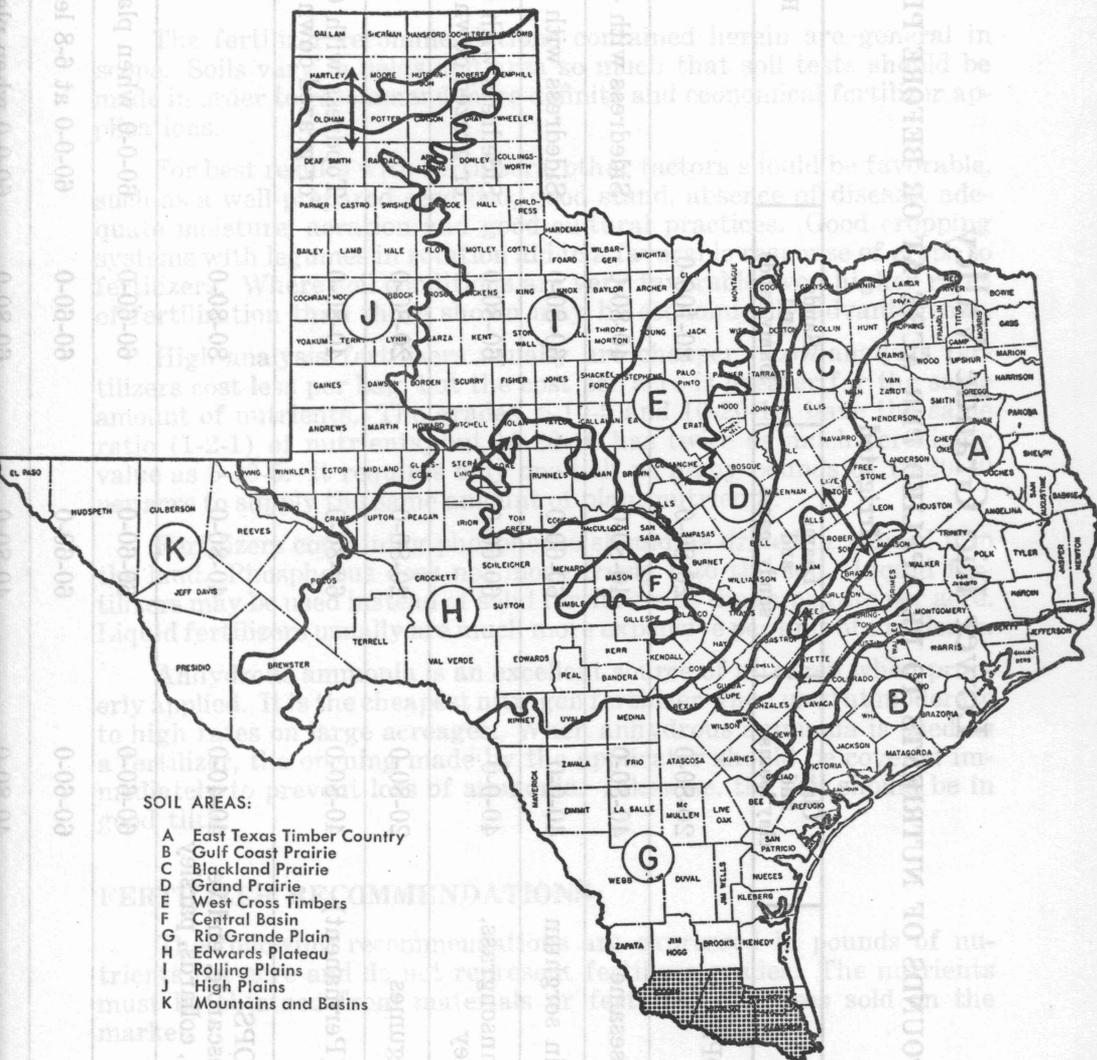


FERTILIZER RECOMMENDATIONS for the Lower Rio Grande Valley



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.

