



Soilless Sod

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Mississippi State University seeks companies interested in commercializing a “soilless” sod that is lighter in weight and lower in volume than conventional sod. Conventional sod applications are more expensive to produce and ship than “soilless” applications. Currently, all “soilless” sod applications are established in soil and require removal of the soil prior to shipping. Researchers at Mississippi State University have developed and patented (US Patent # 6,357,176) a “soilless” sod application that maintains mechanical stability without the need for additional procedures by growing the sod directly onto a biodegradable mat. This breakthrough allows users to produce “soilless” sod with greater mechanical stability, lower shipping weights, and faster growth rates than other “soilless” applications. Users of this technology would most likely be sod producers, landscapers, sports turf managers, and do-it-yourself homeowners.

Uses/Applications

The “soilless” sod would be extremely useful in custom sod applications. The producer could easily cut custom pieces for the consumer to replace damaged turf on golf greens, tee boxes, sports fields, or other turf that is highly susceptible to significant wear. This allows consumers to only replace the damaged turf. The sod could also be useful for erosion control, particularly on steep grades since the product grows directly into the mat and is mechanically stable.

Advantages

- “Soilless” sod results in a lighter weight sod for easier application and transport.
- Biodegradable material is more compliant with “green standards” than synthetic material.
- Use of substrate allows material to grow on non-soil surfaces (concrete, asphalt, etc.).
- “Soilless” sod establishes and covers faster than conventional sod.

Technology

A non-woven organic fiber mat is used as a substrate for sprig or seed establishment to yield sod. The three quarter inch thick fiber mat is then laid over a water and root impervious layer (plastic sheeting, asphalt, or concrete) on a near level surface. Sprigs, seed, or seeded mat (currently sold by several companies) is applied to the upper surface of the mat already in place. Utilization of sprigs requires application of a biodegradable rayon scrim to enhance sprig establishment on the mat. Maximum growth is achieved with a combination of water soluble and slow-release fertilizers.

Inventors

Dr. Brian Baldwin, a professor in the plant and soil sciences department, is a member of the Agronomy Society of America, the American Association of Industrial Crops and the Crop Science Society. Dr. Nancy Reichert is head of the biological sciences department and has served as a chair of the plant biotechnology section on the Society for Invitro Biology. Dr. Michael Goatley was an associate professor and Mr. Kevin Hensler was a graduate student in the plant and soil sciences department at the time of invention. Dr. Marty Fuller was a professor and agricultural economist in the agricultural economics department at the time of invention.