Goosegrass, also known as silver crabgrass, is a warm-season annual grass weed that infests golf course turf, athletic fields, lawns, parks, and institutional grounds.

This species is found throughout Pennsylvania and is most prevalent in the southeastern portion of the state. Goosegrass is common in compacted soils, high-traffic areas, sites with full sun and light shade, and in stands of thinning turf. Because of its low growth habit, it can tolerate mowing heights of ½ inch or less.

Goosegrass reproduces by seed, which is disseminated via maintenance equipment, shoes, and the transfer of soil from contaminated sites. Professional turf managers, golfers, and homeowners find its coarse texture and spreading growth habit objectionable in sports turf and lawns. Goosegrass populations can be suppressed by using good cultural practices and certain herbicides applied at the correct time of year and growth stage.

Life cycle

Goosegrass belongs to the Poaceae family and has a summer annual life cycle. Seed of this species begins to germinate and emerge in mid to late spring, 3 to 4 weeks later than crabgrass, and continues well into the summer months. Following germination and emergence, goosegrass plants make vegetative growth during the summer. Seedheads are produced from July through September and can generate thousands of seeds per plant. Goosegrass plants turn yellow and brown, then die following frost events in mid to late fall. Seeds produced in late summer and early fall give rise to new plants the following spring and summer, given proper conditions for germination and emergence.
Identification

Leaf blades of goosegrass are medium to dark green, approximately ¼ to ½ inch wide and 2 to 10 inches in length, with a prominent midvein running lengthwise in the center. Long, sparse hairs can be observed at the base of the leaf blade on the upper surface. Goosegrass plants have a short (1 to 1.5 mm) membranous ligule that is somewhat jagged at the top and divided in the center. This species lacks auricles in the collar region (located at the junction of the leaf blade and sheath). Stems, also referred to as tillers, grow outward from a single growing point in a rosette pattern and typically lie flat against the soil surface. As plants mature in summer, tiller numbers increase and take on a silver or white appearance; hence goosegrass is sometimes referred to as “silver crabgrass.” Seedheads consist of 2 to 7 spikes that radiate from a central stem. Each spike has two rows of spikelets arranged on either side of the spike, resembling a zipper. Seeds are 1 to 2 millimeters in length, elliptical, and with pointed or rounded tips.

Cultural Management

Goosegrass is introduced into turf stands primarily through the transfer of seed on maintenance equipment, shoes, and soil used for renovation projects. Although there is no practical way to detect seeds in the soil, using soils from sites with no previous history of goosegrass infestation can lessen the chances of contamination of turfgrass sites. If only a few goosegrass plants are infesting a stand, they can be removed by hand pulling or using a trowel or other hand-held weed removal tool. Relieving soil compaction through core aeration, adding organic matter in clay soils, and reducing foot or vehicle traffic can help improve turfgrass cover and aid in competing with goosegrass. Improving turf density through fertilization, irrigation during drought conditions, and the use of turfgrasses well-adapted to site conditions will help reduce infestations of goosegrass.
Control with Preemergence Herbicides

Goosegrass can be controlled with certain preemergence herbicides if applications are made in spring before maximum daily soil temperatures at the 2-inch depth reach between 62 and 65°F. Because soil temperatures required for germination of goosegrass are typically higher than those for crabgrass, control of both species in the same stand can be challenging.

Active ingredients that have shown good preemergence control of goosegrass and crabgrass in Pennsylvania include prodiamine (Barricade and other prodiamine-containing products), pendimethalin (Pendulum, Pre-M, and other pendimethalin-containing products), and dithiopyr (Dimension and other dithiopyr-containing products). Oxadiazon-containing granular products (Oxadiazon 2G and Andersons Goosegrass/Crabgrass Control) provide very good control of goosegrass but cannot be used on residential properties in Pennsylvania. Andersons Goosegrass/Crabgrass Control is labeled only for bentgrass turf on golf courses. Oxadiazon is not as effective for controlling crabgrass as the previously mentioned preemergence herbicides.

