

MARYLAND NOTES CHANGES IN SOD PRODUCTION SINCE 1968

By J. Thomas Gilbert, Jr. and Billy V. Lessley¹

This is the first in a series of three articles about the structure and costs-returns for sod production in Maryland. This article introduces the sod industry's characteristics in Maryland, the second provides costs-returns per acre for sod produced and marketed on an unharvested basis and the third presents costs-returns data for the integrated sod industry to include production, harvest and delivery. The data are based on a research project conducted for the 1976 crop year through the Maryland Agricultural Experiment Station.² The objectives of the project were to: (1) present a general description including size and scope, organization, operation, investment and economic impact of the commercial turfgrass industry in Maryland, (2) develop cost and return data for different sizes of sod farms as well as different systems of harvesting and transporting sod, (3) determine economic profitability of marketing sod by alternative marketing systems, and (4) compare 1976 costs and returns to costs and returns identified in a similar study conducted for the 1968 and 1969 crop years.

In 1976, sod was produced by 63 growers in 16 counties in Maryland. The largest acreage, as well as the largest number of producers, was found in those counties lying within and near the Baltimore and Washington, D.C. metropolitan areas. Montgomery, Howard and Harford counties had 55 percent of the turfgrass producers and 63 percent of the total cultivated acreage. There were an estimated 8,712 acres of sod produced with 2,497 acres of these being harvested and sold. These acreages include an estimated 2,078 acres produced and 611 acres sold by seven producers who chose not to cooperate in the study. Total gross receipts at the farm level amounted to approximately \$5.4 million.

The remainder of this article will only report data provided by the "identified" 56 cooperating producers.

The most important variety of sod in terms of acres grown and total sales was a 30-30-30-10 percent mixture of Merion Kentucky Bluegrass, South Dakota Kentucky Bluegrass, Adelphi Kentucky Bluegrass and Red Fescue. Fourteen producers grew 1,179 acres of this mixture and sold 322 acres for \$616,515, or an average of \$1,915 per acre. This mixture was followed closely by 1,077 acres of the 30-30-30-10 percentage mix of Merion, South Dakota and Fylking Kentucky bluegrasses and Red Fescue. Approximately 368 acres of this mix were sold for \$505,432, or an average of \$1,373 per acre.

Relative to acres produced, the above two variety mixtures accounted for 34 percent of the total acreage grown by the 56 producers.

Since 1969, varieties and especially mixtures of turfgrass varieties grown in Maryland have changed dramatically. In 1969, single variety turfgrasses grown by participating growers accounted for 5,366 acres, or 54 percent of the total acreage. In 1976, single varieties accounted for only 525 acres, or eight percent of the identified acreage produced. The phasing out of single variety turfgrasses by the adoption of multi-varital mixtures has come about for several reasons. At the recommendation of the Turf and Seed Certification Section of the Maryland Department of Agriculture, growers were and are producing mixtures that are more sun tolerant and disease resistant than single varieties. However, the main reason for the dramatic change from 1969 has been the adoption and application of the Maryland Sod Certification Program which establishes certain specifications and requirements pertaining to the composition of variety mixtures.

The 30-30-30-10 and 40-40-20 percent variety mixtures of Kentucky bluegrasses and Red Fescue produced in Maryland in 1976 were sold extensively for use in housing and industrial landscaping development where purchasers were willing to spend more money to establish a nice lawn with moderate management.

Kentucky-31 Tall Fescue with a Kentucky bluegrass variety was used considerably in full sun areas where lack of water could be a problem. In terms of production, most of the Kentucky-31 tall fescue dominated mixes were grown on the Eastern Shore of Maryland.

Common Kentucky Bluegrass, a relatively cheaper grass, has not been recognized as a possibility for certification. It was generally used on small landscape jobs or on large tract housing projects where people were trying to get a quick stand of grass to prevent erosion.

Other grasses such as Tufcote Bermudagrass and Zoysia are specialty grasses which have fairly limited markets and are confined to especially dry areas where it is not too cold in the winter.

The 56 growers who cooperated in this study produced 6,634 acres of turfgrass of which 1,886 acres or 28.4 percent were harvested. The distributions of turfgrass produced and harvested are reported in Tables 2 and 3.

