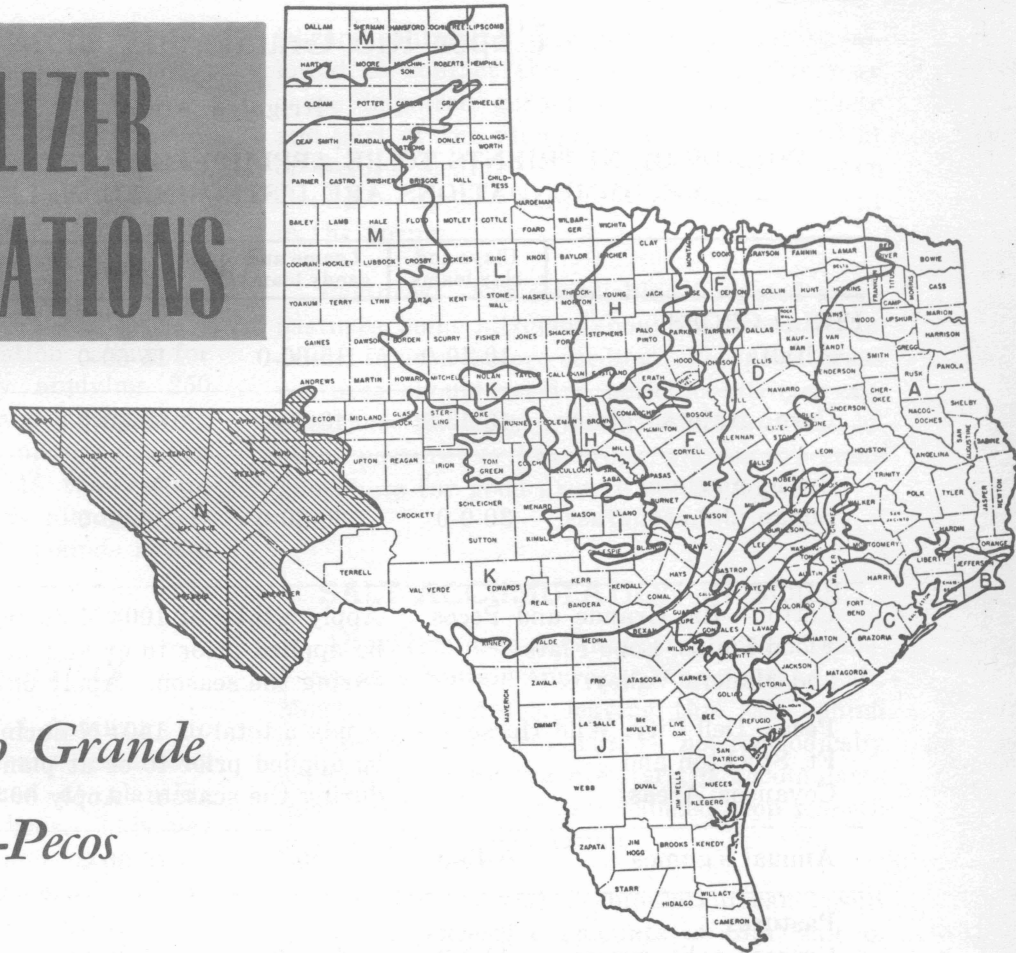


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# GENERAL FERTILIZER RECOMMENDATIONS



*for the Upper Rio Grande and Trans-Pecos*

THE AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS  
TEXAS AGRICULTURAL EXTENSION SERVICE  
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RECOMMENDATIONS for fertilizers in this leaflet are those found best by experiments, soil test summaries and practical experience in the field. The recommendations are general in scope. Since soils vary so much in nutrient levels, *soil tests should be made in order to obtain more definite and economical fertilizer recommendations.*

For best results with fertilizers, other factors should be favorable, such as a well-prepared seedbed, 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. When crops follow legumes turned under, the amount of nitrogen needed may be reduced. Where soil and crop management practices are favorable, even higher rates of fertilization than those shown may be economically advantageous.

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

**LAND RESOURCE AREAS**

- A East Texas Timberlands
- B Coast Marsh
- C Coast Prairie
- D Blackland Prairies
- E East Cross Timbers
- F Grand Prairie
- G West Cross Timbers
- H North Central Prairies
- I Central Basin
- J Rio Grande Plain
- K Edwards Plateau
- L Rolling Plains
- M High Plains
- N Trans-Pecos

Developed by Personnel of the Department of Soil and Crop Sciences, College Station and Substation No. 17, Ysleta Substation No. 9, Pecos of The A&M College of Texas



# Upper Rio Grande and Trans-Pecos

## Irrigated Areas

POUNDS OF NUTRIENTS TO BE APPLIED PER ACRE AT OR BEFORE PLANTING  
RECOMMENDATIONS ARE LISTED IN LB. N, LB. P<sub>2</sub>O<sub>5</sub> and LB. K<sub>2</sub>O

