

# TURFGRASS TRENDS

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TURFGRASS WEED CONTROL

## Predict Smooth Crabgrass Emergence Using Degree-Days

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THE CRABGRASSES (*Digitaria* spp.) were originally cultivated as a grain crop, and were grown for food thousands of years before gaining a reputation as a troublesome weed in turfgrasses and agricultural crops (Mitich, 1988). For example, crabgrass was an important food crop in China in 2,700 B.C. In 1849, the United States Patent Office introduced large crabgrass as a forage crop. Today, both large and smooth crabgrass are considered the most competitive, destructive, and invasive weeds in turfgrass sites maintained on golf courses, lawns, and landscapes (Figure 1).

Crabgrass can be effectively controlled through the intervention of cultural practices, and herbicides. However, the ability to predict crabgrass seedling emergence might allow turfgrass managers to precisely time and target weed control strategies. A successful crabgrass control program with a pre- or postemergence herbicide depends on accurate application timing, which is related to the stage of crabgrass growth and development. For example, a preemergence herbicide that is applied too late in the spring will not provide control for the crabgrass that has already germinated and emerged.

In one of the earliest published investigations on crabgrass population biology in turfgrass culture, Gianfagna and Pridham (1951) reported that large crabgrass germinated from May 25 to September 15 in New York. One of the first published reports on crabgrass



Figure 1. Smooth crabgrass in perennial ryegrass test plots. University of Maryland, Silver Spring, MD.

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