-4	200

RIO GRANDE PLAIN

Truck Crops	Fertilizer	Pounds per Acre
Lettuce)	6-12-0, 10-10-0 or	400-800
Cabbage)	16-20-0	200-400
Spinach	6-12-0, 10-10-0 or 16-20-0	400-600 200-300
Carrots)		
Beets)	6-12-0, 10-10-0 or	400-800
Turnips)	16-20-0	200-400
Tomatoes)		
Peppers)	6-12-0, 10-10-0 or	400-800
Eggplants)	16-20-0	200-400
Cantaloupes)		
Squash)		
Cucumbers)	6-12-0, 10-10-0 or	400-600
Watermelons)	16-20-0	200-300
Grapefruit)	6-12-0, 10-10-0 or	400
Oranges)	16-20-0	200
Lemons)	Side dress in spring or early summer with 30 lbs. of nitrogen	

EL PASO, RIO GRANDE, WINTER GARDEN, PECOS IRRIGATED AREAS

Field Crops	Fertilizer	Pounds per Acre
Alfalfa	20% superphosphate	300-400

Field Crops	Fertilizer	Pounds per Acre
Corn)	6-12-0, 10-10-0 or 16-20-0, 12-15-0 Side dress with 30-40 lbs. nitrogen	300-400 200
Grain Sorghum)		
Sweet Sorghum)		
Sudan)		
Cotton	10-10-0, 6-12-0 or 16-20-0, 12-15-0	300-400
Legumes, summer	20% superphosphate	200-300
Legumes, winter	20% superphosphate	200-300
Pasture, (permanent)	6-12-0, 10-10-0 or 16-20-0, 12-15-0, or Ammonium nitrate	300-400 200 100
Grasses only		
Grasses and legumes		
Pasture, (temporary)	10-10-0, 6-12-0 or 16-20-0, 12-15-0, or Ammonium nitrate	300-400 200 100
Small grains only		
Small grains and legumes		
Sugar beets)	6-12-0, 10-10-0 or 16-20-0, 12-15-0 Side dress with 20-30 lbs. nitrogen	300-400 150-300
Stock beets)		

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

Truck Crops	Fertilizer	Pounds per Acre
Lettuce)	6-12-0, 10-10-0 or 16-20-0, 12-15-0	400-800 200-400
Cabbage)		
Carrots)	6-12-0, 10-10-0 or 16-20-0, 12-15-0	300-600 150-300
Beets)		
Turnips)		
Irish Potatoes	6-12-0, 10-10-0 or 16-20-0, 12-15-0	400-800 200-400
Tomatoes)	6-12-0, 10-10-0 or 16-20-0, 12-15-0	300-600 150-300
Peppers)		
Eggplants)		
Squash)	6-12-0, 10-10-0 or 16-20-0, 12-15-0	300-600 150-300
Cucumbers)		
Watermelons)		
Cantaloupes	6-12-0, 10-10-0 or 16-20-0, 12-15-0 Side dress at first bloom with 30-60 lbs. nitrogen	600-800 300-400
Grapefruit)	10-10-0, 6-12-0 or 16-20-0, 12-15-0	600-800 300-400
Oranges)		
Lemons)		
	Side dress with 30-60 lbs. nitrogen in spring or early summer	

TRUCK CROPS FOR THE LOWER RIO GRANDE VALLEY

(Cameron, Hidalgo, Willacy counties)

Truck Crops	Fertilizer	Pounds per Acre
Spinach)	16-20-0	200-400
Escarole & Endive)	Applied at seeding	
Dandelion)	or	
Collards)	10-20-0	300-500
Parsley)	Applied at seeding	
30-60 lbs. nitrogen to be applied as side dressing as growth and conditions of the plants so indicate.		
Cabbage)		
Broccoli)	10-20-0	300-500
Lettuce)	Side dress with 30-50 lbs. nitrogen	
Tomatoes, Fall	10-20-0 in seedbed—side dress as necessary	300-500
Tomatoes, Spring	10-20-0 Side dressing of nitrogen as needed	200-400
Peppers	10-20-0 Applied seedbed—Side dress with 30-60 lbs. nitrogen as plants indicate need	200-350
Eggplants	10-20-0 Side dress with 30-60 lbs. nitrogen	200-300
Squash)		
Cantaloupes)	6-12-0 or 10-20-0	300-600
Cucumbers)	Side dress with 30-60 lbs. nitrogen as needed.	
Citrus	16-20-0 in January Side dress in April with 60-90 lbs. nitrogen	300-400
Potatoes	6-12-0 or 16-20-0	400-800 200-400
Beets	4-12-4 or 10-20-0	300-500 150-250
Carrots	10-20-0 and 20% superphosphate	100-200
Onions	50-50 mixture 10-20-0 and 0-20-0 or 10-20-0 and 20% superphosphate or 10-20-0 and 47% superphosphate	300-500 150-250 200-300 75-200

TRUCK CROPS FOR THE LOWER RIO GRANDE VALLEY

Truck Crops	Fertilizer	Amount	Application
Spinach	16-20-0	200-400	Applied at seeding
Broccoli & Endive	16-20-0	200-500	Applied at seeding
Brussels Sprouts	16-20-0	200-500	Applied at seeding
Tomatoes (Fall)	10-20-0 in seedbed—side dress as necessary	200-500	
Tomatoes (Spring)	10-20-0	200-400	Side dressing of nitrogen as needed
Peppers	10-20-0	200-350	Applied seedbed—side dress with 30-60 lbs nitrogen as plants indicate need
Okra	10-20-0	200-300	Side dress with 30-60 lbs nitrogen
Cucumbers	16-20-0 or 10-20-0	200-400	Side dress with 30-60 lbs nitrogen as needed
Citrus	16-20-0 in January	200-400	Side dress in April with 60-90 lbs nitrogen
Peas	6-12-0 or 16-20-0	100-800	
Beets	4-12-1 or 10-20-0	200-500	
Carrots	10-20-0 and 20% superphosphate	100-200	
Onions	50-50 mixture 10-20-0 and 10-20-0 or 10-20-0 and 20% superphosphate or 10-20-0 and 47% superphosphate	200-500 150-250 200-300 75-200	

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