Home Lawns

Varieties and Pest Control Guide

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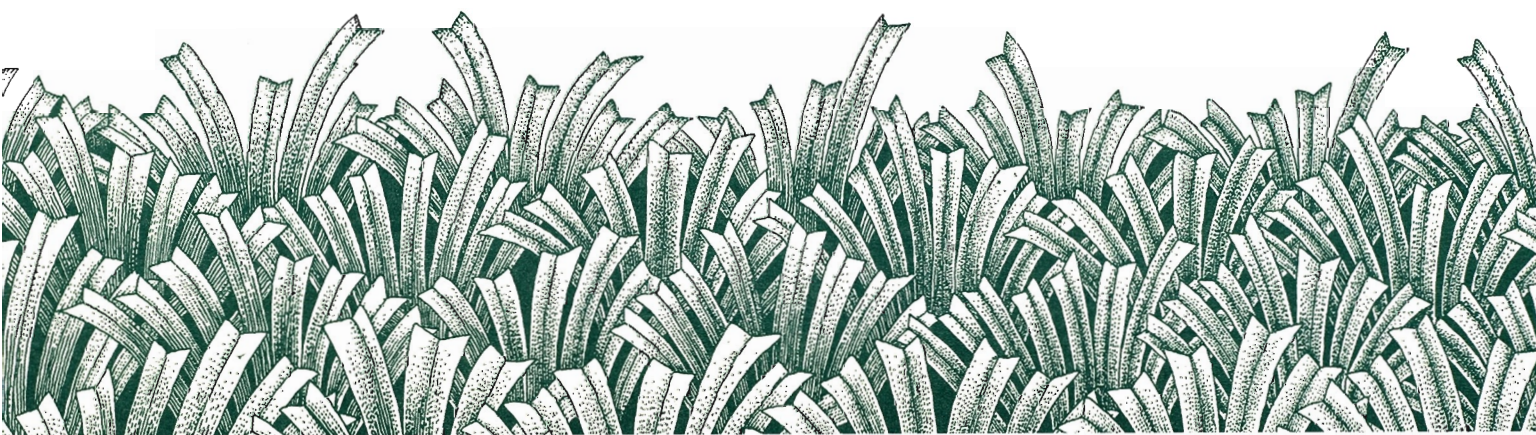
General Remarks

Turfgrass grown using good cultural practices will better withstand the ingress of weeds, diseases, and insects. Once pests are brought under control, a vigorous turf will more quickly fill the open spots caused by pests. This guide was designed to be used in conjunction with Information Bulletin 185, *Home Lawns: Establishment and Maintenance,* which contains a thorough review of lawn maintenance practices. Effective pest management is impossible without the accurate identification of the pest in question. Once the disease, insect, or weed has been correctly identified, the suggested control method can be selected from this guide. For assistance in identifying lawn pests, use Cooperative Extension publications such as Information Bulletin 185, *Home Lawns*, and Miscellaneous Bulletin 125, *Picture Clues to Turfgrass Problems*; or contact your county Cooperative Extension office.



Integrated Pest Management

Integrated pest management (IPM) is a program that includes proper culture, monitoring of pests, sanitation (such as thatch control), and proper timing and selection of pesticides. IPM is not a pesticide-free program, but ultimately, if a pesticide is used, it will be used much more efficiently than in a preventive program. Home lawn IPM incorporates all the cultural practices discussed in *Home Lawns*. Following such a program will greatly reduce reliance on pesticides. The time may come, however, when a weed or insect population reaches an unacceptable or damaging threshold and pesticide use may be justified. Then IPM depends on proper identification of the pest and selection of a pesticide that will effectively manage the pest with minimal hazard to the environment.

Pesticide-Free Lawns

Home lawns can be maintained without pesticide use and still be attractive if some very basic lawn care principles are followed. The homeowner should have a realistic perception of what pesticide-free lawn care will produce. Although the lawn may have a few more weeds and an occasional dead area, these problems can be minimized through proper culture. Refer to the Cooperative Extension fact sheet, *Lawn Care without Pesticides*, for more information.

