HORTICULTURAL TRAINING AT MIAMI-DADE
JUNIOR COLLEGE

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The primary objectives of the Ornamental Horticulture program at the south campus of Miami-Dade Junior College (soon to be renamed Miami-Dade Community College, South) are to train students in the academic and technical aspects of Ornamental Horticulture (and related fields) and to secure employment for students and graduates of the program. The training is geared to preparing students in such fields as: the raising of nursery or turf crops; the development, maintenance and management of greenhouses, shadehouses, nurseries, golf courses, parks, tourist attractions; and various other private and public landscaping operations. Some students will be trained to work in landscape design as technical assistants to landscape architects, landscape companies, or as self-employed landscape designers. However, many of the courses will assist in career advancement for those already employed, and part-time students may enroll on a credit or non-credit basis. Detailed information pertaining to admission requirements, policies and regulations can be found in the college catalog. The Associate of Science degree is available to students completing the curriculum requirements.

The curriculum is a balanced program of general education and technical courses. The general education courses include English, Social Studies, Botany, Local Flora, Business Mathematics, Small Business Management or Principles of Business, and two electives. Recommended elective courses are: General Education Biology, Introduction to Weather, Introductory Chemistry, Conservation of Natural Resources, Zoology, Physical Geology, and Natural History of South Florida. The technical courses are: Horticulture I and II, Landscape Construction, Disease and Pest Control, Turf Management, Nursery Practices I and II, Landscape Maintenance Procedures, Architectural Drawing, Architectural Communications, and Planting Design I and II. Completion of the program requires a minimum of sixty-three semester credit hours, not including two credits in physical education which may be required of some students.

The teaching facilities and equipment (in the area of general education) consist of classrooms with accommodations for many types of modern audio-visual equipment such as films, film loops, slide projectors, overhead projectors and closed-circuit T.V., fully supplied and equipped science laboratories, and drafting rooms equal to the best found in professional use.

In setting up the technical facilities for this program (some of the facilities and equipment may not prove to be practical or economically feasible in all industrial applications) it was felt that programs such as ours should include experimental study and should set the pace for industry whenever possible and not just imitate what was already being done. This philosophy does not exclude the teaching and training of students in the generally accepted methods now being practiced in the field. The ornamental horticulture facilities and equipment include a new Lord and Burnham aluminum-structured greenhouse, 28' by 72', equipped with corrugated concrete-asbestos benches, thermostatically controlled wet-pad cooling system, thermostatically controlled Modine natural gas heater with plastic convection tubing, Chapin-type automatic watering and misting system with modifications allowing for fertilizer injection, fully automatic thermostatically controlled overhead ventilation system, and overhead watering system with Ross-type sprinkler heads. The pumphouse is equipped with a five H.P. and a one H.P. electric pump and a 1,000 gal./min. pump powered with a Chrysler slant-six 225 cubic inch engine using natural gas as fuel. A Fert-o-Ject automatic liquid fertilizer injector, Model-E, is installed into the irrigation system so that crops can be fed on a demand basis. The soil storage, mixing, and treatment area includes four 15' x 15' x 10' soil bins, a 20' x 60' concrete slab for mixing soils, and a 15 H.P. Kewanee steam generator to provide steam for soil treatment.

Soil mixing and preparation is accomplished using a seven H.P. shredding machine and a five H.P. rotary tiller.

Corrugated concrete-asbestos benches (supported on concrete blocks and pipe frames) are used in the ornamental nursery, and the mist propagation bench is constructed of the same materials. Many types of sprinkler heads and irrigation pipe are utilized in the irrigation design so that the students can study and evaluate the different materials and equipment. Other equipment
used in the program includes a small power sprayer, hand powered dusting machine, recording thermometers, thermostatically controlled soil heating cables plus carpenter, plumbing, mechanical, and agricultural hand tools. Whenever possible, the students in the program are assigned to design, install, repair and carry on general maintenance of equipment and structures used in the program. Students are also responsible for keeping inventories and records on experiments, plant propagation and production, supplies and materials.

A second phase of construction incorporating a 75' by 150' shade house, experimental turf plots and additional storage area will be implemented when funds become available. In addition, studies are being conducted for the development of a small botanical garden, park and recreation area adjacent to the nursery area. This area takes in the shores of the largest pond on campus. This last project will offer opportunities for community participation, study, and relaxation.

This program is in its fifth year and enrollment has gradually, but steadily, increased from a full-time equivalency of twelve students to approximately twenty-five. The classes are completely heterogeneous in age, sex, education, experience and motivation. It would seem that the one consistent factor in common is a thirst for knowledge in some aspect of horticulture. The fields of Ornamental Horticulture, Landscape Design and Turf Management seem to be attracting (at this time) the most student interest.

With the aid of the local agri-business industry, women's and men's garden club associations, civic associations, etc., we have been able to set up scholarship money to assist deserving students.

The local agri-business industry, parks department, botanical gardens, landscape architects, and private citizens have been very helpful to us in providing employment (part-time and full-time) for students and graduates. In fact, at the present time there are more positions open than there are qualified students to fill them.

All of the instructional staff hold at least a Master's Degree in their respective professional fields and all have been active and successful in private industry or practice prior to serving at MDJC.

In summary, a successful program of this type would have to include the following (not necessarily in this sequence):

1. A need for trained personnel in the industry.
2. Placement of qualified students in meaningful jobs at a respectable income.
3. Realistic practical courses that satisfy the needs of the industry.
4. An advisory committee, carefully selected from segments of the industry, to keep the school aware of the needs of the industry.
5. A staff of teachers comprised of experienced professionals well versed in the commercial aspects of horticulture.
6. Facilities and methods simulating those used in industry plus the investigation and study of new facilities and methods that may show promise for industrial application.
7. Establishment of a coordinated system of communications to keep the industry and community advised and aware of the program.
8. The support and assistance of a college administration oriented to the needs of a technical program.

HARDY BROMELIADS

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How hardy are Bromeliads? What does one think when this question arises? How do you go about explaining or writing about which Bromeliads are the hardiest. Mother Nature never works the same each time the temperature dips to 32 or 30 or 27° F. Nor is it exactly the same when the water in the centers of Bromeliads freezes to ice. Over a period of 30 years, I have observed that the water freezes in the centers of Bromeliads and usually the ice is forming by the time the temperature lowers to approximately 30 degrees. Sometimes, after the temperature has gone below 30 and into the 20's, the ice will pop out of the centers; more so when the cups were mostly water and not when there were also leaves, etc. in the cups.

During the 1962 freeze, perhaps our most devastating freeze, our nurseries had freezing temperatures before 10:00 p.m. and for 3 nights