For the study, various farm size groupings were developed to measure difference in structure and cost-return information by farm size. The size groups were: less than 100 acres, 100-150 acres, 151-300 acres, and greater than 300 acres. The grouping resulted in a distribution of a few farms with more than 300 acres and a large number of farms with less than 100 acres of cultivated turfgrass. Eight growers with farms in the largest acreage category

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produced 48 percent of the 6,634 identified acres in production while 35 growers in the smallest acreage category produced only 17 percent of the total cultivated acreage. Of the 35 growers, 24 had turfgrass operations of 40 acres or less. These 24 produced 427 acres of turfgrass, or only 6 percent of the total identified acreage.

Harvest intensity reported in Table 3 was calculated as a percent by dividing net acreage harvested for each group by the combined net acreage under cultivation for each group. One might expect harvest intensity to increase as farm size increases. However, this was not portrayed in the industry. The largest farms, those with more than 300 acres of turfgrass, accounted for 48 percent of the identified turfgrass grown but harvested only 26.7 percent of their combined acreage, even though they accounted for 45 percent of the identified harvested turfgrass. Farms with 151-300 acres grew 23 percent of the identified turfgrass and harvested 33.7 percent of the acreage within their farm category to account for 28 percent of the State's identified acreage. The smallest farm size category produced only 18 percent of the identified turfgrass in Maryland in 1976, but harvested and sold 29.7 percent of their acreage. Farms with 100-150 acres had the lowest harvest intensity of 22.9

percent and reduced the State harvest intensity for all farms of identified acreage to 28.4 percent. The lack of a uniform harvest intensity or natural increase can be explained by several factors.

First, in the less than 100 acre category, 24 of the 35 farms had 40 acres or less and generally either treated sod as a secondary enterprise or had engaged in the production of sod and could not get it marketed because of problems in the original production of the crop. Interestingly, five of the farms were considering discontinuing production for the 1977 season. Too, a few were speculating on land while using sod as a crop for low maintenance after the initial stages of establishment.

Secondly, six farms in the size group of 100-150 acres of turfgrass had farms or other enterprises large enough to treat sod as secondary. Also, the majority of producers in this group did not strive to produce Maryland certified sod.

Turfgrass producers on the seven identified farms with 151-300 acres sold 521 acres and served to increase the average harvest intensity for all farms. However, six of these seven farms were characterized as having a very good marketing organization. The other grower discontinued business in 1976 and reported selling acreage for a substantially reduced price.

Table 2. Identified Acreage of Cultivated Turfgrass by Size of Farm, 1976

Farm Size (Net Acres of Turf)	Number of Growers	Combined Net Acres of Cultivated Sod	Average Acres Per Farm	Percent of Total Acres Accounted for by Each Group
Less Than 100 Acres	35	1,133	32.4	17.08
100-150 Acres	6	765	127.5	11.53
151-300 Acres	7	1,547	226.5	23.32
Greater Than 300 Acres	8	3,189	398.6	48.07
All Participating Growers	56	6,634	118.4	100.00

*There were seven producers who chose not to cooperate in the study.

Table 3. Acres of Identified Turfgrass Harvested by Size of Farm, 1976

Farm Size (Net Acres of Turf)	Number of Growers	Number of Growers Who Also Harvested	Combined Net Acres of Harvested Sod	Average Acres Harvested per Farm	Harvest Intensity (Percent)	Percent of Total Harvested Sod Accounted for by Each Group
Less Than 100 Acres	35	21	337	9.6	29.7	17.85
100-159 Acres	6	4	175	29.2	22.9	9.28
151-300 Acres	7	3	521	74.4	33.7	27.63
Greater Than 300 Acres	8	6	853	106.6	26.7	45.24
All Participating Growers	56	34	1,886	30.5	28.4	100.00

There were seven producers who chose not to cooperate in the study.



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Finally, a factor contributing to uneven industry distribution and different levels of production-harvest intensity was the higher degree of vertical integration which existed on the largest turfgrass farms. Of the eight producers identified in this group, six harvested their own sod and five had a landscape company tied directly to the sod farm. Consequently, a more intensely monitored management and production program was ever present on these farms to insure sufficient quantity and quality of turfgrass.

Table 3 also shows that of the 56 turfgrass producers identified, 34 had integrated their operations so far as to harvest some or all of the sod themselves. In addition to harvesting, some producers also loaded and delivered the sod for the final buyers. The structure and cost-return information for these vertically integrated services will be the subject of the third article while the next article will primarily be concerned with a discussion of turfgrass production costs and returns from selling sod on an unharvested basis. **WTT**

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