

Garden And Landscape Section

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THE RELANDSCAPING OF SOUTH DADE COUNTY FOLLOWING HURRICANE ANDREW

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Abstract. On August 24, 1992, south Dade County was devastated by Hurricane Andrew. Since then a massive relandscaping project has been undertaken by Dade County residents. To monitor the relandscaping, homeowners and retail garden center employees were interviewed. Immediately following the storm, annuals were planted in great profusion to add color to the stark landscape. Large trees and palms, fruit trees of any size, vines and 'Floritam' sod are being planted heavily. Many inquiries about xeriscape and efficient irrigation systems are being made of the outlet sales personnel and the Cooperative Extension Service.

Prior to Hurricane Andrew, Dade County had a diverse and varied landscape. Tropical and subtropical trees and shrubs, along with native plants, were common place (Stresau, 1986). Often one or more fruit trees were found in most yards. Citrus, mangoes and avocados were a common sight, with many trees being over 20 years of age (Anon., 1989; Campbell, 1986; Crane, 1989; Krome and Goldweber, 1987; Ritter, 1991; Wolfe, 1937).

On August 24, 1992, Hurricane Andrew roared through south Dade County destroying everything in its path. No landscape was left untouched and, in many cases, they were totally destroyed.

Following the hurricane, relandscaping in the less damaged areas began almost immediately. In the heavily damaged areas, human efforts and resources were put into rebuilding rather than relandscaping, which began several months later.

Materials and Methods

A random survey of 10 nurserymen and over 200 homeowners was conducted to determine the types of plant material used to relandscape residential yards after Hurricane Andrew. Nurserymen were asked which plant varieties, sizes and quantities were most requested. Homeowners were asked the same questions and if they were replacing their lost landscape plants with plants of similar sizes and varieties.

Results and Discussion

Large trees and palms were in great demand. Homeowners wanted to replace their hurricane-destroyed tree canopy with plants of equal size and stature to those of which were lost to provide immediate shade. Any large tree or palm was a big seller.

Fruit trees were in great demand. Orange, grapefruit, tangerine and Key lime trees were planted in large numbers. Many of the same varieties the homeowners once

had, they again wanted. Key limes were chosen over Persian limes due to their availability and their uniqueness to South Florida. Mango trees were in short supply. Mangoes of any variety were acceptable by the homeowner, due to their limited supply, and large trees were immediately purchased. 'Choquette,' 'Pollock' and 'Simmonds' avocado trees were the avocados of choice. Other avocado varieties, to a large extent, were unacceptable to homeowners. Homeowners were most familiar with the 'Choquette,' 'Pollock,' and 'Simmonds' variety of avocados explaining their selection preferences. Lychee trees were in great demand for their ornamental as well as fruit production. Lesser tropical fruit crops were in small demand.

Bananas were good sellers after the hurricane. Dwarf varieties were the most asked for by homeowners, of which the 'Dwarf Cavendish' variety was the most available and planted. Bananas seemed to rebound quickly after the hurricane and the dwarf varieties came through the storm better than the standard varieties, making them more appealing to homeowners. Homeowners also preferred the ease of harvesting from the smaller plants.

Native plants were planted when ever possible with the belief that they came through the storm better than non-native plant varieties. Live oaks and sable palms were planted in profusion. Dade County slash pines were being planted in great numbers to replace the devastated native pine stands. Many of the pines not destroyed directly by the hurricane were later destroyed by bark beetle infestations.

Flowering trees, shrubs, vines and annuals were in great demand. Following the hurricane, the landscape was void of all color and any color was a cheerful addition. Annuals were planted for immediate color while flowering trees and shrubs were investments in the future. Many new fences were constructed and vines were in large demand for their quick cover and added privacy.

Much of the sodded areas were destroyed, not due to the storm, but due to the rebuilding process. In areas where debris was left and heavy machinery was used, large areas of turf was destroyed. The 'Floritam' variety of St. Augustine sod was the replacement turf of choice due to its availability and consumer acceptance.

