Liming

The optimum pH range for tomatoes is between 6.0 and 6.5. Fusarium wilt problems are reduced by liming within this range, but it is not advisable to raise the pH higher than 6.5 because of reduced micronutrient availability.

Calcium and magnesium levels should be corrected according to the soil test. If both elements are low, broadcast and incorporate dolomitic limestone. Where calcium alone is deficient, lime with "hi-cal" limestone. Adequate calcium is important for reducing the severity of blossom-end rot. On limestone soils, add 30-40 pounds per acre of magnesium in the basic fertilizer mix. It is best to apply lime several months prior to planting. However, if time is short, it is better to apply lime any time before planting than not to apply it at all. Where the pH does not need modification, but magnesium is low, apply magnesium sulfate or potassium-magnesium sulfate with the fertilizer.

Table 3. Fertility recommendations for non-mulched tomatoes grown on irrigated soils testing very low in phosphorus and potassium

	Nutrient requirements	Supplemental applications	
Soil	lbs/A N-P_2O_5-K_2O	lbs/A N-P_2O_5-K_2O	Number of Applications
Irrigated Mineral	160-160-160	30-0-20	0-4
Marl	120-160-160	30-0-20	0-3
Rockdale[1]	90-150-120	0-3	

[1] A portion of the phosphorus (25 pounds per acre) in the super or triple super form should be placed in the drill or under the plug-mix to supply an adequate amount for germinating seedings or transplants.

Miocronutrients

For virgin, sandy soils, or sandy soils where a proven need exists, a general guide for fertilization is the addition of micronutrients (in pounds per acre) manganese — 3, copper — 2, iron — 5, zinc — 2, boron — 2, and molybdenum — .02. Micronutrients may be supplied from oxides, sulfates, or from fritted trace elements. If fritted trace elements are desired, however, *be sure* to verify with the fertilizer dealer that the trace elements are actually fritted. Growers using manganese-, zinc-, and copper-containing fungicides need to consider these sources when calculating fertilizer micronutrient needs. More information on micronutrient use is available (9).

Table 4. Fertility recommendations for mulched tomatoes on irrigated soils testing very low in phosphorus and potassium.

		Nutrient requirements	Supplemental Applilcations[1]	
Soil	Number of expected harvests	lbs/A[2] N-P_2O_5-K_2O	lbs/A Applications	Number of
Mineral	2-3	160-160-160	30-0-20	0-2
Rockdale	2-3	130-220-260	30-0-20	0-2

[1] Sidedressing to replenish nitrogen and potassium can be accomplished by the use of a liquid fertilizer injection wheel.

[2] Approximately 7200 linear bed feet of crop per acre (43,560 square feet).

Properly diagnosed micronutrient deficiencies can often be corrected by foliar applications of the specific nutrient. For most micronutrients, a very fine line exists between sufficiency and toxicity. Foliar application of major nutrients (nitrogen, phosphorus, or potassium) has not been shown to be beneficial where proper soil fertility is present. For more information on foliar micronutrient fertilization of tomatoes, consult the Commercial Vegetable Fertilization Guide, Circular 225-C.

Fertilizer application

Nonmulched Crops Apply all phosphorus and micronutrients, and up to one-half of the nitrogen and potassium prior to planting and incorporate by disking or rototilling. Increased fertilizer efficiency can be realized by a "modified broadcast" method where the needed fertilizer is broadcast in the bed area only, rather than over the entire field. For rates, see Table 3. Incorporation will place some fertilizer near the transplant root or germinating seed. The remaining nitrogen and potassium fertilizer can be banded in an area on both sides of the row just ahead of developing root tips through the early part of the growing season.

Several supplemental sidedress band applications of nitrogen and potassium may be needed after leaching rainfall. These are applied on the bed shoulders just ahead of the expanding root system, until 2 to 4 weeks before the end of harvest period. A shallow cultivator sweep will cover the fertilizer