

CUTT

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Management of Annual Grassy Weeds

Annual grasses have been and continue to be among the most serious of all weed management issues in landscape, golf course and athletic field turfs. The most common of the warm season or summer annuals include large and smooth crabgrass (*Digitaria* spp.); green, yellow or giant foxtail (*Setaria* spp.); barnyardgrass (*Echinochloa crusgalli*); and goosegrass (*Eleusine indica*). Understanding more about the ecology and biology of these weeds will help one to develop a plan for effective management over time.

Crabgrass

Several species of crabgrass exist in the US, and two main species exist in the Northeast: large crabgrass (*Digitaria sanguinalis*) and smooth crabgrass (*Digitaria ischaemum*). Crabgrass is seemingly ubiquitous in the landscape and is often unsightly due to its coarse leaves, becoming light green or brown as the season progresses. It generally dies in early autumn following the first killing frost. Although crabgrass thrives in areas of high fertility and soil moisture, it also tolerates a wide range of soil conditions, and is associated with areas where soil and maintenance practices are poor. As you may recall, crabgrass reproduces from seed which germinates from mid-spring to late summer, depending on soil temperatures.

Researchers at the University of Maryland and Cornell University have found that the density of turf stand will impact soil tempera-

tures below the turf stand and thus influence crabgrass germination as well. In a dense stand of turf receiving medium maintenance, soil temperatures greater than 73° were generally required for significant emergence. It has also been reported that minimum temperatures of 55–58° at daybreak in the upper inch of soil for 4–5 days will encourage the initiation of crabgrass germination. Other research has shown that mean soil temperatures of 62–65° are required for germination. Research also suggests that under average turf density, crabgrass emergence can continue for up to 12 weeks during a typical growing season in the Northeast. We have seen that application of a preemergence herbicide too early in the season, before soil temperatures warm adequately, may result in the need for additional crabgrass control measures later in the season.

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