Two spring applications may be necessary when controlling both crabgrass and goosegrass with preemergence herbicides. Depending on your location in Pennsylvania, preemergence herbicide applications for crabgrass control can take place from mid-March to late April. If seed of goosegrass is present in the stand, a second preemergence herbicide application is often needed 6 to 8 weeks after the initial crabgrass application for acceptable goosegrass control.

If using more than one application of a preemergence herbicide in one season, be sure to follow label directions on rates, as most product labels recommend using rates lower than the maximum annual application rate for each of the two applications. Dithiopyr products are often used by professional turfgrass managers in Pennsylvania as the second preemergence herbicide application in a two-application program because dithiopyr controls early emerging crabgrass (up to the 1-tiller growth stage). Applicators should be aware that while dithiopyr products control goosegrass when applied prior to seedling emergence, they do not control emerged goosegrass plants.

Control with Postemergence Herbicides

Postemergence control of goosegrass involves the use of products that kill plants after they have appeared in the turf. For postemergence herbicides to be effective, goosegrass plants must be uniformly covered and at the stage of growth specified on product labels. Environmental conditions also play an important role in postemergence control of goosegrass, with adequate soil moisture and moderate temperatures generally providing the best results.

Selective postemergence herbicides labeled for control of goosegrass include products containing fenoxaprop-p-ethyl (Acclaim Extra and Last Call), mesotrione (Tenacity), topramezone (Pylex), and Speedzone (2,4-D ester, MCPP, dicamba, and carfentrazone). Be sure to follow label precautionary statements, restrictions, and directions regarding rates and timing of applications when using these herbicides.

**Acclaim Extra** can provide postemergence control of goosegrass and is relatively safe on most cool-season turfgrasses but should only be used on bentgrass at 3.5 fl oz/acre and may injure some Kentucky bluegrass and Zoysia cultivars at rates exceeding 28 fl oz/acre, especially during periods of high temperatures. Rates of Acclaim Extra range from 3.5 to 39 fl oz/acre, with suggested use rates increasing as plants develop from the non-tillered leaf stage (13 fl oz/acre) up to 3 to 4 tillers (28 to 39 fl oz/acre). This herbicide should not be applied if cool-season turfgrasses show signs of drought stress. Acclaim Extra is less effective when tank mixed with phenoxy type herbicides such as 2,4-D and MCPP but can be mixed with pendimethalin or other preemergence herbicides.

**Pylex herbicide** provides excellent postemergence control of goosegrass when applied to non-tillered (0.25 fl oz/acre) and multi-tillered (1 to 1.5 fl oz/acre) plants. Pylex can be used in newly established or established turf. It can be applied before seeding or 28 days after seeding tolerant turfgrass species. Rates of Pylex normally range from 1.0 to 1.5 fl oz/acre per application for most turf species, including Kentucky bluegrass, perennial ryegrass, tall fescue, and fine fescues. Applications up to 2.0 fl oz/acre can be made only on pure stands of Kentucky bluegrass. The total seasonal amount of Pylex is restricted to 4.0 fl oz/acre. Creeping bentgrass is only marginally tolerant of Pylex at 0.25 fl oz/acre; hence, multiple applications at 2- to 3-week intervals are necessary for the control of tillered goosegrass. Pylex should not be used on managed stands of bermudagrass or Zoysiagrass, as severe injury will result. This herbicide can be mixed with pendimethalin products when used on established turf in early summer. Pylex is most effective in controlling goosegrass when mixed with a methylated seed oil or crop oil concentrate. Applicators and turf users should be aware that treated goosegrass and other susceptible weeds turn white for several days following application of Pylex. Also, some turfgrass species and cultivars may show a white tinge on foliage when Pylex is used at high rates. The whitening effect can be reduced somewhat when triclopyr is mixed with Pylex.

