8

# Producing Sods over Plastic in Soilless Media

*Henry F. Decker*
Buckeye Bluegrass Farms, Inc.
Box 176, Ostrander, Ohio 43061



*Horticultural Reviews, Volume 27,* Edited by Jules Janick
ISBN 0-471-38790-8 

## I. INTRODUCTION

### A. Conventional Sod Production

In the conventional system of producing sods directly in soil, the soil is plowed, harrowed, graded, and seeded usually in the spring or fall. Almost continuous cultivation of the grass, involving mowing, irrigation, fertilizing, and application of pesticides, is required for 1 to 2 years until the sod has "knitted," that is, will hold together in a sheet or roll while being harvested. Since the sod cutting machine used for harvesting cuts off the bulk of the root system, leaving it behind in the soil, the knitting or binding of the grass plants into a sod is due largely to the production of soil-level stems known as tillers, rhizomes, and stolons. The slowness of their development accounts for the relatively lengthy period of time necessary to grow a conventional sod to the point where it will remain intact when harvested. After a conventional sod is harvested and laid on a new site, it may take several weeks to regenerate a new root system and hence to bind to and root into the new soil surface. The sod must be kept moist during this period, often requiring large quantities of water.

At the beginning of the new millennium, there is over 300,000 acres (122,000 ha) of farmland in the United States devoted to the production of turfgrass sods. The average sod farm has about 250 acres (101 ha) under cultivation and sells about one half of this production each year with gross incomes per acre of about $4,500 ($11,000/ha). Across the industry about $15,000,000 is spent each year on pesticides (Anon. 1998, 1999). To produce conventional premium bluegrass sod in the United States can require as much as 100 cubic yards/acre (189$m^3$/ha) of topsoil, which amounts to a transfer of over 30 million cubic yards (23,000,000 $m^3$) of topsoil per year.

### B. Environmental Drawbacks

The conventional method of producing sods on soil has several difficult environmental drawbacks. Aside from the extensive use of pesticides and topsoil, conventional sods are often very heavy, difficult to handle,