	Clays and clay loams	Loams and sandy loams	Sands	Additional treatment
<b>FIELD CROPS</b>				
Alfalfa	10-40-0	15-60-0	15-60-0	Topdress 0-60-0 annually in spring for maintenance.
Corn, grain sorghum	40-40-0	40-40-0	60-60-0	Sidedress with 80-0-0 in 35 days.
Sweet sorghum Sudan, Johnsongrass	30-0-0	30-30-0	30-60-0	Side or topdress with 60-0-0 after each cutting or each time grazed down.
Cotton—Rio Grande and Pecos Flood Plains, Lobo Flats and Madera Valley.	Apply a total of 100#N during season. A portion of this can be applied prior to or at planting or it can all be sidedressed during the season. Apply 60#P <sub>2</sub> O <sub>5</sub> once every 5 years.			
Pecos, Dell City, Wild Horse, Ft. Stockton and Cayanosa Areas*	Apply a total of 140#N during season. A portion of this can be applied prior to or at planting or it can all be sidedressed during the season. Apply 60#P <sub>2</sub> O <sub>5</sub> once every 5 years.			
Annual legumes	0-40-0	0-40-0	15-60-0	
Pastures Grasses only, grasses and legumes including small grains	40-0-0	40-0-0	60-60-0	Topdress with 60-0-0 each time cut or grazed down.
<b>TRUCK CROPS</b>				
Lettuce	30-30-0	60-60-0	60-60-0	Sidedress with 60-0-0 when plants begin to head.
Tomatoes, peppers	20-40-0	30-60-0	40-80-0	Sidedress with 40-0-0 at set of first fruit.
Cantaloupes	40-40-0	40-80-0	40-80-0	Sidedress with 50-0-0 at first bloom.
Onions	40-80-0	50-100-0	50-100-0	

\*Rates may vary, depending upon soil permeability, water and management practices. With frequent irrigation, some additional nitrogen should be applied in small quantities in the summer irrigation waters.

## GRADES OF FERTILIZER

The fertilizer recommendations are expressed in pounds of nutrients per acre and do not represent fertilizer grades. For example, 60-60-0 means 60 pounds nitrogen, 60 pounds  $P_2O_5$ , and no  $K_2O$  per acre. The nutrients must be obtained from materials or fertilizer mixtures sold on the market.

For example, a recommendation calling for 100-50-0 can be obtained by applying 250 pounds of 10-20-0 at planting and sidedressing an additional 75 pounds of nitrogen as a straight nitrogen fertilizer. If the recommendation calls for a 60-0-0, any nitrogen fertilizer can be used to supply 60 pounds actual nitrogen.

## METHOD OF APPLICATION

**Row Crops:** Application of fertilizers to irrigated row crops in the Trans-Pecos area usually cannot be accomplished at planting without unduly disturbing the beds. This also causes loss of soil moisture and may result in poor stands. For these reasons, fertilizers should be applied either before bedding or as a sidedressing after stands have been obtained. Before-bedding applications either can be drilled into the soil or topdressed and worked in. Sidedress applications should be banded 8 to 12 inches from the row and 4 to 6 inches deep.

Sidedressed fertilizers are utilized efficiently by irrigated row crops because all of the nutrients are placed in the root zone at the time rapid growth is beginning. On the more permeable soils, it may be advisable to split the nitrogen application into two sidedressings to avoid excessive fertilizer loss by leaching. When heavy rates of nitrogen are to be applied, it may be desirable to put part of it in the summer irrigation water for better seasonal distribution and to prevent possible late season deficiencies. Fertilizer tests to date have indicated no need for potash fertilizers in the Trans-Pecos area.

**Small Grains:** Fertilizers for small grains either may be broadcast or drilled in. Fer-

tilizers containing nitrogen should not be allowed to contact the seed because this may cause impaired germination. The phosphate and part of the nitrogen should be applied at or before seeding. The rest of the nitrogen should be applied before plants begin to joint in the spring.

**Pastures:** For establishing irrigated grass pastures, some nitrogen should be broadcast or drilled in at or before seeding. Perennial grass pastures should receive periodic nitrogen applications for best growth. Mixed grass—legume pastures or hay crops will require some phosphate for good growth of the legume.

## SALT ACCUMULATION IN SOILS

All waters used for irrigation in the Trans-Pecos area contain appreciable amounts of salt. Moisture evaporates, leaving this salt behind in the soil. If the salt is not periodically leached out in drainage waters, it accumulates in the root zone causing reduced crop growth and impaired germination.

Salt (or sodium) accumulation can result from: (1) excessive amounts of total salt in the irrigation water; (2) a high proportion of sodium salts in the water as compared to calcium and magnesium salts; (3) improper management practices; (4) low or restricted soil permeability; or (5) high water tables.

Fertilizers applied to crops on salt-affected soils would be largely wasted, since salinity is the chief factor limiting plant growth.

Space limitations do not permit further discussion of salinity problems in this leaflet. All farmers are urged to obtain and read the following Texas Agricultural Experiment Station publications: Bulletin 876, "Salinity Control in Irrigation Agriculture" and Miscellaneous Publication 373, "Some Relations Among Irrigation Water Quality, Soil Characteristics and Management Practices in the Trans-Pecos Area."

These can be obtained free upon request from your county agricultural agent or from the Agricultural Information Office, College Station, Texas.



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