Chemical Control

When a chemical control method is found to be warranted, this guide can be used to select the timing and control method.

Trade names used herein are for convenience only. No endorsement of products is intended nor is criticism of unnamed products implied.

Warning: *Read and follow label directions carefully. Some turfgrass chemicals are poisonous to people and animals. Store them in closed, plainly labeled containers out of reach of children and animals. Avoid repeated or prolonged contact with the skin, and do not inhale dust, sprays, or vapors. Wash hands and face before eating or smoking. Do not contaminate streams, lakes, or ponds, and do not clean equipment near such water.*

Not all pests are easily controlled by chemicals. The specific amounts of herbicides and insecticides recommended in this publication are for average conditions, and chemicals may need to be reapplied to give satisfactory control. When a timed application is specified, deviation from this recommendation may give poor results.

Pesticides are available in different formulations: liquids, powders, and emulsions. In this publication

G = granular

E = emulsion

EC = emulsifiable concentrate

WP = wettable powder

Granular pesticides are most often applied with a drop-type spreader. Emulsions, emulsifiable concentrates, and wettable powders can be applied only using a sprayer. Read the label on the container or the specialized turf label for variations in treatment because of season, temperature, moisture, soil type, variety, age of turf, and severity of the problem.

Attention: *We cannot guarantee successful results because of numerous variables, including severity of the problem, choice of pesticide, application timing and techniques, and environmental conditions.*

Many pesticides are also available in combination with fertilizers. These products do two operations at once and facilitate application of pesticides. Remember that fertilizer-pesticide combination products are pesticides, so they should be applied and stored properly.

How to Use This Guide

This publication contains four main sections:

(1) turfgrass species and variety recommendations

(2) cultural and herbicide control methods for common lawn weeds

(3) cultural control methods for common lawn diseases

(4) cultural and insecticide control methods for insect problems

We recommend that you select appropriate grass species and varieties and use cultural pest management options before implementing chemical controls.

Cultural Practices for Prevention and Control of Weeds

The best form of weed control is prevention. Lawns that are damaged by diseases, insects, improper mowing, or environmental stress are prone to weed encroachment. Homeowners should follow the cultural programs outlined in Information Bulletin 185, *Home Lawns*, to produce a healthy, vigorous lawn that is tolerant of biological and environmental stresses.

Table 1. Turfgrass Species and Variety Recommendations

Grass Species	*Varieties*	*Comments*
Fine Fescue 	Aurora, Biljart, Highlight*, Jamestown*, Scaldis, Waldina	Fine fescues perform well under low moisture and low maintenance conditions. Use in mixtures with other turfgrasses. Biljart and Scaldis can be used alone.
Perennial Ryegrass 	AllStar†, Blazer, Citation II†, Derby, Manhattan II, Omega II, Pennant†, Pennfine, Premier, Repell†, Yorktown II	These varieties are more compatible with bluegrass and fescue than is common perennial grass. Perennial ryegrass is better adapted to southeastern New York conditions. It is more susceptible to diseases and winter kill in upstate New York. Requires medium level of maintenance.
Kentucky Bluegrass 	See *Cornell Turfgrass Species and Variety Recommendations* for tables listing Kentucky bluegrass varieties and their adaptability to different cultural and environmental conditions. Chateau, Eclipse, Glade, Touchdown Adelphi, American, Baron, Bonnieblue, Columbia, Enmundi, Estate, Fylking, Nassau‡, Ram I‡	Choose at least two or three varieties to form a blend containing (a) similar characteristics(color, shade tolerance, etc.) or (b) a wide range of desirable characteristics. Shade-tolerant varieties, but do well in sunny sites. Varieties for general lawn conditions

