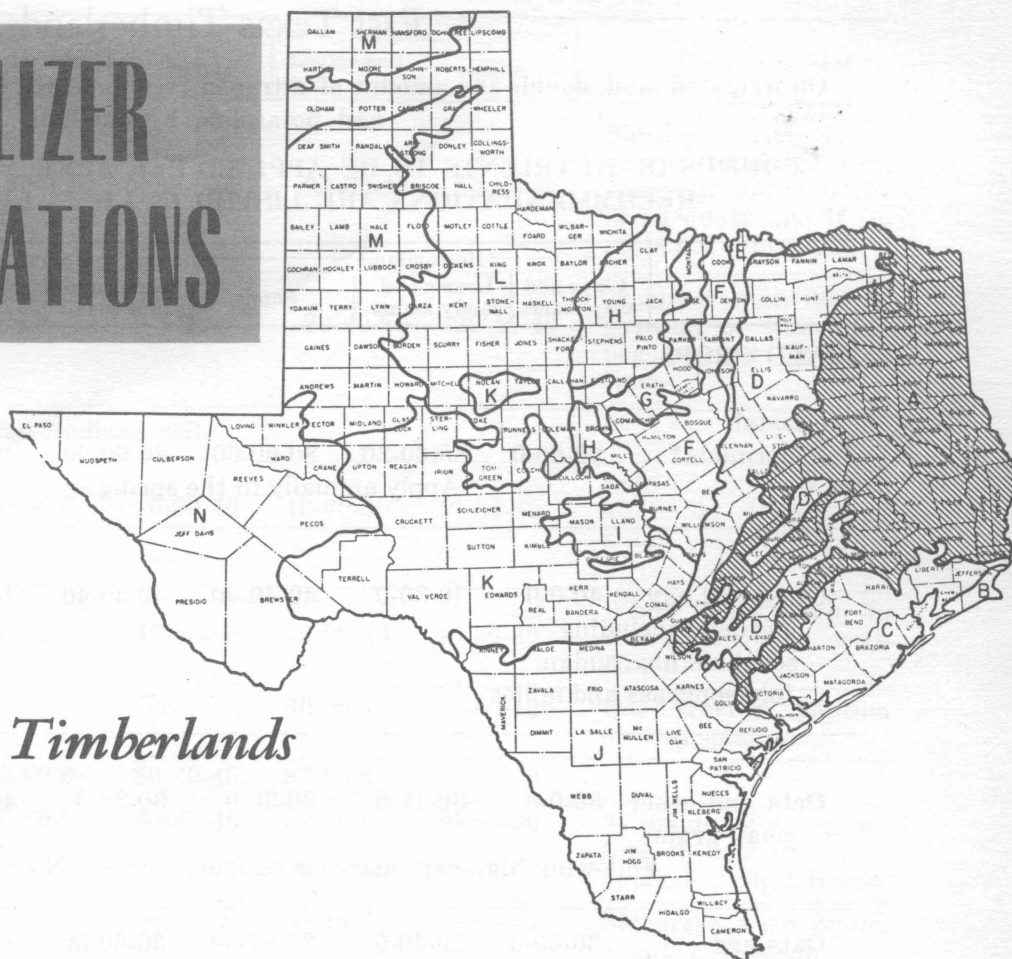


# GENERAL FERTILIZER RECOMMENDATIONS



*for the East Texas Timberlands*

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  
East Texas Substations and Field Laboratories  
of  
Texas A&M University

## East Texas Timberlands

**On irrigated land, double the amount of nitrogen recommended below and increase phosphorus and potassium by one-half**

**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**

	Bottomland			Upland*		Additional treatment
	Clays and clay loams	Loams and sandy loams	Sands	Loams and sandy loams	Sands	
FIELD CROPS						Topdress 40 lb. N every 2 to 3 months if grazed and 70 lb. N each time cut for hay if soil moisture is adequate.
Coastal Bermuda*	80-60-0	80-60-30	80-60-60	80-60-60	80-60-80	
Apply annually in the spring						
Grass and hay meadows including sorghum hay, sudan, Johnsongrass and millet	40-0-0	40-30-0	40-40-40	40-40-40	40-40-40	Topdress with 40-0-0 each time cut or grazed down if soil moisture is adequate.
Oats and other small grains	30-0-0	30-15-0	30-30-0	30-30-0	40-40-40	Topdress with 30-0-0 each time grazed down if soil moisture is adequate.
Following high carbonaceous residue, increase N by 30 lb. N						
Oats and legumes	30-40-0	30-40-0	30-60-30	30-60-60	30-60-60	
Annual legumes	10-40-0	10-40-0	15-60-30	15-60-60	15-60-60	
Legume-grass pastures	0-40-0	0-50-25	0-60-60	0-60-60	0-60-60	Topdress 30 lb. N for extra grazing in summer.
Apply each fall for legume						
Alfalfa	20-80-0	20-80-40	20-80-80	20-80-80	25-100-100	Topdress with 40 lb. P <sub>2</sub> O <sub>5</sub> each cutting. Repeat annually for maintenance.
Corn Grain sorghum	40-0-0	40-40-0	30-60-30	30-60-30	30-60-60	Sidedress within 35 days after planting with 40-0-0 if soil moisture is adequate.
Sorghum for syrup	NR	NR	30-60-30	30-60-30	30-60-60	Sidedress 30-0-0 within 35 days after planting if soil moisture is adequate.



