

ROBOTIC MOWER: SELF GUIDED SYSTEMS

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Mowing is the primary cultural turfgrass practice. Benefits of proper mowing practices include weed control, increased turfgrass density, and uniformity. Mowing currently is the largest portion of the average athletic field, golf course, and lawn care company labor budget. Disadvantages associated with improper mowing include root desiccation, reduced carbohydrate reserve, and increased water loss via cut leaves. A variety of exploration has been devoted to maximizing the effects of mowing on overall turfgrass characteristics and quality, and developing machines capable of reducing mowing time and increasing quality of cut.

In more recent years researchers have been exploring the possibility of a self guided or robotic mower, capable of functioning independently from a human operator. Possible benefits of a robotic mower include increased mowing frequency, which has proven to result in increased turfgrass density and reduced labor costs. Self automated mowers are also capable of operated at night when turfgrass facilities are not actively being used. The corporation, Self-Guided Systems (SGS), has currently developed a robotic mower capable of functioning independently. Features that separate this robotic mower, from previous automated mowers, include programmed dimension perimeters and memory, parallel and diagonal mowing patterns, and a variety of safety features to prevent accident occurrence.

Researchers at the Michigan State University, Hancock Turfgrass Research Center, are currently evaluating the efficacy of the SGS robotic mowing system. Evaluation will include quality and regularity of cut, and the effects of increased mowing frequency and night mowing.