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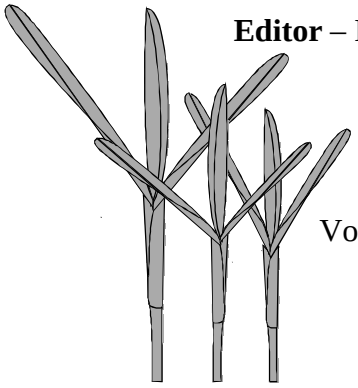

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Florida's Changing Sod Industry and Some of the Challenges it Faces

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This is the last in a three-part series excerpted from the authors' **An Economic and Agronomic Profile of Florida's Sod Industry in 1996**, *Economic Information Report EI 98-7, Univ. of Fla., Inst. Food and Agr. Sci., Food and Res. Econ. Dept., Fla. Agr. Exp. Sta., Fla. Coop. Ext. Serv. 1998. 23 pp.*

INTRODUCTION

In the last two issues, some of the 1997 survey findings about production, harvesting, marketing and industry value have been presented. This last part of the series will present some insights into the survey respondents' perceptions of the sod industry in Florida and what the future holds for it.

SOD QUALITY

Although turfgrass quality is difficult to measure, Beard (1973) stated that *characteristics* of high quality turfgrass have been established over the years. The six basic components of turfgrass quality he identified are: uniformity, density, texture, growth habit, smoothness and color. Beard noted that the relative importance of these features will vary according to the purpose for which the turf is to be used.

In a more general sense, turfgrass quality can be affected at any one (or all) of five major stages — turfgrass breeding, which determines the inherent physical characteristics of the variety; production and cultural practices employed by the grower; harvesting and stacking; shipping and unloading; and care after the buyer receives it. In this study, we were interested in factors other than physical properties. In particular, from the producer's perspective, was quality compromised at some point on the farm, or after the product was sold and delivered? Additionally, if damage did occur prior to receipt by the buyer, at what stage(s) did it take place (during production, during harvesting and stacking, or during shipping and unloading)?

Although growers believed that half of the damage occurred to sod after the buyer received it, no aspect of the sod production/sales cycle is without potential quality-reducing damage. Nineteen percent of the quality reduction occurred in the field, another 19% of the damage took place during the harvesting and stacking process and 12% of the damage was attributed to the shipping/unloading process. These results indicate that both producers and consumers are responsible for reducing turf quality. But more importantly, it suggests that because growers (by their own admission) cause roughly half of all damage to the turfgrass they sell,

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significant room for improvement exists. Astute growers can distinguish themselves in a competitive market by addressing these quality-compromising issues.

EMPLOYMENT, MECHANIZATION AND FARM EXPENSES

As farms become larger in response to growing pressures to reduce production costs, agriculture continues to shift towards greater mechanization. This is due to the fact that labor in agriculture normally accounts for a significant share of total cash expenses. This share can vary from 15 to 30 percent, depending on the size of firm and type of commodity being produced (USDA/ERS, 1997). Mechanical devices in agriculture are generally designed for specific functions and for specific crops. For example, wheat harvesters cannot be used for corn, and tomato harvesters cannot be used for cotton. Additionally, this specialized equipment is also very expensive. To reduce capital costs per unit of output, large-scale farms emphasize monocultural production systems that can efficiently use this specialized equipment.

Labor tends to be much more versatile than machinery and is used for more complex tasks. Hence, labor use per acre will be significantly less for a large wheat farm than for a smaller farm producing small amounts of diversified products. Since sod is a monocultural crop, one would anticipate that there would be a significant substitution of capital-for-labor in its production. Interestingly, this is not the case. Results of this study indicate that labor remains a critical resource in Florida's sod production industry. When asked whether labor use had changed in the past five years, 42 percent reported that the number of people they employ had increased, nearly the same proportion (40%) claimed it had remained the same, and 18 percent said that labor use had decreased (Table 1). The large-sized farm category showed the largest change in the past five years and reported an increase in employment by about twice the percentage of farms reporting an increase in each of the other size categories.

