CITRUS DEGREE PROGRAM AND EDUCATIONAL OPPORTUNITIES AT SWFREC, IMMOKALEE

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Abstract. The educational programs offered by the University of Florida (UF), Institute of Food and Agricultural Sciences (IFAS), Southwest Florida Research and Education Center (SWFREC) at Immokalee provide educational opportunities to place-bound individuals in southwest Florida who are employed or otherwise unable to attend classes at the main campus. The program includes college level citrus and vegetable courses taught locally, and satellite down-link courses from the main campus.

One of the exciting formats in citrus has been the cooperative effort between UF/IFAS and Edison Community College (ECC) in Fort Myers in providing a 2-year Associate in Science (A.S.) degree in Citrus Production Technology. Students take six UF courses in citrus taught by IFAS faculty at the Immokalee Center. Students also receive general education requirements in communications/humanities, mathematics/science, and social behavioral sciences at ECC.

Two 4-year B.S. degree programs are being developed with Florida Gulf Coast University that will offer degrees in horticulture and agribusiness. These curricula are scheduled to begin in the fall semester of 1997. The horticulture degree will focus on citrus and vegetable production. The agribusiness degree will emphasize economics and marketing.

The objective of the educational programs offered by the University of Florida, Institute of Food and Agricultural Sciences (IFAS), Southwest Florida Research and Education Center (SWFREC) at Immokalee is to provide educational opportunities to working managers and decision makers involved in agriculture in the five county area (Charlotte, Collier, Glades, Hendry, Lee) served by the Immokalee Center. The college level teaching programs include a number of citrus and vegetable courses for full college credit. A citrus curriculum developed with the local community college is available leading to an A.S. degree in Citrus Production Technology. The citrus core courses are all taught by the faculty at the Immokalee Center.

The IFAS Southwest Center is strategically located, approximately 2 miles north of Immokalee on highway 29, to principally serve Charlotte, Collier, Glades, Hendry, and Lee counties that comprise the newly formed and legally defined “Gulf” citrus production area of southwest Florida.

Citrus Production Technology A.S. Degree

The first academic degree program in citrus was the cooperative agreement between the University of Florida’s Institute of Food and Agricultural Sciences (UF/IFAS) and the Edison Community College (ECC) in Fort Myers. This agreement provides the framework for a two year Associate in Science (A.S.) agricultural degree in Citrus Production Technology offered by ECC. The program was signed into being in December of 1990. The first citrus course, Citrus Culture I, started on January 9, 1991 and was taught by Mr. Ed Holcomb, Extension Citrus Agent for southwest Florida. This program had an enrollment of 110 students during the first two, 2-year cycles of citrus core courses and has graduated 13 students that have completed all courses for an A.S. Degree.

The need for such a program was evident by the initial enrollment of about 40 students and current maintains about half that number. The students in the citrus production technology curriculum begin with a course in introductory horticulture followed by the six core citrus courses that include Citrus Culture I and II, Citrus Pests and Pesticides, Soils and Fertilizers, Drainage and Irrigation, and Current Topics in Agriculture. The Citrus Culture I & II are oriented to applied practices of growing the tree and production of fruit. Students are directed by an assigned counselor from ECC along the way to get their general education requirements in communications/humanities, mathematics/science, and social behavioral sciences. These courses are offered by ECC in Fort Myers, and Naples, and at branch locations in LaBelle, Punta Gorda, Lehigh Acres, and Immokalee. Upon completion of the lower division courses from the community college and the citrus core courses, the student still has 10 hours of electives to take in business or areas of interest.

Donors have established scholarships for students in the ECC Citrus Production Technology Degree Program through the Gulf Citrus Growers Association. In 1995 three scholarships of $1,000 each were awarded. Donors were NationsBank, Cooperative Producers Incorporated (CPI), and the Citrus Industry Magazine. Presentation of the scholarship awards is made annually at the Gulf Citrus Expo Banquet as part of the Southwest Florida Citrus Expo in Fort Myers.

UF/IFAS Upper Division Courses

College level upper division courses have been offered at the IFAS Southwest Center through the University of Florida’s Division of Continuing Education since 1990. Five courses in the areas of vegetables, soils, and irrigation that are equivalent to departmental courses on campus in Gainesville have been taught by SWFREC faculty in their respective departmental disciplines. Credit for these courses is equal to having taken the course on the main campus and can be applied toward a 4-year bachelors degree. Additional classes of this nature will be added as needed to meet student demands.

Horticulture and Agribusiness B.S. Degree

In February 1995 the University of Florida and the Florida Gulf Coast University (FGCU) signed a memorandum of understanding to develop a program for southwest Florida that will lead to a 4-year B.S. degree program in horticulture and agribusiness. The degree will be offered through UF/IFAS, Academic Programs. The primary objective is to establish cooperative efforts between UF/IFAS and FGCU for a formal degree program that will be provided by UF/IFAS on the FGCU Campus in southwest Florida.