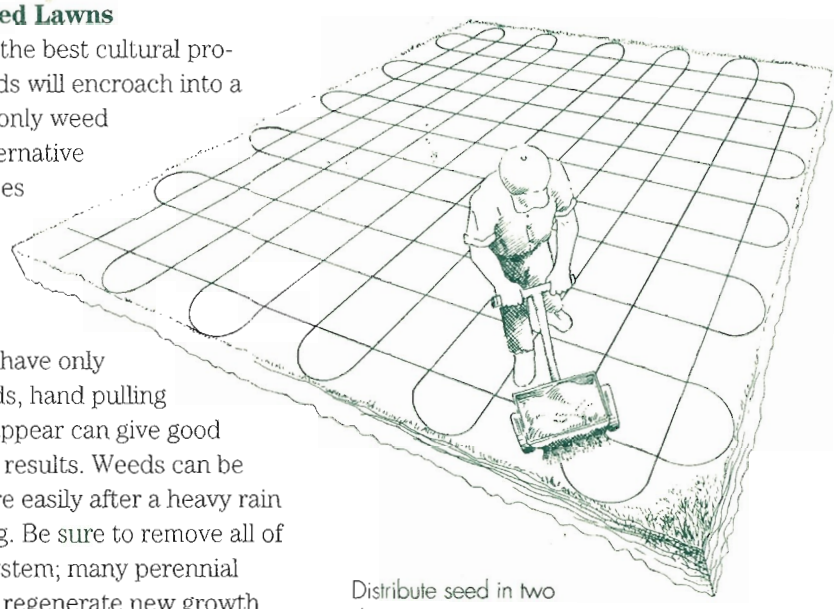
*Not for use on Long Island
†Has shown resistance to surface-feeding insects because of the presence of *Lolium* endophyte
‡ Recommended for Long Island use only

New Lawns

The soil is the greatest source of weed seeds in new lawns. Planting at the proper season with the right grasses and adequate fertilization at seeding are the most important practices in minimizing weed problems. In southeastern New York State and on Long Island, fall planting is almost the only means of preventing crabgrass from taking over the lawn. When planted in the fall, the grass plants will spread laterally and the turf will be dense and mature before most troublesome lawn weeds appear. Proper fertilization of the seedbed will help newly seeded areas quickly gain a competitive edge over weeds. Apply fertilizer according to soil test recommendations. In lieu of a soil test, use a high-phosphorus or "starter" fertilizer according to label directions. Mowing as soon as the grass is established and has grown to a 3-inch height will control many weeds and promote thickening of the lawn.

Established Lawns

Even with the best cultural program, weeds will encroach into a lawn. The only weed control alternative to herbicides is hand pulling. For small lawns or those that have only a few weeds, hand pulling as weeds appear can give good temporary results. Weeds can be pulled more easily after a heavy rain or watering. Be sure to remove all of the root system; many perennial weeds will regenerate new growth from underground parts.



Distribute seed in two directions

Chemical Control of Weeds

The use of herbicides to control weeds is more practical for large areas, weeds that are more difficult to pull, and small patches of persistent weeds. Large areas can be treated with sprays or granules, which provide good weed control with minimal injury to turfgrass. Single clumps of weeds can be spot treated. Aerosol "spot weeders" are available for such areas.

When weeds infest an area of any size and the populations are high enough throughout the area to be objectionable, an overall treatment