Unlike fruit and vegetable producers who employ large numbers of seasonal workers, sod farms have year-round production and maintenance activities and rely extensively on permanent labor. Fully 90 percent of all employees on Florida's sod farms were full-time. Specifically, a total of 817 full-time workers were employed in 1996, representing nearly 16 people per farm. Sixty-eight part-time workers were employed by 16 of the 50 reporting firms, an average of 4.25 part-timers for each firm with part-time help. Only six firms reported the use of seasonal labor, totaling 27, and averaging 4.5 persons per reporting firm. In terms of farm size, the use of permanent labor ranged from a low of 5.6 persons for small farms to a high of 77 employees for the very largest farms. The largest producers were also the only group to indicate that they did not employ any part-time or seasonal help.

Table 1. Full-time, part-time, and seasonal employment figures for various-sized sod farms in 1996 and changes in employment numbers compared to five years ago.

	Number of workers employed			Change from 5 years ago		
Farm size	Full-time	Part-time	Seasonal	Increase	No change	Decrease
Small	5.6	1.2	0.4	39%	42%	19%
Medium	21.3	2.6	0.0	33%	44%	22%
Large	26.9	1.3	1.9	71%	29%	0%
Very Large	77.0	0.0	0.0	33%	33%	33%
Average	15.7	4.3	4.5	42%	40%	18%

To obtain a more complete picture of the substitution of capital for labor, a question was asked whether the level of mechanization had changed over the past five years. Half of all surveyed firms indicated their

farms were more mechanized now and the other half maintained that the level of mechanization had not changed (Table 2). Little difference was apparent by farm size, with the exception that the two larger farm sizes indicated greater changes than did the two smaller sizes. Of more interest, however, was the fact that sod farms increased both the levels of mechanization and employment during the same period. This is largely explained by an expansion of the industry, particularly in terms of total acreage planted in sod — since 1992 an increase from 46 thousand to 53 thousand acres, a growth of roughly 3 percent annually. With the exception of the large-sized category, which grew by nearly 20%, the average size of farms changed little — the smallest and largest groups both declined by about 10 percent and the middle-sized farms grew by 6 percent.

Changes in operating expenses were also examined (Table 3). Nearly all producers (90%) affirmed that costs had grown over the past five years with an average increase of 21 percent, a little more than 4 percent annually. The largest cost increases were reported for the large-sized farm group — nearly 40 percent or 8 percent annually. The smallest change occurred with the very largest farms who experienced a 15 percent increase in the past five years. Six percent of all farms reported a cost decrease with the average amount being 8% over five years.

Table 2. Changes in mechanization on various-sized sod farms in 1996 compared to five years earlier.

	Mechanization on farm since 5 yrs. ago		
Farm size	Increased	No change	Decreased
Small	48%	48%	3%
Medium	44%	56%	0%
Large	57%	43%	0%
Very Large	67%	33%	0%
Average	50%	48%	2%

Table 3. Changes in operating expenses of various-sized sod farms in 1996 compared to five years earlier.

	Operating expense change from 5 yrs. ago				
Farm size	Percent of growers with cost increase	Average amount of cost increase	Percent of growers with no cost change	Percent of growers with cost decrease	Average amount of cost decrease
Small	94%	18%	0%	6%	10%
Medium	78%	21%	11%	11%	5%
Large	100%	39%	0%	0%	n.a.
Very Large	67%	15%	33%	0%	n.a.
Average	90%	21%	4%	6%	8%

FIRM AND INDUSTRY PROBLEMS

In the last section of the survey, producers were asked to identify the three most serious problems they face from an individual business standpoint, as well as the three most challenging problems from an industry standpoint. Results were then grouped into categories that were representative of the types of answers. Five broad areas affecting individual businesses were identified as: financial, production-related, regulatory, personnel and marketing (Figure 1). Of these five, clearly the most prominent (a weight of 93) related to financial concerns, such as difficulties managing debt, excessive

