

Sweet Corn Production in Miami-Dade County, Florida¹

Haimanote Bayabil, Yuncong Li, Teresa Olczyk and Guodong Liu²

Situation

In 2021, gross sales from approximately 34,400 acres of sweet corn in Florida were \$208.2 million, with an average yield of 145 CWT per acre (USDA/NASS 2022, https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=FLORIDA). Miami-Dade County is the main sweet corn producing area in the state. The production cost was approximately \$12.91 per crate or \$3,874/acre for an acceptable yield of 126 CWT per acre in 2016. Sweet corn produced in Miami-Dade County is sold for the fresh market nationwide during winter and spring.

Varieties

Refer to Chapter 17 of the *Vegetable Production Handbook of Florida 2021–2022* for variety selection (Kanissery et al. 2021, <https://edis.ifas.ufl.edu/CV135>). Currently the major varieties grown in Miami-Dade County are Primetime, Summersweet9730, and Sunvolt. Bt-corn hybrids are not grown because they cannot be exported to Europe.

Soils, Land Preparation, and Planting

Sweet corn in Miami-Dade County is grown on both gravelly and marl soils. Sandy soils (west Kendall area) also are suitable for sweet corn production. To be suitable,

gravelly soils must be a minimum of 6 inches deep above the bedrock. Sweet corn is relatively tolerant to flooding because it can form a spongy tissue called aeranchyma (aer - means air and enkhuma infusion in Greek) delivering or exchanging oxygen with carbon dioxide and ethylene between shoots and to roots. Nevertheless, both yield and quality are reduced or fully lost under prolonged flooding.

The planting season for sweet corn extends from early October to January and occasionally February. Typically seed is spaced 6–8 inches within the row and rows are spaced 28–32 inches apart (Kanissery et al. 2021, <https://edis.ifas.ufl.edu/CV135>). Seeding rates of 20,000 to 22,000 seeds per acre are used.

Fertilizer

At present, calibrated soil tests are not available for the calcareous soils of Miami-Dade County. Tissue analysis is recommended to determine the composition and rates of fertilizers to be applied. Instructions for tissue sample collection, preparation, and submission are provided in Plant Tissue Information Sheet (Mylavarapu et al. 2022), which is available online at <https://edis.ifas.ufl.edu/ss182> and from the Miami-Dade County Cooperative Extension Service. Information on plant tissue analysis for sweet corn is provided in Chapter 2 of the *Vegetable Production*

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2. Haimanote Bayabil; Yuncong Li, professor, UF/IFAS Tropical Research and Education Center; Mary Lamberts, Extension agent IV, UF/IFAS Extension Miami-Dade County; Teresa Olczyk, Extension agent IV, Miami-Dade County Extension; and Guodong Liu, assistant professor, Horticultural Sciences Department; UF/IFAS Extension, Gainesville, FL 32611.

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Handbook for Florida 2017-2018 (Liu et al. 2021, <https://edis.ifas.ufl.edu/cv296>). The total amount of fertilizer required in Miami-Dade County depends on the variety, soil fertility, and other environmental factors. Pre-plant fertilizer formulas of 6-6-6, 6-3-6, 10-10-10, or similar formulas are satisfactory. All of the phosphorus and two-thirds of the N and K fertilizer should be applied as dry fertilizer prior to planting. The remainder should be side dressed 2 to 4 times during the season. Due to the high soil pH in the area, foliar application of chelated iron or zinc may be needed if soil test report shows low nutrients (please see this EDIS publication at <https://edis.ifas.ufl.edu/hs1208>).

Irrigation and Freeze Protection

Center pivots, high volume big gun sprinklers, in line low volume sprinklers, or traveling guns can be used for irrigation. Irrigation frequencies depend on plant growth stages, soil type, and weather conditions. Normally, corn is irrigated once every 5–7 days, though more frequent irrigation may be required at certain growth stages during drought periods.

Sweet corn has little resistance to frost. Indeed, chilling injury occurs when temperatures drop 2°F below freezing. Because of the cost of solid set overhead sprinklers, most sweet corn growers in Miami-Dade County do not provide freeze protection for sweet corn. More information on irrigation is available in Chapter 3 of the *Vegetable Production Handbook for Florida 2021-2022* (Zotarelli et al. 2022, <https://edis.ifas.ufl.edu/cv297>).

Insect Management

Refer to Chapter 17 of the *Vegetable Production Handbook of Florida 2021–2022* for extensive information on insect control (Kanissery et al. 2021, <https://edis.ifas.ufl.edu/CV135>). The major pests are the fall armyworm, corn silk fly, lesser cornstalk borer, cutworm, and wireworm.

Disease Management

Refer to Chapter 17 of the *Vegetable Production Handbook of Florida 2017–2018* for extensive information on disease control (Kanissery et al. 2021, <https://edis.ifas.ufl.edu/CV135>). Major diseases include maydis, turcicum, rust, and viruses.

Weed Management

Refer to Chapter 17 of the *Vegetable Production Handbook of Florida 2021–2022* for extensive information on insect

control (Kanissery et al. 2021, <https://edis.ifas.ufl.edu/CV135>).

Harvest

Harvesting season extends from January through April. The harvest date depends on the variety. When hand harvested, sweet corn is usually packed in the field.

Multiple Cropping/Rotation

Because of the long residual action of certain herbicides commonly used in corn production, few crops can be grown in rotation with sweet corn.

References

- Liu, Guodong, Edward Hanlon, and Yuncong Li. 2019. *Understanding and Applying Chelated Fertilizers Effectively Based on Soil pH*. HS725. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Accessed on June 13, 2022. <https://edis.ifas.ufl.edu/hs1208>
- Liu, Guodong, Eric H. Simonne, Kelly T. Morgan, George J. Hochmuth, Monica Ozores-Hampton, and Shinsuke Agehara. 2021. *Fertilizer Management for Vegetable Production in Florida*. CV296. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Accessed on June 13, 2022. <https://edis.ifas.ufl.edu/cv296>
- Mylavarapu, Rao S., William d'Angelo, and Nancy Wilkinson. 2022. *Plant Tissue Test Form*. SL131. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Accessed on June 13, 2022. <https://edis.ifas.ufl.edu/ss182>
- Kinissary, Ramdas, Eugene J. McAvoy, Richard N. Raid, and Julien Beuzelin. 2021. *Sweet Corn Production*. HS737. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Accessed on June 13, 2022. <https://edis.ifas.ufl.edu/cv135>
- USDA/NASS. 2016. 2016 State Agriculture Overview: Florida . Accessed on June 13, 2022. https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=FLORIDA
- Zotarelli, Lincoln, Michael D. Dukes, Guodong Liu, Eric H. Simonne, and Shinsuke Agehara. 2021. *Principles and Practices of Irrigation Management for Vegetables*. CV297. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Accessed on June 13, 2022. <https://edis.ifas.ufl.edu/cv297>