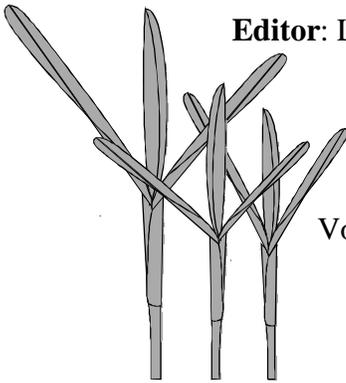




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Harvest Value and Some Marketing Practices of Florida's Sod Industry in 1996

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INTRODUCTION

The first part of this series discussed statistical procedures employed and some conclusions about production — acres grown, types of sod grown, grass type by size of farm, etc. — and harvesting of sod from results of the 1997 survey. This issue addresses the dollar value of Florida's sod industry and marketing findings from the survey.

SOD PRICES, PRICE DETERMINATION AND INDUSTRY VALUE

Farm gate sod prices received by producers in 1996 are shown in Table 1. Average prices ranged from a low 5.1¢ a square foot for bahiagrass to a high of 18.2¢ a square foot for zoysiagrass. The price of St. Augustinegrass was in the middle of this range at 12.8¢ per square foot. Prices were used to calculate the value of the sod

industry in 1996. Harvest value, the quantities actually sold in 1996, were estimated at \$199 million. Eighty-one percent of harvest values were attributable to St. Augustinegrass. Bermudagrass was the second most valuable sod commodity, followed by centipedegrass and bahiagrass. Even with its high price, because of its small acreage and low percent of harvested acres, zoysiagrass comprised an insignificant market share within the industry — six-tenths of one percent.

Given the price differentials across varieties, one might expect producers to concentrate on the highest-priced grasses. For example, why produce so little zoysiagrass when its unit value exceeds St. Augustinegrass by nearly 50 percent? A short answer is supply and demand. From the demand perspective, St. Augustinegrass is the preferred grass for home lawns, which constitute 75 percent of all turfgrass used in Florida (Hodges et al., 1994). St. Augustinegrass, and particularly Floratam, has dominated the market because it provides the most value to consumers. Some useful attributes of a good turfgrass include visual attractiveness, good recuperative potential, a certain degree of utility — conserving the soil, allowing infiltration of water and filtering of pollutants — and easy maintenance. Regarding the latter, an ideal turfgrass would:

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entail little mowing and not be hard on equipment, require minimal irrigation and fertilization, be resistant

to pests and diseases, not be too invasive, and be toler-

Table 1. Sod farm acreage, percent harvested, price per square foot, and harvest value in Florida by major grass variety, 1996 data.

Turfgrass varieties	Total acres in production	Percent of production acres harvested	Price/ft ²	Harvest value ^a
				\$ thousands
St. Augustine	38,258	76%	\$0.128	\$162,119
Bahia	5,490	55%	\$0.051	\$6,708
Centipede	4,879	48%	\$0.101	\$10,303
Bermuda	4,163	88%	\$0.120	\$19,150
Zoysia	260	50%	\$0.182	\$1,031
Total	53,050			\$199,310

^a Harvest value, assumes percent of gross production acres sold based on results of this study, calculated as {(production acres × percent area harvested) × (43,560 ft² × price/ft²)}.

ant to cold and heat stresses. Although St. Augustine-grass is not a perfect variety, it has provided these features more consistently over time than other grasses, hence it has succeeded in preserving its “market share”. Producers will naturally be drawn to the grass that is easiest to sell while still providing a reasonable and steady profit.

Yield, costs and profitability are the critical variables on the supply side of the equation. Grass varieties differ in yields, but yield effects on profitability can be offset by other factors. The interval of sod production is from harvest-to-harvest. A fast-growing grass such as bermudagrass has high variable costs due to the extensive use of inputs (fertilizer, pesticides, mowing, etc.) over a short time frame. At least two harvests of common bermudagrass are achievable within a year, as opposed to one for St. Augustinegrass. Interval of sod production also affects fixed costs (e.g., land, buildings, and overhead or administrative costs). Generally speaking, shorter production periods imply greater yields per unit time, implying further that fixed costs on a yield basis (square feet or yards) will be reduced. Exceptional species, such as zoysiagrass that generally

requires more intensive management over long production intervals (typically 1.5 years or more), will generally always be more expensive to produce. Hence, price is only one aspect regarding the economic feasibility of sod production.