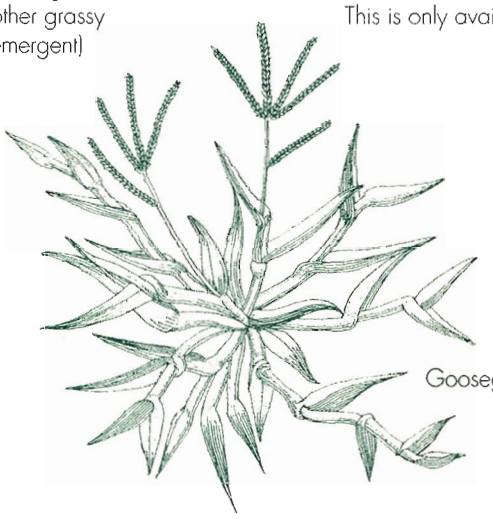
Table 2. Suggested Seed Mixtures

Use	*Species/Mix (% by weight)*	*Mixture (lb./1,000 ft²)*
Sunny Lawns		
Medium to High Maintenance	80–90% Kentucky bluegrass blend (or more) 10–20% perennial ryegrass	3–4
Low Maintenance and Droughty Sites	65% fine fescue (not more), 10–20% perennial ryegrass, remainder Kentucky bluegrass blend	4–5
	or	
	100% improved tall fescue (southeastern New York only)	7–10
Shady Lawns		
Dry Sites	80–90% fine fescue, 10–20% perennial ryegrass	4–5
	or	
	80% blend of shade-tolerant Kentucky bluegrass and 20% perennial ryegrass	
Wet Sites	70% Sabre rough bluegrass and 30% blend of shade-tolerant Kentucky bluegrass	2–3

Table 3. Control of Grass Weeds

Weed	*Herbicide*
Crabgrass and other annual grasses (preemergent)	Dacthal, Balan, Betasan, Tupersan, Pre-M, Halts, Team, and others. Applied in the spring before crabgrass germinates. These products are commonly formulated with fertilizer. Dacthal may not be used in Suffolk County (Long Island), New York.
Crabgrass, nutsedge, and certain other grassy weeds (postemergent)	Methanearsonate (i.e., MSMA or DSMA). Applied to early to midsummer. This is only available in liquid form. Overapplication may cause turf injury.
Orchardgrass, quackgrass, and other perennial grasses	Dig out offending plants or spot treat with glyphosate (Roundup) then reseed or sod the area.

Annual Bluegrass



Goosegrass

Quackgrass

Table 4. Lawn Disease Prevention and Control

Disease	*Time of Year*	*Cultural Control*
Gray Snow Mold	December–March	Delay fall fertilizer applications until leaf growth has stopped. Mow regularly in the fall. Rake matted grass in spring. Worsened by cool, wet autumn or spring and by deep compacted snow over unfrozen soil.
Pink Snow Mold	March–June and September–November	Avoid nitrogen application in late fall. Remove thatch. Rake matted grass in spring. Worsened by cool, wet autumn or spring and by snow over unfrozen soil. Snow is not necessary for the occurrence of this disease.
Leaf Spots and Blights	April–October	Use resistant varieties. Avoid excess nitrogen, especially in the spring. Water early in the day; avoid overwatering. Most serious on Kentucky bluegrass lawns when cool weather prevails, usually in the spring. Leaf spot is greatly intensified by succulent turfgrass growth; nitrogen fertilization, therefore, should be kept to a minimum in the spring.
Dollar Spot	June–September	Use resistant varieties. Avoid nitrogen deficiency. Avoid watering frequently or watering in late afternoon or evening. The use of some organic fertilizers may reduce disease severity.
Brown Patch	Summer	Avoid excess nitrogen and excess water. Water early in the day. Most common during periods of hot, humid weather. Use of some organic fertilizers may reduce disease severity.
Fairy Rings	April–October	No resistant varieties or effective fungicides are currently available. Mask symptoms with good fertility, watering, and mowing practices. Rake down or pick and discard mushrooms.
Powdery Mildew	July–October	Use resistant varieties and shade-tolerant varieties. Reduce shading and avoid excess nitrogen.
Pythium Blight	Summer	Avoid excess nitrogen and excess water. Do not mow wet grass. Most common during hot weather on poorly drained sites. Diseased patches often follow shapes of wettest areas.
Rusts	July–October	Use resistant varieties. Avoid nitrogen deficiency and drought.
Patch Diseases (Summer Patch and Necrotic Ring Spot)	April–November	Use resistant varieties. Any practice that encourages deeper rooting will help the turf to be more tolerant of these diseases. Remove excess thatch. Avoid high nitrogen nutrition, excessive watering, and drought stress. Avoid soil pH below 6.2. Mix perennial ryegrass seed with bluegrass seed when over-seeding.
Stripe Smut	May–October	Use resistant varieties. Avoid excess nitrogen and drought.
Red Thread	May–October	Use resistant varieties. Maintain adequate fertility and avoid nitrogen deficiency. The use of some organic fertilizers can also reduce disease severity.

