

Soil reaction (pH). Sweet corn can be grown successfully over a wide range of pH, from about 5.8 to 6.5. Soil with a pH below 5.8 (especially old land that might contain high levels of micronutrients) should be limed to reduce the risk of micronutrient toxicities. Soil with a pH above 7.0 can be used to grow sweet corn, but availability of some micronutrients might be reduced. Use a well-calibrated lime requirement test to determine the need for lime.

In situations where the soil has been overlimed, elemental sulfur can be applied to reduce the pH. Reducing the pH on naturally alkaline soils, such as the rockland marl and some mucks, is not economical or practical.

Fertilizer. The University of Florida Extension Soil Testing Lab in Gainesville makes fertilizer recommendations based on the Crop Nutrient Requirement (CNR) concept. The CNR concept accounts for all sources of a specific nutrient to the crop. The major sources are the soil itself and fertilizer. The sweet corn crop has required levels of the mineral nutrients for optimum yields. These amounts are presented in Table 3. These CNR amounts can be supplied to the crop from soil and/or fertilizer. Soil-testing is used to determine the amount of the CNR that can be supplied from the soil. Fertilizer is added in proper amounts to make up the difference. In many areas, especially where soils have large residual amounts of nutrients such as phosphorus and micronutrients built up, there is little likelihood of response to added fertilizer.

Nitrogen. Research shows in Florida that nitrogen (N) should be split-applied. Apply up to 40 lb. N per acre at planting, usually by banding to the side and below the seed. The remaining N should be applied in one to two sidedressings early in the season. Additional sidedressings of 30 lb. N and 20 lb. K₂O per

acre might be needed after leaching rains (2 to 3 inches of rain in a 3-day period or 4 inches in a 7-day period). Sources of N can be ammonium nitrate, urea, and various liquid formulations containing these materials.

Phosphorus. All phosphorus (P) should be applied at planting using amounts predicted by soil testing. Where only small amounts of P are needed, or where the pH is above 7.0, it might be best to band. Supplemental P is usually not needed except perhaps in the winter on the alkaline rockland and marl where P availability is reduced. Phosphorus can be supplied from triple super (46% P₂O₅), normal super (20% P₂O₅), and diammonium or monoammonium phosphate.

Potassium. The management of potassium (K) is made difficult because K leaches to a certain extent in sandy soils. The leaching is not as severe as for N. Apply up to one-half of the K at planting with the N and apply the remainder in the first sidedressing. Supplemental applications of K might be needed after severe leaching rainfall; however, addition of K with each supplemental sidedressing may not be needed. Any source of K can be used for sweet corn (potassium chloride, potassium nitrate, potassium sulfate, or potassium-magnesium sulfate). If soil-test-predicted amounts of K are adhered to, then the source of K and its associated "salt index" are not important. No concern should be given to any specific K:N ratio in the fertilizer since the objective of fertilization is to add the correct amount of N and K.

Magnesium and sulfur. Usually these nutrients are in ample supply in Florida soils. Magnesium (Mg) can be supplied from dolomitic lime or as magnesium sulfate or potassium – magnesium sulfate. Sulfur (S) can be supplied from these two materials in addition to that from potassium sulfate, normal superphos-

Table 3. Crop nutrient requirements for sweet corn on soils testing very low in phosphorus and potassium.

Soil	Crop nutrient requirements N - P ₂ O ₅ - K ₂ O lb. per acre	No. of Supplemental applications	Footnotes
Irrigated mineral	120-120-120	0-4	1
Rockland	70-60-90	0-1	1
Marl	80-70-80	0-1	1
Organic	0-120-180	-	1,2

¹ These CNR amounts are applied as fertilizer *only* to soils testing very low in P and K. Use a soil test to determine precisely how much fertilizer is needed.

² Crops might respond to supplemental applications of 30 to 40 lb. per acre of N during cool winter periods or after a leaching rain.