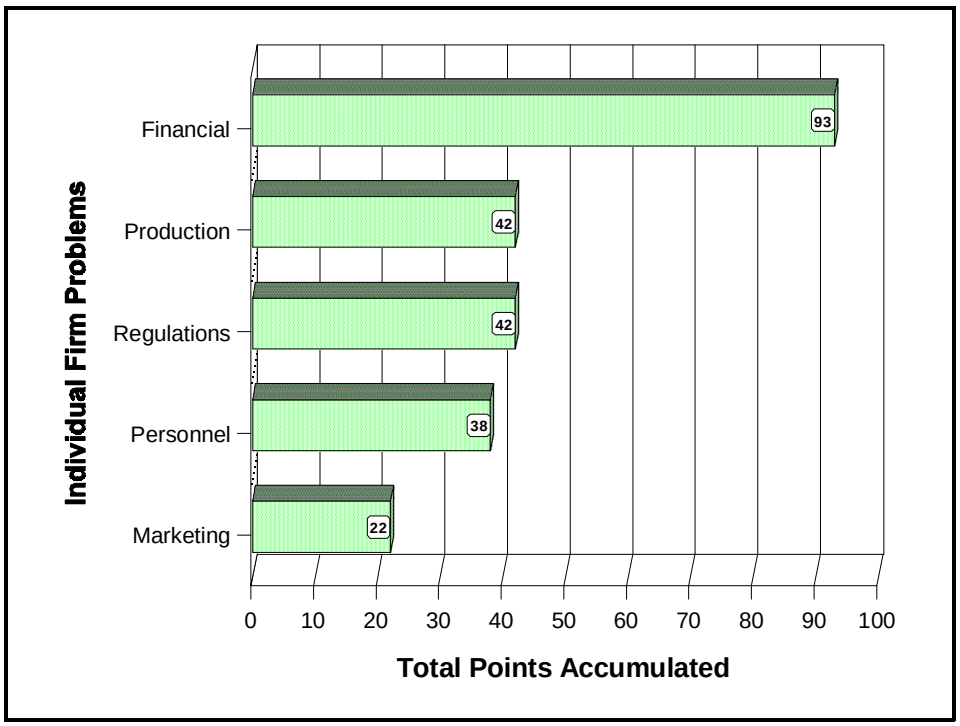

Figure 1. Weighted responses of survey participants when asked about the three most important problems faced by the respondent's business. Most important problem counted as 3 points, second most important problem was weighted as 2 points and the third most important problem was given 1 point.

labor costs, costs associated with acquiring more land, cash flow problems, prohibitive equipment costs, overproduction and its impact on prices and profitability, and the tax burden faced by smaller businesses. Production and regulatory considerations were tied for second (weights of 42 each). Typical production issues were the need for new grass varieties, soil chemistry problems, limited pest and disease control agents, and the decline in available muck land. Regulatory type concerns included the costs associated with more stringent government regulations, increasing water restrictions and growing environmental pressures. With a weight of 38, personnel-related issues were ranked fourth. These involved problems like deficient production skills of employees, the difficulties associated with managing employees, theft and illegitimate workman compensation claims. The last category (fifth-ranked with a weight of 22) addressed marketing and economic problems. Some problems listed were the cutthroat policies of competitors, finding good landscape contractors that pay, influx of new growers and their impact on prices, the threat of economic slowdowns, accurate forecasting and keeping customers satisfied. The five categories identified for firms are the same as the industry because of the inter-related nature of the issues; however, their rankings differ (Figure 2). Production concerns were weighted the highest for the industry, followed by regulatory, financial, marketing and personnel problems. A few industry-related issues not expressed from the firm perspective included too many new sod growers, non-professional businesses, poor image of the industry, loss of land in the Everglades Agricultural Area and quality control.