**Tenacity** applications work best for newly emerged crabgrass and goosegrass in new seedings of Kentucky bluegrass, perennial ryegrass, and tall fescue. This herbicide should not be used in new stands of fine fescues. Best postemergence control of goosegrass is obtained when applied to plants with fewer than 4 tillers. Rates of Tenacity range from 5 to 8 fl oz/acre and vary with turfgrass species. Repeat applications may be necessary for complete control of goosegrass, but the total seasonal application rate should not exceed 16 fl oz/acre. Label instructions suggest spraying Tenacity only after newly germinated turfgrasses have been mowed twice or 4 weeks.
after emergence. Tenacity can be mixed with prodiamine, dicamba, triclopyr, fluroxypyr, or carfentrazone when used on established turf. This herbicide is most effective in controlling goosegrass and other summer annual grass weeds when mixed with a nonionic surfactant. Susceptible weeds turn white following Tenacity applications, creating a highly visible treatment effect for 1 to 3 weeks following application.

**Speedzone** is somewhat unique in that it is a broadleaf herbicide that can be used for postemergence control of goosegrass. This herbicide is labeled for use on all cool season turfgrasses but should not be used on golf course putting greens. A single application of Speedzone can control early leaf-stage goosegrass but provides poor control of tillered goosegrass plants. Research at Purdue University and Rutgers University has demonstrated that two sequential applications of SpeedZone at 4 pints/acre, no less than 30 days apart, are needed to control 3- to 5-tiller stage goosegrass. Applicators should be aware that Speedzone will not control crabgrass and that applications during high-temperature periods (>90°F) in summer may cause injury to turfgrasses.

**Some preemergence herbicide products labeled for control of goosegrass.**

<table>
<thead>
<tr>
<th>Active ingredients</th>
<th>Product name(s)*</th>
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<tbody>
<tr>
<td>benefin</td>
<td>Balan 2.5G</td>
</tr>
<tr>
<td>benefin and trifluralin</td>
<td>Team Pro</td>
</tr>
<tr>
<td>bensulide</td>
<td>Bensumec 4 LF; Pre-San Granular 12.5G</td>
</tr>
<tr>
<td>bensulide and oxadiazon</td>
<td>Andersons Goosegrass/ Crabgrass Control**</td>
</tr>
<tr>
<td>dithiopyr</td>
<td>Dimension EC; Dimension 2EW; Dimension 40WP; Dithiopyr 40WSB</td>
</tr>
<tr>
<td>dithiopyr and isoxaben</td>
<td>Crew</td>
</tr>
<tr>
<td>oxadiazon</td>
<td>Oxadiazon 2G**</td>
</tr>
<tr>
<td>pendimethalin</td>
<td>Pendulum; Pre-M; Pre-M AquaCap</td>
</tr>
<tr>
<td>prodiamine</td>
<td>Barricade 4FL; Barricade 65WG; Prodiamine 4L; Prodiamine 65WDG; Cavalcade 65WDG</td>
</tr>
<tr>
<td>prodiamine and quinclorac</td>
<td>Cavalcade PQ</td>
</tr>
<tr>
<td>prodiamine and sulfentrazone</td>
<td>Echelon 4SC</td>
</tr>
</tbody>
</table>

*Follow label precautionary statements, restrictions, and directions regarding tolerant turfgrass species, rates, and timing of applications.

**Some postemergence herbicide products labeled for control of goosegrass.**

<table>
<thead>
<tr>
<th>Active ingredients</th>
<th>Product name*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D ester, MCPP, dicamba, and carfentrazone-ethyl</td>
<td>Speedzone</td>
</tr>
<tr>
<td>fenoxaprop ethyl</td>
<td>Acclaim Extra</td>
</tr>
<tr>
<td>fenoxaprop ethyl, fluroxypyr, and dicamba</td>
<td>Last Call</td>
</tr>
<tr>
<td>mesotrione</td>
<td>Tenacity</td>
</tr>
<tr>
<td>topramezzone</td>
<td>Pylex</td>
</tr>
</tbody>
</table>

*Follow label precautionary statements, restrictions, and directions regarding tolerant turfgrass species, rates, and timing of applications.

**References**


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