	Bottomland			Upland*		Additional treatment
	Clays and clay loams	Loams and sandy loams	Sands	Loams and sandy loams	Sands	
Cotton	40-0-0	40-40-0	30-60-60	30-60-60	30-60-60	Sidedress with 30-0-0 at appearance of first square if soil moisture is adequate and if insects are controlled.
Peanuts	NR	NR	NR	20-40-20	20-40-40	Topdress with 300 lb. gypsum or lime over peg zone at blooming time.

\*Omit potash on heavy textured Redland soil.

#### TRUCK CROPS

Mustard, collards other greens	40-40-0	40-80-0	40-80-40	40-80-40	40-80-80	Side or topdress with 40-0-0 at 4 to 6-leaf stage.
Cabbage‡	40-40-0	40-80-0	40-80-40	40-80-40	40-80-80	When heads begin to form, sidedress with 40-0-0.
Sweet potatoes‡	NR	NR	NR	40-80-120	40-80-120	Use starter solution on transplants.
Onions (green)	40-40-0	40-80-0	80-80-40	80-80-40	80-80-80	
Tomatoes,‡ peppers‡ eggplants‡	60-0-0	40-80-0	80-80-40	80-80-40	80-80-80	$\frac{2}{3}$ applied 2 weeks before transplanting, $\frac{1}{3}$ applied at first bloom.
Okra	40-0-0	40-40-0	40-40-20	40-40-20	40-40-40	Sidedress with 30-0-0 about midseason.
Cantaloupes	NR	40-80-40	40-80-40	40-80-40	40-80-80	
Squash Cucumbers	NR	40-80-40	40-80-40	40-80-40	40-80-80	Sidedress with 40-0-0 when vines begin to bloom.
Watermelons	NR	0-40-20	30-60-60	30-60-60	30-80-160	Sidedress sands with 30-0-0 when vines begin to run.
Beans	20-40-0	40-40-0	40-40-20	40-40-20	40-40-40	
Peas, blackeye, purple hull, etc.	0-40-0	20-40-0	20-60-20	20-40-20	20-40-40	

‡The use of a starter solution on all transplants at the time of transplanting has been shown to result in better stands and increased yields.

#### FRUIT

FRUIT		Pounds of fertilizer per inch of tree diameter				Apply in February. For young trees 1/3 to 1/2 quantity for bear- ing trees.
Apple, peach, plum bearing trees	NR	NR	1 lb. 10-20-10	1 lb. 10-20-10	1 lb. 10-20-10	
Blackberries Dewberries	NR	NR	40-80-0	40-80-40	40-80-40	Apply in February.
Strawberries	NR	NR	70-140-70	70-140-70	70-140-140	1/2 at planting, 1/2 at first bloom.

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**Pecans**      *Nitrogen*—All soil types

For bearing trees apply  $\frac{1}{3}$  pound of N per inch of tree diameter in late February or early March. For young trees apply from one-fourth to one-half as much N, depending on the size of the tree. Phosphorus and potassium may be needed. Test soil to determine need.

*Zinc*—All soil types

If there are any signs of rosette or if the orchard has any history of zinc deficiency, spray pecan leaves with 3 pounds of 36 percent zinc sulfate per 100 gallons of water when leaves are one-third grown, or mix with regular casebearer spray in late April or early May.

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#### GRADES OF FERTILIZER

The fertilizer recommendations are expressed in pounds of nutrients per acre and do not represent fertilizer grades. For example, 30-60-30 means 30 pounds nitrogen, 60 pounds  $P_2O_5$  and 30 pounds  $K_2O$  per acre. 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 500 pounds of 6-12-6 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.

High-analysis mixed 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, 6-12-6 and 12-24-12, have the same ratio (1:2:1) of nutrients, but 12-24-12 has twice as much fertilizing value of 6-12-6. It requires only one-half as many pounds of 12-24-12 per acre to supply the same amount of plant nutrients.

#### METHOD OF APPLICATION

**Row Crops:** Fertilizer can be 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 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 applied with the phosphorus and potassium and the remainder applied 35 to 45 days later as a side or topdressing.

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

Phosphorus, potassium 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, fertilizers should be applied in bands when possible. Otherwise, it should be broadcast, drilled or plowed in. For maintenance of grass pasture, 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 nonbearing orchards, the fertilizer should be applied over the area covered by the spread of the limbs. Keep fertilizer 1 foot away from the tree trunks. Cultivate fertilizer applications into the soil.

#### GENERAL LIMESTONE RECOMMENDATIONS

Many soils in the East Texas Timberland area are slightly to strongly acid. Many soils also are low to very low in calcium. Crop quality and yields are lowered when soils become too acid or deficient in calcium.

The application of limestone or other liming materials will correct soil acidity and supply calcium.

*Many East Texas upland soils, particularly lighter textured soils, will respond to the application of 1 ton of limestone per acre. Loams, clay loams and clays that are acid usually will require a larger application.*

Use a soil test to determine exact soil needs.