SUMMARY

Roughly 100 producers comprised Florida's sod production industry in 1996 producing an estimated 53,000 acres of sod. This figure is consistent with demand for sod that was determined to be in the neighborhood of 54,000 acres. Of the total quantity pro-

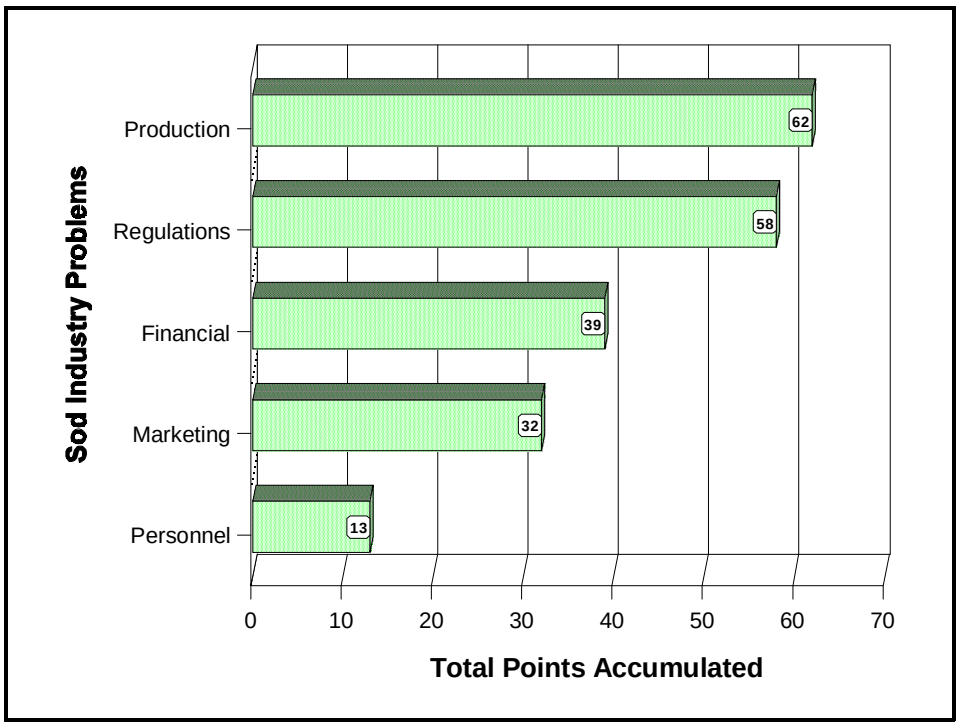

Figure 2. Weighted responses of survey participants when asked about the three most important problems facing the sod industry. Most important problem counted as 3 points, second most important problem was weighted as 2 points and the third most important problem was given 1 point.

duced, 62 percent was grown on sand-based soils while 38 percent was produced on muck soils, particularly around Lakes Okeechobee and Apopka. St. Augustinegrass accounted for 72 percent of total production, followed by bahiagrass (10 percent), centipedegrass (9 percent), bermudagrass (8 percent) and an insignificant amount of zoysiagrass. In terms of St. Augustinegrass, Floratam dominated all grass varieties.

Florida sod producers harvested and sold the majority of the grass grown, varying from a low of 48 percent for centipede to a high of 88 percent for bermudagrass. More than three-quarters (76 percent) of St. Augustinegrass was harvested. Sod prices received were consistently strong, ranging from 5 cents per square foot for bahiagrass to 18 cents for zoysiagrass with St. Augustinegrass holding the middle ground at almost 13 cents per square foot. Using these prices in conjunction with harvest figures, the study estimated the farm gate value of sod at nearly $200 million in 1996, making it a major agricultural commodity in Florida.

Although sod utilizes numerous market outlets, most (66 percent) was sold to the new housing market, 18 percent was targeted for re-establishing existing home lawns, and the remaining 16 percent went for "other uses". To handle all the various tasks related to the production and selling of sod, the industry uses substantial labor. The average sod farm employed nearly 16 full-time, four part-time and four seasonal workers. This number represented an employment increase for 42 percent of the farms compared to five years ago and "no change" for 40 percent of the farms.

Finally, producers identified several problems that affected business performance. The most significant problems were financial-related issues such as difficulties managing debt, cash flow problems and excessive labor costs. Production and regulatory issues were tied for second place and included the need for new grass varieties and the impact of increasingly stringent gov-

ernment regulations.

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