TEXAS AGRICULTURAL EXTENSION SERVICE

G. G. Gibson, Director, College Station, Texas

FERTILIZER RECOMMENDATIONS

for the Lower Rio Grande Valley

M. K. Thornton, Extension Agricultural Chemist
W. R. Cowley, Superintendent, Substation No. 15
Texas A. & M. College System

The fertilizer recommendations contained herein are general in scope. Soils vary in fields and area so much that soil tests should be made in order to recommend more definite and economical fertilizer applications.

For best results with fertilizers, other factors should be favorable, such as a well-prepared seed bed, good stand, absence of disease, adequate moisture, aeration and good cultural practices. Good cropping systems with legumes in rotation aid in a favorable response of crops to fertilizers. Where soil conditions are very favorable even higher rates of fertilization than those shown may be economically advantageous.

High-analysis fertilizers usually are cheaper. 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, have the same ratio (1-2-1) of nutrients, but 10-20-10 has twice as much fertilizing value as 5-10-5. It requires only one-half as many pounds of 10-20-10 per acre to supply the same amount of plant nutrients.

Fertilizers containing phosphorus should be drilled or plowed into the land. Phosphorus does not move freely into the soil. Liquid fertilizers may be used instead of solid fertilizers at the same rate per acre. Liquid fertilizers usually are much more expensive per unit of nutrients.

Anhydrous ammonia is an excellent source of nitrogen when properly applied. It is the cheapest nitrogen fertilizer when used at moderate to high rates on large acreages. When anhydrous ammonia is used as a fertilizer, the opening made by the applicator should be covered immediately to prevent loss of ammonia. Likewise, the soil should be in good tilth.

FERTILIZER RECOMMENDATIONS:

The following recommendations are expressed in pounds of nutrients per acre and do not represent fertilizer grades. The nutrients must be obtained from materials or fertilizer mixtures sold on the market.

For example, a recommendation calling for 30-60-30, which is a 1-2-1 ratio, can be obtained by applying 600 pounds of 5-10-5 or 250 pounds of 12-24-12 or 300 pounds of 10-20-10. Again, if a recommendation calls for 15-60-0, this may be obtained by applying about 400 pounds of a 4-16-0 or 125 pounds of 11-48-0.

Row Crops: Fertilizer usually is applied at the time of planting or just before. Fertilizers are more efficiently used by most crops when applied in a band 2 to 3 inches to the side and 2 to 3 inches below the seed.

If equipment for applying fertilizers in bands while planting or cultivating is not available, apply the fertilizer in the water furrow and bed on it when the land is prepared for planting. Avoid putting the seed too close to the fertilizer as germination may be impaired.

If large quantities of nitrogen fertilizer are to be applied, part of the nitrogen should be drilled into the soil with the phosphorus and potash and the remainder applied 35 to 45 days later as a side or top-dressing.

Small Grains: Fertilizers for small grains may be broadcast, drilled in or plowed in. Fertilizers containing nitrogen and potash should not be allowed to touch the seed.

Phosphorus, potash and part of the nitrogen should be applied at or before seeding. The rest of the nitrogen should be applied in the spring before plants begin to joint.

Pastures: For establishing improved pastures, fertilizer should be applied in bands when possible. Otherwise, it should be broadcast, drilled or plowed in. For maintenance, topdress with 30-0-0 as needed. Repeat basic fertilizer treatment annually as suggested or according to a soil test.

Fruit Trees: Fertilizer for fruit trees may be applied over the entire area covered by the orchard when the trees are mature. In non-bearing orchards, the fertilizer should be applied over the area covered by the spread of the limbs. Keep fertilizer 1 foot away from tree trunks. Cultivate fertilizer applications into the soil.

Recommendations for fertilizers in this circular are those found best, by experiments, tests and practical experience in the field. They range from the calcareous (limy) river valley clays to the sands of the uplands. If your farm contains both clays and loams, there will be two recommendations for your land.

When crops follow legumes turned under, the amount of fertilizer to be applied at planting may be reduced. Side or topdress with the amount of fertilizer suggested.

The letters NR mean that the crop is not recommended for this class of soils.

Cooperative Extension Work in Agriculture and Home Economics, The Texas A. & M. College System and United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.

