This circular has two purposes: (1) to help you identify most weeds that occur in Midwestern lawns; and (2) to recommend a method of control for a particular weed.

The first section of the circular (pages 1 to 19) contains a key for identifying common lawn weeds, a descriptive list of these weeds, including photographs and drawings, and a descriptive list of less common weeds. The weeds in these descriptive lists appear in alphabetical order under “Broadleaved Weeds” and “Grassy Weeds.” They are listed by the most common name, followed by other common names, if any, and the botanical name.

The second section of the circular (pages 20 to 27) contains a general discussion of weed control and a list of controls for specific weeds. This list includes instructions for use of the material, the best time to apply, and the probable degree of control for each weed.

The key, descriptive lists, and list of controls will help you identify and control most weeds likely to be found in your lawn. Only the common lawn weeds are listed in the key. If you cannot find a particular weed in the key, check through the “Descriptive List of Less Common Weeds.” If you are still unable to identify the weed, you may want to ask your county extension adviser for help.

IDENTIFICATION OF WEEDS

The following key is made up of alternative statements about the plant's structure or appearance. Choose from the paired statements the one that most closely describes the plant to be identified. Be sure to read each of the paired statements before making your choice.

When you have made your choice, you have either identified the plant or have chosen to go on to the next pair of statements. If you need to proceed, continue checking the paired statements until you have identified the weed. Notice that you always choose one of two alternatives, and that these two alternatives bear the same number, even though the second number may be widely separated from the first one. Notice also that a given number is used for only one pair of headings and is not repeated.

To familiarize yourself with the key, you may want to “key out” a weed that you already know. To key out a dandelion, for example, you would go from 1 (Leaves in a rosette or alternate) to 7 (Leaves in a rosette) to 8 (Plant with milky juice and pointed, lobed leaves).

Following the name of each weed in the key is the number of the page on which the weed appears in the “Descriptive List of Common Lawn Weeds.” For dandelion, you would turn to page 7. On that page is a photograph of a dandelion plant, a drawing of a dandelion leaf to aid identification, a description of the plant's physical appearance and characteristics, and a page reference to the control for dandelions.
KEY TO COMMON LAWN WEEDS

(For definitions of terms used in this Key, see Glossary on page 4.)

Broadleaved Weeds

1. Leaves opposite or whorled.
   2. Leaves whorled. CARPETWEED page 6
   2. Leaves opposite.
   3. Plant milky. PROSTRATE SPURGE page 10
   3. Plant not milky.
      4. Plant a creeper rooting near base of leaves. GROUND IVY page 8
      4. Plant not rooting near base of leaves.
         5. Leaves small; a line of hairs on definite petiole. COMMON CHICKWEED page 7
         5. Leaves without line of hairs on petiole or without petiole.
            6. Leaves hairy, attached directly to stem; like mouse ears. MOUSE-EAR CHICKWEED page 9
            6. Top leaves attached directly to stem; bottom leaves have petioles. Many flowers in leaf axil. HENBIT page 9

1. Leaves in a rosette or alternate.
7. Leaves in a rosette.
   8. Plant with milky juice and pointed, lobed leaves. DANDELION page 7
   8. Plant without milky juice.
      9. Plant with dark-green, pointed, many-lobed leaves. SHEPHERD'S PURSE page 12
         10. Plant with rather thick, arrow-shaped leaves in a rosette. RED SORREL page 11
            11. Plant with broad leaves with definite veins. RUGEL'S PLANTAIN page 12
            11. Plant with narrow leaves with definite veins. BUCKHORN PLANTAIN page 6

7. Leaves alternate.
12. Creeping or climbing plant with rounded, arrow-shaped leaves. FIELD BINDWEED page 8
12. Plant without rounded, arrow-shaped leaves.
   13. Plant with small leaves; joints covered with thin, papery sheath. PROSTRATE KNOTWEED page 10
   13. Plant without small leaves; joints not covered with thin, papery sheath.