Earlier it was noted that the supply of sod (relative to demand) also impacts prices. An under-supply of sod implies higher prices while an over-supply suggests lower prices. This research did not attempt to determine the precise position of supply and demand for Florida sod in 1996, but it did seek information on producers’ intentions regarding future production levels. Over half (56%) of all producers expect to increase sod acreage, 38 percent indicated they would maintain current levels of production, and the remaining 6 percent said they would reduce their acreage. The intention of so many producers to increase production levels indicates they are optimistic about future demand. Price increases between 1992 and 1996 support this optimism. During this period the two most important grasses improved in value considerably — St. Augustine increased 60%, from 8¢ to 13¢ per square foot, and bermudagrass rose by a third, from 9¢ to 12¢/ft².

When asked what process they use to decide future production levels, the first-ranked reason by 50% of respondents was to “keep communicating with my regular customers” and the first-ranked reason by 35% of respondents was to “keep abreast of economic outlook information” (Figure 1). Only nine (9) percent indicated that they looked at what other producers were doing. This may indicate that sod producers try to use more objective information for critical decisions. The approach of “doing what others do” is controversial because it positions the producer in concert with other growers — both when the industry over- and under-produces. Utilizing more independent, objective information (such as economic outlook data

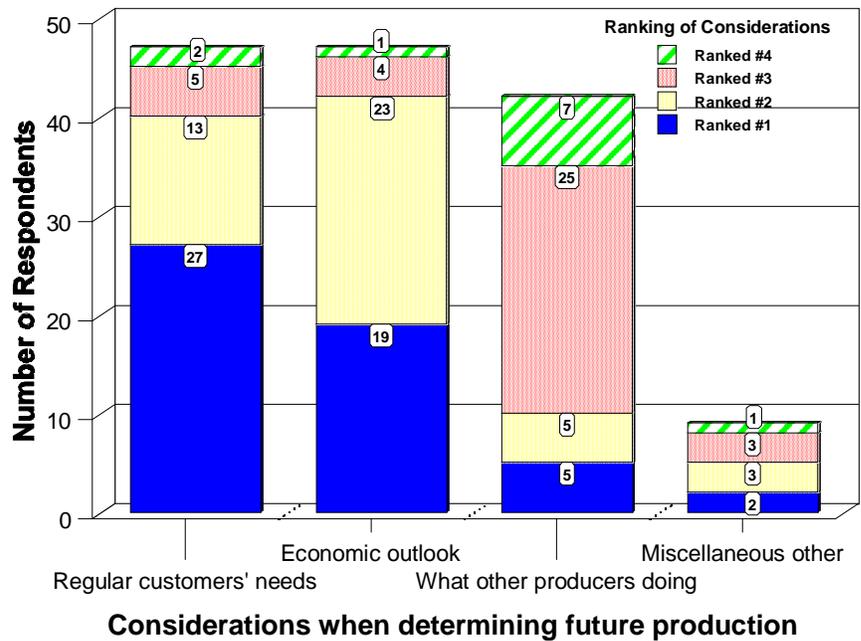


Figure 1. Considerations made by Florida sod growers when determining how much sod to produce in subsequent years.

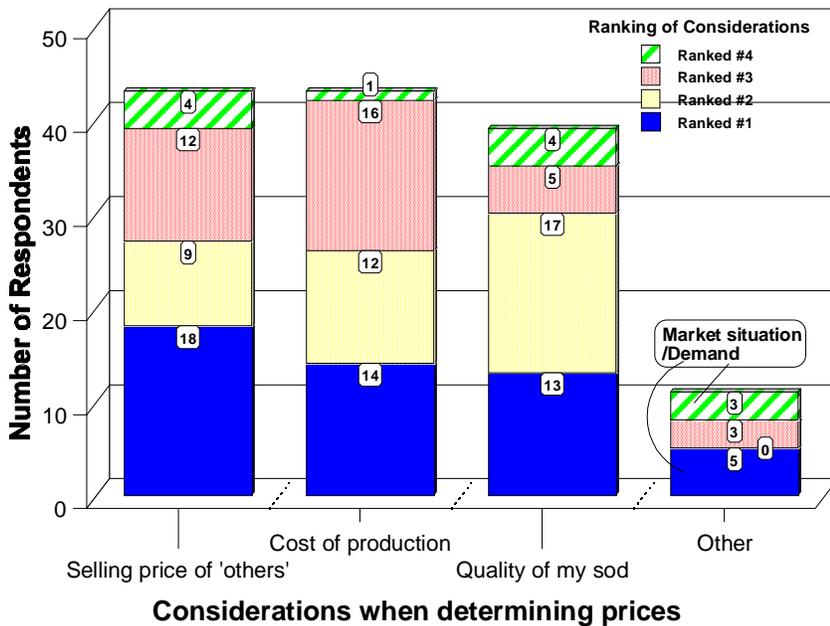


Figure 2. Considerations made by Florida sod producers when determining the selling price of sod.

and purchasing intentions of customers) provides the advantage of anticipating potential pitfalls and strategic opportunities before they occur.

