

Turfgrass Sod Production



Introduction

Sod production involves growing a solid stand of high quality turfgrass and then harvesting the grass along with roots and a thin layer of topsoil. A majority of sod producers also transport and install the sod.

Marketing

The primary markets for sod are landscapers and building contractors. Sod is used in parks, golf courses, athletic fields, schools, garden centers, home lawns, road construction sites, commercial properties, and cemeteries.

Market Outlook

The demand for sod is highly dependent on new housing starts and industrial development. Because turfgrass is highly perishable once harvested, it cannot be shipped long distances, thus favoring local production. Most Kentucky-grown sod is marketed locally and little is either exported to or imported from neighboring states. While temporary sod shortages may occur, there is generally no consistent shortage of cultivated sod in Kentucky, indicating that current production is meeting demand. The market is extremely tight and new growers will have to produce a better quality turfgrass at a lower price in order to compete.

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Production Considerations

Species selection

Kentucky bluegrass (*Poa pratensis*) and tall fescue (*Festuca arundinaceae*) are the two main sod grasses grown commercially in Kentucky. Other species that could

be produced include bermudagrass (*Cynodon dactylon*) and zoysia (*Zoysia japonica*).

In the case of Kentucky bluegrass, two or three cultivars are blended for better disease resistance, as well as for more aggressive rhizome development and tillering.

Two cultivars of tall fescue may similarly be blended; however, more commonly, only one variety is used. Instead, some Kentucky bluegrass can be mixed with the tall fescue seed in order to increase sod strength when harvesting. This is unnecessary when netting is used in tall fescue production.

Site selection and planting

Sod production requires a deep, well-drained to moderately well-drained silt-loam or sandy-loam soil with reasonably thick topsoil. The site should be relatively level and free of rocks. The cropping history, including weed infestations and potential pesticide carryover problems, should be taken into consideration prior to planting.

A well-prepared seed bed is critical to commercial sod production. The field should

first be cleared and then smoothed to eliminate high spots and depressions. Lime and fertilizer are added as needed prior to final seedbed preparation. Fields are typically plowed and/or disked, then firmed with a corrugated roller. The best time to seed Kentucky bluegrass and tall fescue is in late summer and early fall. Tall fescue sod producers have been able to improve sod strength and reduce production time from seeding to harvest by installing netting immediately after planting. Tall fescue can be harvested in 6 months after seeding when netting is used, whereas Kentucky bluegrass may require 12 to 18 months to harvest.

Maintenance

Frequent mowing is an essential aspect of sod maintenance. Weekly or biweekly mowing improves the stand density, controls many weeds, and removes excess turf growth. Providing supplementary water during the growing season is helpful in producing quality sod.

Pest management

Weed infestations reduce the quality, and thus the marketability, of the sod. For this reason it is important to eliminate major weed problems prior to planting and to keep them under control throughout production. The primary insect pests in sod production are white grubs; however, they seldom become a major problem if the sod is harvested within a year or two after seeding. Likewise, diseases are seldom a problem in young sod.

Harvest

Sod is harvested once it is mature enough to remain intact when cut and handled. Almost all sod is harvested with a tractor dedicated sod harvester that requires at least three people to operate. Harvested sod is stacked in rolls or as flat slabs on pallets. Sod is generally harvested, delivered, and installed on the same day. For some sports fields and industrial sites, sod is harvested with “big roll” harvesters and planted by rolling-out the sod.



Labor requirements

Labor needs can total approximately 50 hours per acre for land preparation, production, and harvest.

Economic Considerations

Sod is an expensive enterprise, with the cost of harvesting and installation far outweighing the cost of actually producing the sod to maturity. Considerable risk is also involved, including potential losses due to poor establishment, serious erosion, flooding, perennial weed invaders, drought, market decline, saturated markets, and customer satisfaction.

Sod production requires much of the usual farm equipment used for hay and row crops; however, highly specialized equipment is needed for harvest. The major capital investment includes the purchase of a sod harvester with dedicated tractor, a cost that can easily exceed \$50,000. “Big roll” harvesting equipment would be equally expensive. Considerable expense may also be incurred for irrigation system installation and operation. Depending on the market, a farmer may need at least 100 acres in sod production in order to justify the purchase of such equipment. Additionally, a forklift, large rotary finishing mower, and pallets will be needed.

Costs of production for sod are estimated at \$0.60 to \$0.75 per square yard, or approximately \$3,000 per acre using 2010 input cost assumptions. Since a similar cost for harvest and loading can be expected, the producer must sell the sod for at least \$1.20 to \$1.50 per square yard to break

even. Production costs and breakeven price levels may vary considerably between different sod production systems, markets, and varieties.

Selected Resources

- The Business of Sod Production (University of Kentucky, 2001)
<http://www.uky.edu/Ag/ukturf/pubs.htg/Sod/sodproduction.PDF>
- Growing Cultivated Turfgrass Sod for Transplanting (University of Kentucky, 1999)
<http://www.uky.edu/Ag/ukturf/pubs.htg/Sod/GroCulSodTrsplt.PDF>
- Turfgrass Science (University of Kentucky)
<http://www.uky.edu/Ag/ukturf/>
- Commercial Tall Fescue-Kentucky Bluegrass Sod Production in Tennessee, PB164 (University of Tennessee, 2000)
<http://utextension.tennessee.edu/publications/Documents/PB1649.pdf>
- Sod Production (Ministry of Agriculture Food and Rural Affairs, Ontario, Canada, 2003)
http://www.omafra.gov.on.ca/english/crops/facts/info_sodprod.htm

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