ROUNDLEAVED MALLOWS page 11

15. Leaves round and hollow, often clumped; onion-like odor.

WILD GARLIC page 13

15. Leaves not round and hollow; without onion-like odor.
16. Plant with 3 heart-shaped leaflets; yellow flowers.

YELLOW WOODSORREL page 14

16. Plant with 3 leaflets and white flower head.

WHITECLOVER page 13

Grassy Weeds

1. Plant fine-textured.

2. Leaf tip like a keel (like Kentucky bluegrass).

ANNUAL BLUEGRASS page 14

2. Leaf tip not like a keel; plant forms mat.
3. Ligule with many long, white hairs.
3. Ligule without many long, white hairs.
4. Leaf sheath usually not tight about stem; leaves without noticeable lines.

NIMBLEWILL page 17

4. Leaf sheath tight about stem; leaves with noticeable lines.

CREeping BENTGRASS page 16

1. Plant coarse-textured.

5. Lower nodes (joints) greatly enlarged.
5. Lower nodes not greatly enlarged.
6. Underside of leaf glossy; definite lines on top of leaf.

TALL FESCUE page 19

6. Underside of leaf not glossy.
7. Leaf with clawlike auricles.

QUACKGRASS page 18

7. Leaf without clawlike auricles, lines on top of leaf.
8. Leaf rough along edge (sawtoothed); 20-40 seed grouped on spikelet.

STINKGRASS page 18

8. Leaf smooth along edge; seed not grouped 20-40 on spikelet.
9. Leaf with many long hairs near base and yellow bristles on seed head.

YELLOW FOXTAIL page 19

9. Leaf without many long hairs near base and yellow bristles on seed head.
10. Leaf dark-green; many seed packed on fingerlike projections. Sheaths flattened.

GOOSEGRASS page 17

10. Leaf light-green, may be tinged with purple. Seed often single on fingerlike projections.

CRABGRASS page 15
GLOSSARY

Alternate — leaves borne singly at regular intervals; not opposite.

Annual — plant that completes its life cycle, from germination to seeding, in one year.

Auricle — clawlike appendage; extension of grass collar.

Axil — upper angle between leaf or branch and stem.

Blade — expanded part of a leaf.

Collar — junction of leaf blade and sheath in grasses and sedges.

Crown — junction of root and stem.

Glume — small, chaffy bract on a grass spikelet.

Inflorescence — entire group of flowers on a plant.

Joint — place where one or more leaves are attached to stem.

Keel — formed to resemble the keel of a boat.

Leaflet — blade of a compound leaf.

Ligule — membranous projection at top of sheath.

Lobe — usually a rounded projection.

Midrib — central vein of a leaf.

Node — see joint.

Opposite — two leaves or buds arranged on opposite sides of a node.

Panicle — loose, irregular, and branched inflorescence.

Perennial — plant that lives more than two years.

Petiole — stalk of a leaf.

Rhizome — underground stem modified for food storage and asexual reproduction.

Rosette — several leaves usually arising from a center at or near soil surface.

Sheath — lower part of grass leaf usually enclosing stem.

Spike — inflorescence with flowers attached directly to unbranched stem.

Spikelet — unit of inflorescence of grasses and sedges with one or more flowers between two empty glumes.

Stem — part that supports flowers or leaves.

Taproot — large primary root more distinct than any of its branches.

Vascular — pertaining to ducts or vessels in a plant.

Vein — vascular bundle.

Whorled — arrangement of three or more leaves or other organs in a circle around an axis.
Descriptive List of Less Common Weeds


PURSLANE SPEEDWELL (Veronica peregrina). Annual or winter annual. Leaves near base small, opposite, slightly toothed; upper leaves have smooth margins. Flowers small, white; occur in axils of upper leaves. Control C, page 25.


WILD ONION (Allium canadense) Perennial. Similar to wild garlic (see page 13), except that wild onion leaves are not hollow. Control B, page 25.


BUCKHORN PLANTAIN, Ribgrass  
*Plantago lanceolata*


CARPETWEED  
*Mollugo verticillata*

Annual. Leaves smooth, tongue-like, 5-6 at each joint. Stems branch in all directions along soil surface, forming flat, circular mats. Flowers small, white, several at each joint. *Control A, page 24.*
Descriptive List of Common Lawn Weeds: Broadleaved

Annual or winter annual. Leaves simple, opposite, smooth and pointed at tips; petioles have line of hairs on one side. Flowers small, white, with 5 deeply notched petals. Control C, page 25.