Lower Rio Grande Valley

POUNDS OF NUTRIENTS TO BE APPLIED PER ACRE AT OR BEFORE PLANTING

Irrigated

	Clays and clay loams	Loams and sandy loams	Sands and loamy sands	Remarks
FIELD CROPS				
Alfalfa	20-80-0	20-80-0	20-100-0	
Cotton & sesame	40-80-0	40-80-0	40-80-0	Sidedress with 40-0-0 at first forms
Corn, grain sorghum	40-0-0	60-60-0	60-80-0	Sidedress with 60-0-0 at knee high
Sudan, Johnsongrass, Oats, barley	40-0-0	60-60-0	60-80-0	Sidedress with 60-0-0 each time cut or grazed down
Annual legumes	20-80-0	20-80-0	20-80-0	
Pastures (Permanent)	40-80-0	60-80-0	40-80-0	Topdress with 60-0-0 each time cut or grazed down
TRUCK CROPS				
Spinach, escarole, endive Dandelion, collards, parsley	40-40-0	40-80-0	80-80-0	
Cabbage	60-60-0	60-60-0	60-60-0	60-0-0 when plants begin to head
Broccoli	60-60-0	60-60-0	60-60-0	60-0-0 at 6-8 leaves
Lettuce	40-80-0	40-80-0	60-80-0	60-0-0 when plants begin to head
Sweet corn	40-0-0	40-40-0	40-80-0	60-0-0 when plants are knee high
Tomatoes	40-80-0	40-80-0	40-80-0	40-0-0 at set of first fruit
Eggplants	40-80-0	40-80-0	60-80-0	
Peppers	80-80-0	80-80-0	80-80-0	Sidedress with 40-0-0 as needed
Potatoes	40-40-0	40-80-0	80-80-0	Sidedress with 40-0-0 as needed
Carrots	40-40-0	40-80-0	40-80-0	Sidedress with 40-0-0 as needed
Beets, turnips		40-40-0	40-80-0	Sidedress with 40-0-0 as needed
Onions	80-40-0	80-80-0	80-80-0	
Squash	40-80-0	40-80-0	40-80-0	
Beans and peas	40-40-0	40-80-0	40-80-0	Sidedress with 40-0-0 as needed
Watermelons, cucumbers	80-80-0	80-80-0	80-80-0	Sidedress with 40-0-0 as needed
Cantaloupes	40-80-0	40-80-0	80-80-0	Sidedress with 40-0-0 as needed
CITRUS—Per tree				
young trees, 5 years old	1-0-0	1-0-0	1-0-0	In 2 or 3 applications. If 2—Jan. and Sept. If 3—Jan., May and Sept.
Bearing trees, 5-10 yrs. old	2-0-0	2-0-0	2-0-0	In 2 or 3 applications. If 2—Jan. and Sept. If 3—Jan., May and Sept.
Old trees, over 10 yrs. old	3-0-0	3-0-0	3-0-0	In 2 or 3 applications. If 2—Jan. and Sept. If 3—Jan., May and Sept.

Dry Land

FIELD CROPS				
Cotton	30-60-0	30-60-0	30-60-0	30-0-0 at first forms, if soil moisture is adequate
Corn, grain sorghum	20-0-0	20-60-0	30-60-0	30-0-0 in 35 days if soil moisture is adequate
Annual legumes	20-60-0	20-80-0	20-80-0	
Pastures (Permanent)	40-80-0	40-80-0	40-80-0	Topdress with 30-0-0 each time cut or grazed down if soil moisture is adequate
Pastures Oats and Sudan	60-60-0	60-60-0	60-60-0	Topdress with 30-0-0 each time cut or grazed down if soil moisture is adequate
TRUCK CROPS				
Beans, peas	40-40-0	40-40-0	40-80-0	Innoculate
Cabbage	40-0-0	40-0-0	40-0-0	Sidedress with 40-0-0 if soil moisture is adequate
Cantaloupes, cucumbers	40-80-0	40-80-0	80-80-0	Sidedress with 40-0-0 at first bloom if soil moisture is adequate
Onions	40-0-0	40-40-0	40-80-0	
Watermelons		30-60-0	30-90-0	Sidedress with 40-0-0 at first bloom if soil moisture is adequate