The curricula will require 120 credit hours with courses being taught by faculty at SWFREC and the new tenth university, Florida Gulf Coast University, under construction at Fort Myers. FGCU is scheduled to begin classes in the fall semester of 1997. Admissions
and granting of degrees in the 4-year B.S. degree programs in horticulture and agribusiness will be through UF/IFAS. College of Agriculture and Natural Resources as the agricultural land grant university.

The horticulture degree offering will be through the UF/IFAS Horticultural Sciences Department with specializations for majors in Fruit Crops (citrus) and Vegetable Crops. The Agribusiness Management Specialization with emphasis in economics and marketing will be offered through the Department of Food and Resource Economics. UF/IFAS faculty will teach the basic professional courses relating to the two majors at FGCU. The UF/IFAS courses will include selected natural resources/environmental courses related to production agriculture which complement the environmental sciences curriculum of FGCU. Students will complete their lower division courses prior to admission. The program is designed so students can get general education lower division courses relating to these two majors at FGCU, ECC, or other appropriate higher education institutions.

The UF 4-year B.S. degree programs offered with FGCU will not affect the ECC 2-year A.S. degree program in Citrus Production Technology. Initially the ECC citrus courses taught at SWFREC had ECC course numbers. Beginning with the fall semester 1995, the six citrus courses were assigned UF course numbers, and are accepted in the ECC A.S. degree program.

The Board of Regents has committed to developing a strong Department of Environmental Sciences for Florida Gulf Coast University which will enhance the offering of a large number of science courses that can be utilized in the B.S. degree program by the University of Florida through SWFREC. The selection of upper division courses offered is enhanced by use of video teaching and satellite down-links from the UF campus in Gainesville and other Research and Education Centers in the state.

Distance Education Technology

SWFREC is one of the College of Agriculture’s Research and Education Centers cooperating in distance education techniques of beaming courses from the UF main campus in Gainesville by satellite down-link to the Research and Education Center in Immokalee. SWFREC was one of the first sites where selected courses were available via satellite. Many place-bound students who in the past would have had to forego continuing their education because of the move to Gainesville, have found that going to class is as easy as driving to the SWFREC in Immokalee. Many that are bound by jobs or families have found distance learning to be a desirable option for finishing a bachelor’s degree or receiving academic training in a specialized area. Students get the same education as they would have gotten if they had moved to attend these classes on the main campus, and they pay the same fees.

SWFREC is fortunate to participate with other down-link sites in developing use of this technology for distance education which has become an important extension in the evolution of higher education. There appears to be a stronger interest in continuing education and adult education than in the past. From an educational perspective the place-bound students offer an exciting dimension to the classroom of distance learning. Many of these students bring with them work experiences and maturity not normally found in on-campus classes.

Education opportunities at the IFAS Southwest Center are growing as this agricultural area continues to grow and develop. The UF/IFAS SWFREC continues to work jointly with the community college and the new state university to meet the needs of both students and business. The SWFREC is committed to being a leader in developing and providing educational opportunities in southwest Florida.


SOIL CaCO\textsubscript{3} CONCENTRATION AFFECTS GROWTH OF YOUNG GRAPEFRUIT TREES ON SWINGLE CITRUMELO ROOTSTOCK

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Abstract. Many south Florida flatwoods soils are underlain by calcium carbonate (CaCO\textsubscript{3}) rock, shell, or marl that can produce an alkaline root zone if mixed with the soil surface. Citrus rootstocks vary widely in their susceptibility to low Fe avail-

ability in high-pH soil. Young ‘Flame’ grapefruit trees (Citrus paradisi Macf.) on Swingle citrumelo rootstock (C. paradisi Macf. × Poncirus trifoliata [L.] Raf.) were planted in spring 1992, on 0.6 acres of land that contained calcareous soil in about one-fourth of the area. Trees grew well on soils with no CaCO\textsubscript{3} in the root zone, but poorly on soils that had visible rock on the soil surface. Where there was no free CaCO\textsubscript{3}, soil pH ranged between 5 and 7. As soil CaCO\textsubscript{3} concentration increased from 0.2 to 0.6%, pH increased from 7.1 to 7.9, and above 0.6%, pH was above 8. As CaCO\textsubscript{3} in non-ground soil increased from 0 to 1.6%, leaf N concentration of 2-yr-old trees decreased from 2.4 to 1.8%, and canopy volume of 3-yr-old trees decreased from 600 to 200 ft\textsuperscript{2}. Grinding the soil did not improve correlation between tree growth and CaCO\textsubscript{3} concentration. CaCO\textsubscript{3} level did not affect leaf Fe concentration. Trees growing in acidic vs. calcareous soil had mean fruit yields of 60 vs. 10 lbs/tree, respectively. Yield dropped immediately

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