COMMON CHICKWEED
Stellaria media


DANDELION
Taraxacum officinale
FIELD BINDWEEDE
Creeping jinny, small morning glory
*Convolvulus arvensis*


GROUND IVY, Creeping Charlie
*Glechoma hederacea*

Descriptive List of Common Lawn Weeds: Broadleaved

**Henbit**
*Lamium amplexicaule*

Annual. Smooth, much-branched. Leaves opposite, hairy, rounded teeth. Lower leaves have petioles; upper leaves do not have petioles, and are attached directly to stem. Stems 4-sided, smooth. Flowers clustered in upper leaf axils. *Control C*, page 25.

**Mouse-Ear Chickweed**
*Cerastium vulgatum*

Perennial. Spreading to erect. Leaves opposite, hairy, attached directly to stem. Flowers with 5 sepals and 5 white petals. *Control C*, page 25.
PROSTRATE KNOTWEED, Doorweed
*Polygonum aviculare*


PROSTRATE SPURGE, Milk purslane
*Euphorbia supina*

Descriptive List of Common Lawn Weeds: Broadleaved

**Perennial.** Acid-tasting. Leaves arrow-shaped, thick and smooth. Stems slender; many may arise from single crown. Flowers yellow to red, borne at top of plant. *Control C, page 25.*

**RED SORREL, Sheep sorrel**
*Rumex acetosella*

**Annual or biennial.** Leaves large, hairy, on long petioles. Flowers small, 5 white petals, borne single or in clusters. Seed pods are flat disks. *Control C, page 25.*

**ROUNDLEAVED MALLOW, Cheeses**
*Malva neglecta*
**RUGEL’S PLANTAIN, Blackseed plantain**
*Plantago rugelii*


**SHEPHERD’S PURSE**
*Capsella bursa-pastoris*

Annual or winter annual. Leaves in rosette at ground level, coarse-toothed lobes. Stems erect, with gray hairs and small base. Flowers white, 4-petaled. *Control A, page 24.*
Descriptive List of Common Lawn Weeds: Broadleafed

**WHITECLOVER**
*Trifolium repens*


**WILD GARLIC**
*Allium vineale*

**YELLOW WOODSORREL**  
*Oxalis stricta*


**ANNUAL BLUEGRASS**  
*Poa annua*

Descriptive List of Common Lawn Weeds: Grassy

**Perennial.** Stems smooth, stout, root at joint. Leaf blades have fringe of long hair above collar; leaf sheaths sparsely hairy. Ligule is a ring of long, white hairs. *Control G*, page 26.

**BERMUDAGRASS, Devilgrass**
*Gynodon dactylon*

Annual. Stems stout, commonly prostrate, root at joints. Leaves without hairs, may be purplish or bluish. Seed usually arranged singly, borne on 3-10 fingerlike projections at top of stem. *Control D-1*, page 25, or *Control D-2*, page 26.

**CRABGRASS, Smooth crabgrass, small crabgrass**
*Digitaria ischaemum*

**LARGE CRABGRASS, Large hairy crabgrass**
*(Digitaria sanguinalis).* Similar to smooth crabgrass except that leaf blades and sheaths usually hairy.
Descriptive List of Common Lawn Weeds: Grassy

CREEPING BENTGRASS
Agrostis palustris

Perennial. Long, prostrate stolons produce circular patches. Leaves short and flat, tapered points; may be very fine with noticeable veins. Control C, page 25.

FALL PANICUM, Spreading panicgrass
Panicum dichotomiflorum

Descriptive List of Common Lawn Weeds: Grassy

**GOOSEGRASS, Yardgrass, silver crabgrass** 
Eleusine indica


**NIMBLEWILL** 
Muhlenbergia schreberi

Perennial. Stems slender, without hairs; branch and lie on soil; root at nodes. Leaf blades flat and short (½-2 inches), few hairs; sheath not hairy or tight about stem. *Control F*, page 26.
Descriptive List of Common Lawn Weeds: Grassy

QUACKGRASS, Couchgrass
*Agropyron repens*


STINKGRASS, Lovegrass
*Eragrostis ciliaris*

Descriptive List of Common Lawn Weeds: Grassy

**TALL FESCUE**
*Festuca elatior arundinacea*

**YELLOW FOXTAIL, Yellow bristlegrass, pigeon grass**
*Setaria lutescens*
CONTROL OF LAWN WEEDS

Weeds may become established in a variety of ways. The seed are present in many soils in very large numbers. Some lawn seed mixtures may contain grass seed that do not belong in a good lawn. When choosing a grass seed or mixture of grass seed, make sure that no seed are present that will become troublesome in an established lawn. Of course, there is always a chance that weed seed will blow in or be brought in with topsoil, etc.