Finally, producers were asked how they determine the price they charge for their product (Figure 2). They were given 3 choices plus an open-ended “other” category and asked to rank each selection in order of importance. Interestingly, the majority of producers (36%) indicated the “selling price of other producers” as the principal pricing method. “Cost of production” was ranked first by 28 percent of producers; “quality of my sod” was classified first by 26 percent of growers, and the “current market situation/demand” was written in as the

most important pricing strategy by 10 percent of the respondents. Second, third and fourth round rankings are also shown in the stacked bar in Figure 2. Given these results, it is apparent that sod producers use several inter-related methods to arrive at prices for their product.

COMPONENTS OF FARM INCOME

Although most (74%) income was generated by sod sales and 42% of respondents claimed it as their sole source of income, roughly one-fourth of earned income was from related or alternative agricultural business activities (Figure 3). Sod-related services was the most significant alternative activity and accounted for 18 percent of income. These activities included shipping (5%), landscape contract services (5%), landscape maintenance services (2%) and other miscellaneous services such as installation and plug/sprig activities (5%). Food production (cattle, citrus, dairy and vegetables) was the second most important (5%) income alternative followed by ornamentals production at 3% of income. An “others” category that included land leasing and sales of silage feed, pine straw and eggs was just over 1 percent.

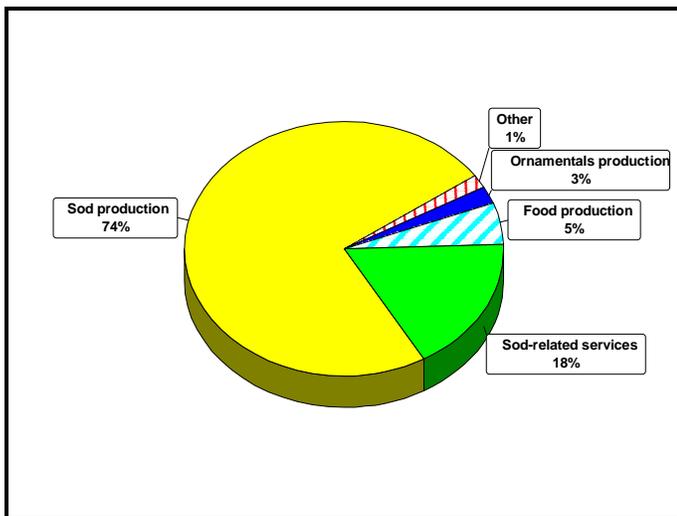


Figure 3. Partitioning of farm income by Florida sod producers in 1996.

MARKETING – HARVESTING AND BROKERING

Just-in-time harvesting of Florida’s sod coincides with the high growth periods, which also facilitates sod reestablishment in the landscape. Thirty percent of the harvest occurs during the March to May period, 28 percent takes place from June to August, 24 percent is harvested September through November and from December to February, Florida’s drier winter season, 18 percent is harvested (Figure 4). This pattern is consistent with that of the building construction industry, which experiences peak activity during the spring-through-summer interval. As noted earlier, the bulk of sod is used for landscaping new developments, including residential homes, business offices and government facilities.

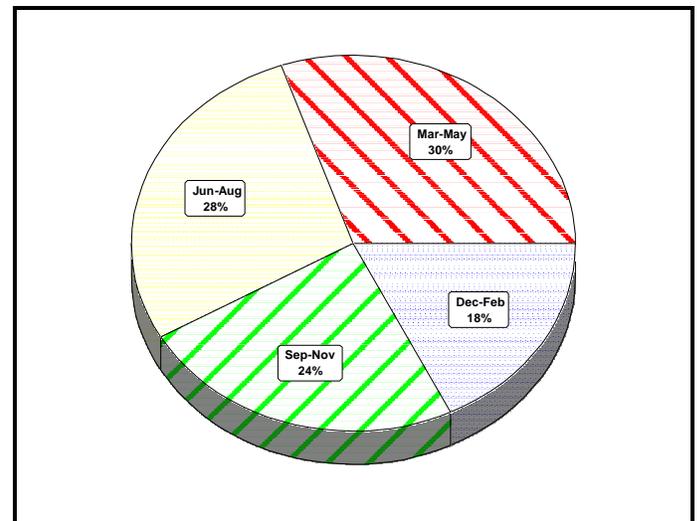


Figure 4. Seasonal harvesting pattern of Florida sod in 1996.