Table 5. Lawn Insect Cultural and Chemical Control

Insect	*Cultural Control*	*Insecticides*[1]
Bluegrass Billbug	Use endophytic cultivars of grass. Parasitic nematodes.[2]	Apply **a, b,** or **c** during mid-June to mid-July.
Chinch Bugs	Use endophytic cultivars of grass. Avoid drought.	Treat in June with **a, b, c** Water lawn before treatment to encourage bugs to come to the surface. Except with **c** a second application may be necessary two to three weeks later. Water in granular materials immediately after application.
Grubs (Japanese beetle[3], European chafer, Asiatic garden beetle, northern	Parasitic nematodes.[2] Milky spore disease.[4]	**a, b, c,** or **e** should be applied from mid-August to late September upstate and early mid-masked chafer) August to September in southeastern New York. Make sure grubs are near the soil surface and the soil is moist before application. Water immediately after application. **b** is less effective on thatchy lawns.
Oriental beetle grubs	These grubs are not susceptible to milky spore disease.	**a, b, c,** or **e.** Especially damaging on Long Island. Because oriental beetles oviposit slightly before Japanese beetles, treatment for grubs on Long Island should be slightly ahead of the rest of the state—the last week in July to mid-August is preferable.
Sod webworms and cutworms	Use endophytic cultivars of grass.	**a, b, c,** or **e.** Evening treatments are preferable. Wet lawn before treating. After application, move insecticide off grass blades into thatch by watering in for 15 minutes.

[1] **Common Name**	**Trade Name**
(a) Carbaryl	Sevin
(b) Chlorpyrifos	Dursban
(c) isofenphos	Oftanol
(e) trichlorfon	Dylox, Proxol

[2] Parasitic nematodes may be useful or controlling grubs, billbugs, sod webworms, and cutworms. Commercial products tested have been inconsistent, especially for grub control. Nematodes are available through garden specialty catalogs.

[3] Trapping adults is not recommended. Studies have shown that the use of a small number of traps results in a net increase in beetles in the area around the traps. This is true even though a single trap often captures as many as 20,000 adult beetles in a day. If traps are used, keep them as far away as possible from valued trees and shrubs.

[4] Milky spore disease is a naturally occurring bacterial parasite that infects Japanese beetle grubs. Milky spore is not effective on other white grub species and has only been marginally effective in New York. When milky spore is used, grubs must be present to spread and maintain the disease. Moist, warm (≥70°F) soil is necessary for sufficient disease development to be of value. Useful on large, marginal, or low-value turf area.

with a selective chemical that will kill the weeds and leave the grass unharmed may be warranted. Broadleaf weeds such as dandelion and chickweed require different management practices than do annual grasses such as crabgrass or goosegrass, or perennial grasses such as quackgrass. Where weed infestation is serious and the turf is poor, consider renovating the lawn.

Check the herbicide label for the proper way and most effective time to apply herbicides. When used according to directions on the package label, herbicides should not be a hazard to people, pets, turfgrass, or desirable plants in the garden or landscape. It is best to use phenoxy herbicides such as 2,4-D and MCPP in the fall or early spring when temperatures are lower and less foliage of desirable plants is exposed.

Control of Broadleaf Weeds

The basic ingredient in broadleaf herbicides is 2,4-D. Used alone, it controls a wide range of broadleaf weeds. Formulators often combine one or more chemicals with 2,4-D, such as MCPP or dicamba, to increase the number of weeds controlled. Such mixtures control most broadleaf weeds commonly found in lawns. Chemical control of broadleaf weeds is best accomplished in the fall or spring. A specific exception is the weed *Veronica,* a small-leaved, low-growing plant that produces a purplish flower in the spring. If repeated applications of a broadleaf weed killer fail to eliminate a weed that fits this description, it may be *Veronica*. Consult your local Cooperative Extension agent for specific controls where this weed is a serious problem.

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