One of the best ways to control weeds is to maintain a dense stand of grass. The grass competes with the weeds for light, moisture, and other essentials of growth, and this competition reduces the number of weeds. You can obtain a dense stand of grass through proper fertilization, mowing, and watering. Circular 729, “How to Have an Attractive Lawn,” contains information about establishing and maintaining a satisfactory lawn. You can get a copy of this circular from your county extension adviser, or by writing to the Information Office, College of Agriculture, Urbana.

Mowing too close decreases the vigor of the grass, allowing weeds to come into the turf. The clipping height varies with different grasses. Kentucky bluegrass and red fescue lawns should be clipped to a height of 2 inches, Merion Kentucky bluegrass to 1½ inches, and bentgrass from ½ to ¾ inch.

Frequent shallow watering favors weeds. Soak the soil to a depth of 6 to 8 inches, and allow a week or more between waterings. Don’t water for a couple of days after applying a herbicide.

If you have only a few weeds in your lawn, you may be able to control them by pulling. But many weeds (dandelion, quackgrass, etc.) have extensive roots and stems. These roots and stems break when pulled, and later send up shoots that restore the weeds.

Lawn weeds can sometimes be controlled by digging, but this method is tedious and time-consuming. If you have a large number of weeds in your lawn, you will probably want to use chemicals to control them.

Chemical Weed Control

Many chemicals are now available for controlling weeds in home lawns. If used properly, these materials will usually control weeds without injuring the turf. Be sure to read the label for instructions on how to apply.
Soil fumigation

Soil fumigation materials are used to destroy the vegetation, insects, seeds, nematodes, and disease organisms in the treated area. The effective depth depends upon the chemical used and the condition of the soil. These materials are usually more effective near the soil surface.

Some fumigation materials are dangerous. They are often expensive, and may only partially control weeds and other pests. If part of the seeds are destroyed, the remaining weeds will cover a larger area.

Certain weed seeds are more difficult to destroy than others. You must allow adequate time before seeding the treated areas. Some of the materials used for soil fumigation are calcium cyanamid, methyl bromide, chloropicrin, Vapam, and Mylone. For further information, you may want to refer to Circular 869, “Soil Fumigation.” You can obtain this circular from your county extension adviser, or from the Information Office, College of Agriculture, Urbana.

Broadleaved weeds

2,4-D AND SIMILAR COMPOUNDS. 2,4-D will control many broadleaved weeds throughout the growing season. Spring applications usually give satisfactory results. Weeds may be more resistant to 2,4-D at certain times than at others. Mature weeds are commonly less susceptible to 2,4-D than young ones.

The ester form of 2,4-D is more active than the amine form, and only about half as much of the ester form is required for weed control.

2,4-D may be applied in several ways. Spraying is the most common method. A small sprayer with a capacity of 2 to 5 gallons is usually adequate for home lawns. It is often desirable to make only spot treatments of the weeds. Spot treatments give the added insurance of destroying the plants only in small areas in case a mistake is made.

Granular 2,4-D may be applied with a lawn seeder. Fertilizers are often mixed with granular herbicides so that the lawn can be fertilized and weeds controlled at the same time. If you have only a few weeds, you can control them by tying a sponge on a stick, wetting the sponge with a solution of the herbicide, and then pressing the sponge against the individual weeds.

A wax bar impregnated with 2,4-D can also be used. The bar is pulled over the area to be treated, and some of the wax containing 2,4-D comes off on the weeds and grass. This method reduces the volatility and danger of drift. Another method of application is to use
a device with a plunger. The device is placed on the plant to be treated, and when the plunger is depressed, a measured amount of 2,4-D drops on the weed.

