

Potato Production in Miami-Dade County, Florida¹

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Situation

Potatoes are an important traditional vegetable crop in Miami-Dade County with annual plantings of 1,500-2,000 acres. The crop is grown when the day lengths are short and temperatures low and therefore yields are typically about 200 cwt. The production cost in 1999-2000 was approximately \$18.79 per cwt or \$3,758/acre for an acceptable yield of 200 cwt/acre. Miami-Dade potatoes are sold mainly in the spring for the fresh market throughout the U.S. and Canada.

Varieties

Currently the major varieties grown in the Miami-Dade County are La Rouge and La Chipper.

Soils, Land Preparation, and Planting

Potatoes in Miami-Dade County are grown on marl soils. Since marl soils are found at relatively low elevations, they are subject to flooding by the occasional occurrence of late season tropical storms

or heavy rains. Sorghum/Sudan grass hybrid is commonly grown during the summer rainy season as a cover crop on land available for potato. The cover crop should be mowed, disked and plowed 4-6 weeks before planting. Planting of the cover crop is delayed until July to avoid infestation by the click beetle, whose eggs give rise to wireworms.

The planting time for potatoes extends from November into late December. Planting should be in rows 36-42 inches apart with seed pieces placed 6 to 12 inches apart in the 3-4 inches deep furrow.

Fertilizer

Calibrated soil tests for the calcareous soils of Miami-Dade County are not presently available. Therefore, 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 (SL-131), which is available from the Miami-Dade County Cooperative Extension Service. Information on plant tissue analysis for potato is provided in the Vegetable

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1. This document is HS-860, one of a series of the Horticultural Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Revised: April 2006. Reviewed July 2009. Please visit the EDIS Web site at <http://edis.ifas.ufl.edu/>. This document is written specifically for growers in Miami-Dade County as a supplement to Vegetable Production Guide for Florida (SP170) (http://edis.ifas.ufl.edu/MENU_CV:VEGPROD). We thank many colleagues, growers and representatives from seed and chemical companies and grower services for reviewing the document.
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Production Guide for Florida (SP170) The total amount of fertilizer required in Miami-Dade County depends on the variety, soil fertility, and other environmental factors. Less inorganic fertilizer should be applied if a soil organic amendment (compost, biosolids, manure) has been applied. Preplant fertilizer formulas of 6-6-12, 6-3-12, 6-12-10, 10-10-10, or similar formulas are satisfactory. Normally all of the P and K fertilizer are banded near or below seed piece at planting. At least two thirds of the N should be applied with the P and K. Any remaining N should be applied as a side dress in liquid form 30-40 days after planting. Leaching rains may result in the need to side dress additional N. Magnesium nitrate or sulfate and EDDHA-chelated iron should be applied if deficiency symptoms appear.

Irrigation and Freeze Protection

Because of the high water table in marl soils, potatoes grown on deeper soils may not require irrigation during most of the season. However, irrigation is critically important for extended periods of drought. Brief periods of water stress can cause significant reductions in yield. A moving pipe irrigation system or overhead water cannon ("big gun") is commonly used for irrigation. Mature plants require approximately 1500 to 3500 gal. per acre per day. Over irrigation should be avoided, since it stresses plants and leaches fertilizer out of the root zone.

Potato sustains chilling injury when temperatures drop 2 °F below freezing. However most growers do not provide solid set overhead sprinklers for protection against freezes.

Insect Management

Refer to the Vegetable Production Guide for Florida (SP170) for extensive information on insect control. The major insect pests of potato are wireworms and melon thrips. Other pests such as worms, aphids, whiteflies, and aphids can also reach economically damaging levels. The diapaeses root weevil tends to be especially damaging in potato fields bordering on field nurseries. Although not currently a problem, plant parasitic nematodes can cause significant damage to the potato crop.

Disease Management

Refer to the Vegetable Production Guide for Florida (SP170).

Weed Management

Refer to the Vegetable Production Guide for Florida (SP170).

Harvest

The harvest season extends from March to May. All harvesting is accomplished with mechanical harvesters. The potatoes are normally vine-killed three to four weeks prior to harvest to encourage skin set.

Multiple Cropping/Rotation

Because potatoes are planted late in the dry winter season, few alternate crops develop rapidly enough to mature before or after the potato season. The rainy season begins soon after the potatoes are harvested. At this time, management of alternate vegetable crops become difficult.