Most Florida sod producers (89%) choose to harvest their own sod rather than contract it to outside firms. Nearly all sod (84%) is strip cut, while the remainder (generally bahiagrass and bermudagrass) is clear cut. With strip-cut sod, harvesting machines remove sections that are 12- to 16-inches wide and leave two-inch ribbons of grass between them for reestablishment from stolons. Efficient producers try to remove only ¼ to ½ inch of root zone when cutting sod since thin-cut pieces are easier to handle, less expensive to transport, and tend to knit-in (produce a thatch) quicker than thick-cut sod (McCarty and Cisar, 1989). Bermudagrass producers often clear-cut a field because it reestablishes from rhizomes, as well as from stolons.

According to survey respondents, they harvested approximately 78% of each acre produced, leaving the remaining sod for regeneration of later crops. For nearly half of the respondents, quantities harvested per acre have remained constant in the past 5 years. An additional 40 percent indicated they have increased the amount harvested per acre and only 12 percent reported a decrease in harvest per acre.

To generate additional income or satisfy demand when their own production is inadequate, some producers brokered sod. Traditionally brokers do not purchase the inventory, nor do they get involved in financing or assume risk. The chief function of a broker is simply to bring buyers and sellers together to assist in negotiation. Nearly one-third (31%) of all producers indicated they brokered some sod. The average quantity brokered in 1996 was 1.4 million square feet with a value of \$106 thousand.

MARKETING – SHIPPING

Nearly three-quarters of harvested sod is machine-stacked, while the remaining quarter is hand-stacked. Interestingly, some of the largest producers prefer to use large teams of manual labor for stacking sod. Their reasoning is that, for large-scale operations, current farm equipment is not cost-effective — large labor teams can cut, stack and move sod more quickly than automatic harvesters (Cisar and Haydu, 1991). In addition, labor often offers more working flexibility. Since many workers are seasonal, the farm does not incur so high an annualized cost of production as it does with automatic harvesters. Purchased machinery becomes part of a firm's fixed costs; thus, even when the equipment is not in use, the owner is still paying for it. On the other hand, growers can employ seasonal labor, as a variable cost of production, only when needed.

Once sod is cut and stacked, nearly 100% of it is shipped to its destination within 2 days. This is due to the highly perishable nature of cut-sod. The vulnerability of sod may also explain the relatively high incidence of truck ownership — sixty-two percent of respondents indicated that they own their own transportation equipment. Regardless of the fact that nearly two-thirds of the respondents own transportation equipment, nearly

half of those surveyed indicated that obtaining trucks for sod delivery at the time they were needed was sometimes a problem. Scheduling difficulties would likely arise during the peak selling months of spring and summer when transport demand is high for other agricultural products as well.

Distance to markets is a critical factor for producers to consider. Sod is a heavy, bulky item that requires prompt attention. These factors greatly impact the potential risk to both buyer and seller. The more distant the markets, the more expensive sod is to ship and the greater the potential for post-harvest losses. Consequently, producers located close to key markets have a clear strategic advantage over producers located farther away. Survey respondents reported that 55% of their markets are within 50 miles and another 32% of the markets are between 50 and 100 miles away. In other words, most growers were positioned only a few hours from the majority of their markets. Eighty-three percent of the growers also reported that their markets were staying approximately the same distance away from them as compared to five years ago. Half of the remaining growers' markets were moving closer and the other growers' markets were moving farther away. Figure 5 depicts the relationship between population growth and sod sales in Florida, clearly reflecting the development 'hot spots' in the state. The figure also highlights the in-state nature of the sod market in Florida since only 1% of sales were reported as being shipped out of Florida. New developments accounted for two-thirds (66%) of Florida's sod sales in 1996 and another 18% of sales were for re-sodding existing developments, demonstrating the principal linkage between Florida's population growth and the turfgrass industry (Figure 6). The distribution of buyers is also presented in Figure 6. Twelve percent of sales were made to homeowners, 45% to landscape contractors and 13% were made to brokers/wholesalers. Golf courses, retail garden centers and others (listed as Florida's Department of Transportation, building contractors, athletic fields and municipalities) each purchased about 10% of the sod sold. Most growers (78%) were optimistic about future conditions and believed that the market for sod in their area would continue to expand.