*Always use 2,4-D with extreme caution and as directed on the container.* Drift from 2,4-D may kill or injure certain plants near the area being treated. Often plants half a mile from the sprayed area have been damaged by drift. Drift is influenced by the following conditions:

**Wind.** It is not wise to spray on a windy day because of the increased amount of drift.

**Volatility.** The volatility of dry formulations of 2,4-D is quite low. The ester form is very volatile, and should be used with great caution. Since the amine form is non-volatile, it is the best to use on home lawns.

**Fineness.** The fineness of the spray is dependent upon nozzle size and pressure. The finer the spray, the greater the drift.

**Temperature, nozzle height, etc.** also influence drift.

Plants that are sensitive to 2,4-D should not be sprayed with a sprayer used for 2,4-D. If it is necessary to use a sprayer for both 2,4-D and other chemicals, wash it carefully with activated charcoal or household ammonia.

Use 1 ounce of activated charcoal and 1 ounce of household detergent in 2 gallons of water. Shake the sprayer for a minute or two, and then discharge the solution through the nozzle. If you use household ammonia, fill the sprayer with a solution of ammonia and water mixed at the rate of 2 tablespoons of ammonia per 1 quart of water. Discharge a small amount of the solution through the nozzle, and allow the remaining solution to stay in the sprayer overnight. The following day, rinse the sprayer carefully with fresh water. Be sure that the nozzle and hose are thoroughly rinsed.

Some of the common plants that are highly susceptible to 2,4-D are grapes, tomatoes, and redbud trees. Many other plants may be killed or severely injured by 2,4-D, including bentgrass and clover. If the area to be treated is near desirable plants, take all possible precautions to cut down the chances of injury. You may want to investigate the possibility of using another material to control the weeds. Certain localities have laws prohibiting the use of 2,4-D because of the damage it has caused.

2,4-D is used primarily as a post-emergence treatment (applied after the weeds come up) on home lawns. The amount of 2,4-D necessary to control different weeds varies with the type of weed.
2,4-D cannot be used as a pre-emergence (applied before the weeds come up) or post-emergence treatment on newly seeded or newly established lawns.

In recent years, 2,4,5-T and 2,4,5-TP (silvex) have been widely used to control weeds in home lawns. These compounds control the same weeds as those controlled by 2,4-D, and are more effective against certain other weeds. For this reason, it is often desirable to use them. 2,4,5-T and 2,4,5-TP are similar to 2,4-D, and the discussion of 2,4-D also applies to them.

**OTHER COMPOUNDS.** Such chemicals as Zytron and endothal have also proved satisfactory controls for certain broadleaved weeds. After these materials are used for weed control, varying periods of time must elapse before the treated area can be seeded.

**Grassy weeds**

In recent years, many excellent chemicals have been put on the market for pre-emergence control of crabgrass and certain other annual grasses. These materials may also control certain broadleaved weeds.

Dacthal, Zytron, Betasan, Bandane, and calcium arsenate have given consistently good results in crabgrass control. All of these chemicals should be used as directed on the container. Most of the pre-emergence chemicals are in dry form, and may be applied with a lawn seeder along with the fertilizer. Be sure that the spreader doesn’t overlap or that you don’t apply too much material in any other way. Calibrate the spreader before using. Over-application of the chemical can damage the grass.

Pre-emergence materials must be applied before weed seed germinate. A rule of thumb is to apply the chemical before the lilacs bloom or the early-blooming magnolia petals fall.

The materials for pre-emergence crabgrass control should be applied only to well-established lawns. Do not use these materials on newly seeded lawns. After treating a lawn with pre-emergence chemicals, allow the recommended period of time to elapse before seeding.

Several materials give successful post-emergence control of many of the annual weedy grasses in established lawns. These include AMA and DSMA. The weedy area is sprayed with the chemical 2 or 3 times at weekly intervals. Temperature variations may make it necessary to use more or less material. Check the label on the container to be certain of the amount to use. Any of the materials on the market should work well if you follow the directions on the container.
Non-selective herbicides

Non-selective herbicides are those that kill all vegetation. They are often used for spot treatments of perennial weedy grasses that are difficult to control. You may need to wait a specified period of time before seeding, sodding, or plugging the treated areas.

The most commonly used material for spot treatment is dalapon. Because of the characteristics of certain plants, non-selective materials may not give complete control. These materials do not affect the seed in the soil.

Non-selective materials are also available in wax bars for killing weeds in patios and driveways and near fences, sidewalks, etc. If not applied properly, these herbicides may wash into other areas with heavy rains and cause considerable damage.