Many irrigation systems were destroyed and homeowners were interested in their replacement with more efficient systems. Homeowners were concerned with conserving water and setting up hydrozones wherever possible, to accommodate different plant species.

Conclusion

Citrus, mango, avocado, banana and lychee trees were the most commonly planted with the minor tropical fruit crops making up a small portion of the tropical and subtropical homeowner fruit plantings.

Native plants, predominately live oak and sabal palms were planted in large numbers because of the belief that they came through the hurricane better than non-native plants. Pines were being planted to reforest the destroyed pine land canopy.

Color was absent in the landscape following the hurricane. Annuals were purchased to liven up the leafless environment. Flowering trees, shrubs and vines were planted for later color. Vines also served to cover new fence installations.

Many sodded areas and irrigation systems were destroyed in the rebuilding process. 'Floritam' sod was the replacement turf of choice. Xeriscape was on many homeowner's minds who were looking for water and energy efficient landscape ideas.

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IMPACT OF HURRICANE ANDREW ON ORNAMENTAL NURSERY PROFITABILITY IN DADE COUNTY, FLORIDA

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Abstract. The large ornamental nursery industry in Dade County (FL) was devastated by hurricane Andrew in August, 1992. The storm damaged or destroyed approximately 1,300 acres of nursery shadehouses and greenhouses, and over 4,000 acres of woody ornamental nursery crops. The extent of damages to nurseries was surveyed shortly after the storm. A group of 11 nursery managers who suffered extensive losses were interviewed to evaluate effects of the hurricane on individual firms and to identify key elements of management under circumstances of natural disaster. Financial records for these firms were analyzed to document changes in costs and income for 1992 compared to the previous three year period (1989-91). Average net income for these companies fell from \$130 thousand for 1989-91 to minus \$234 thousand in 1992. Total industry losses were estimated at \$206 million, including \$120 million in plant inventory losses, \$22 million in fixed capital losses for buildings and equipment, \$34 million for storm cleanup, and \$29 million for the time value of lost sales, replanting and capital replacement costs. Lost export sales for the nursery industry (\$85 million) were projected to cause additional losses of \$155 million in local economic activity for supporting industries in the Dade County economy. Losses to supporting industries included \$54 million in personal income, and 4,139 jobs, based upon economic multipliers for Dade County.

Dade County is Florida's largest producer of ornamental nursery crops, with over 6,000 acres in production, including 2000 acres of nursery shadehouses and greenhouses, and 4,000 acres of other nursery crops. The 1988 Census of Agriculture for Dade County showed a total value of \$145 million for horticultural specialty crops (US Census Bureau, 1989). Ornamentals production in Dade County includes tropical foliage crops, flowering plants, and container and field-grown woody ornamentals. A 1989 economic survey of Dade County's agriculture showed an annual sales value of \$171 million for ornamental crops (Moseley, 1990). The ornamental nursery industry in Dade had a total payroll of \$37.1 million in 1988 (Fl. Dept. Labor, 1989). A large share of Dade County's ornamental commodities (71%) are sold outside the county and generate additional activity in the local economy (Moseley, 1990). "Export" sales of ornamentals from Dade were estimated to support \$221 million in local economic activity, \$76 million in personal earnings, and 5,900 jobs in the county (Moseley, 1990).

History of Agricultural Disasters in Dade County

The ornamental nursery industry in Dade County has suffered a series of previous natural and human-caused disasters. Nursery production systems used in South Florida have several characteristics which increase the industry's vulnerability to natural disasters. Open shadehouse structures are commonly used for production and acclimatization of large tropicals, grown in containers and on marl soils. High winds often tear-away shadecloth coverings, exposing sensitive plants to full sun. Water for crop irrigation is drawn from shallow wells into the Biscayne aquifer, which already has extensive saltwater intrusion in many areas, and could be contaminated further by tidal and rain-borne salts in the event of a hurricane. Besides Andrew, hurricanes which have caused extensive damage in Dade County