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Next issue: Part 3 of this series — What the future holds for Florida's sod industry.

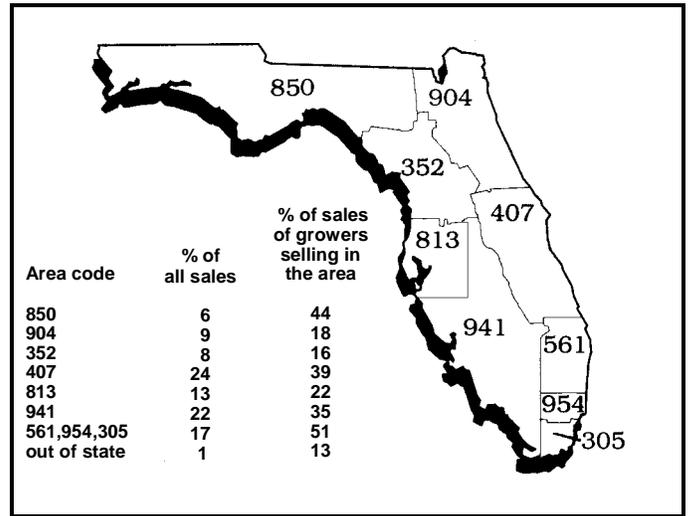


Figure 5. Distribution of sod sales throughout Florida and the percent of their total sales by growers who sell sod in the various area code regions.

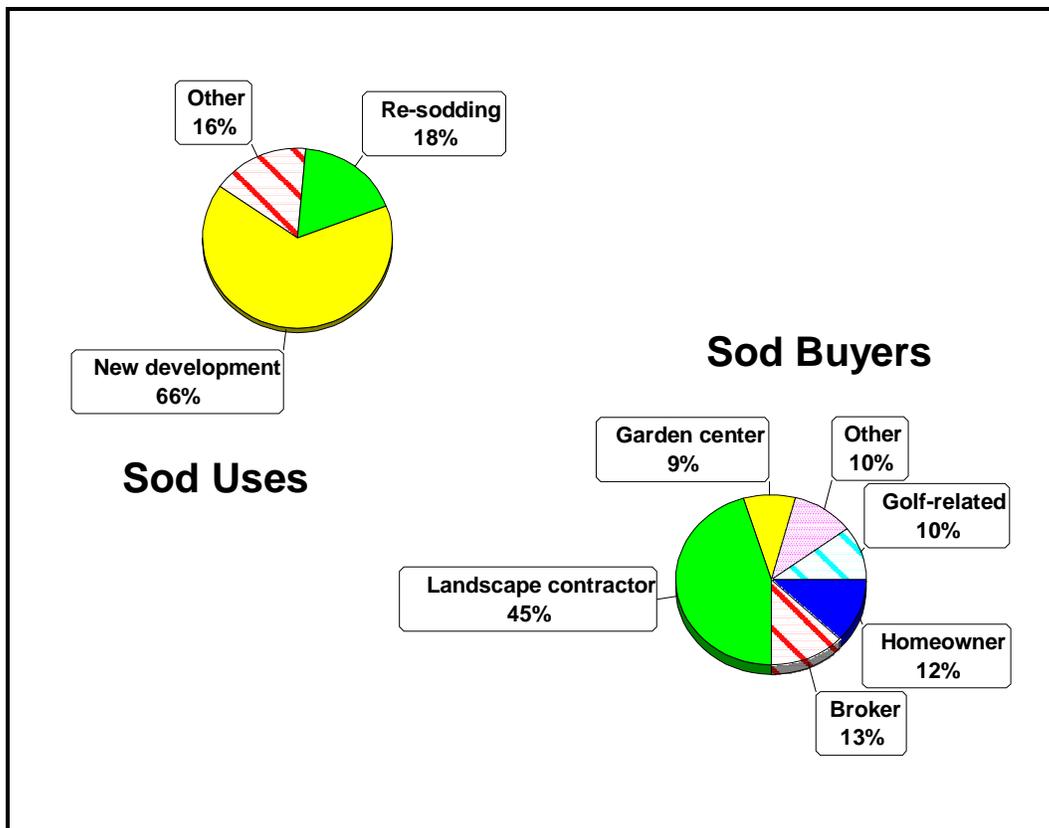


Figure 6. Depiction of how Florida sod was utilized (left) and to whom sod producers sold their product (right) in 1996.