Ordinarily, non-selective materials are applied only as a last resort. If you use these chemicals, be careful. Don’t get them on any desirable plants or on the lawn.

List of Controls

Follow directions on container as closely as possible. Materials may vary from manufacturer to manufacturer.

CONTROL A: 2,4-D

Often necessary to treat more than once. Can damage bentgrass, clover, and other desirable plants. Do not spray new lawns until after first mowing.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada thistle</td>
<td>Spring and fall</td>
<td>Fair to good</td>
</tr>
<tr>
<td>Carpetweed</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Chicory</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Curled dock</td>
<td>Spring and fall</td>
<td>Good</td>
</tr>
<tr>
<td>Dandelion</td>
<td>Spring and fall</td>
<td>Good</td>
</tr>
<tr>
<td>Field bindweed</td>
<td>Spring and fall</td>
<td>Poor to fair</td>
</tr>
<tr>
<td>Heal-all</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Hedge bindweed</td>
<td>Spring and fall</td>
<td>Poor</td>
</tr>
<tr>
<td>Plantain, Buckhorn</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Plantain, Rugel’s and common</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Rough pigweed</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Shepherd’s purse</td>
<td>Spring and fall</td>
<td>Good</td>
</tr>
<tr>
<td>Wild carrot</td>
<td>Spring</td>
<td>Good</td>
</tr>
<tr>
<td>Yellow nutgrass</td>
<td>Spring</td>
<td>Poor</td>
</tr>
</tbody>
</table>

24
CONTROL B: 2,4-D (ester)

Use at highest recommended rate on container. Spot treatment — may be required over several years.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild garlic</td>
<td>Late fall and early spring</td>
<td>Fair</td>
</tr>
<tr>
<td>Wild onion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CONTROL C: 2,4,5-TP (silvex)

Often necessary to treat more than once. Can damage bentgrass, clover, and other desirable plants. Do not spray new lawns until after grass is well established.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black medic</td>
<td>Early spring</td>
<td>Good</td>
</tr>
<tr>
<td>Common chickweed</td>
<td>Spring and fall</td>
<td>Good</td>
</tr>
<tr>
<td>Creeping bentgrass</td>
<td>Fall</td>
<td>Poor</td>
</tr>
<tr>
<td>Ground ivy</td>
<td>Spring and fall</td>
<td>Good</td>
</tr>
<tr>
<td>Henbit</td>
<td>Spring and summer</td>
<td>Good</td>
</tr>
<tr>
<td>Prostrate knotweed</td>
<td>Late winter and early spring</td>
<td>Good</td>
</tr>
<tr>
<td>Mouse-ear chickweed</td>
<td>Spring and fall</td>
<td>Good</td>
</tr>
<tr>
<td>Prostrate spurge</td>
<td>Spring</td>
<td>Fair</td>
</tr>
<tr>
<td>Purslane speedwell</td>
<td>Spring</td>
<td>Fair to good</td>
</tr>
<tr>
<td>Red sorrel</td>
<td>Spring</td>
<td>Poor to good</td>
</tr>
<tr>
<td>Roundleaved mallow</td>
<td>Spring</td>
<td>Fair</td>
</tr>
<tr>
<td>Spotted spurge</td>
<td>Spring</td>
<td>Fair to good</td>
</tr>
<tr>
<td>Violet</td>
<td>Spring and fall</td>
<td>Fair to good</td>
</tr>
<tr>
<td>Whiteclover</td>
<td>Spring, summer, fall</td>
<td>Good</td>
</tr>
<tr>
<td>Yarrow</td>
<td>Spring</td>
<td>Fair</td>
</tr>
<tr>
<td>Yellow woodsorrel</td>
<td>Spring</td>
<td>Fair to good</td>
</tr>
</tbody>
</table>

CONTROL D-1: (Pre-emergence) Calcium arsenate, Dacthal, Zytron, Bandane, and Betasan

Be careful to apply evenly. May thin grass and reduce germination of annual weeds. Reseeding must be delayed for up to a year.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual bluegrass</td>
<td>Late fall or early spring</td>
<td>Poor</td>
</tr>
<tr>
<td>Crabgrass or large crabgrass</td>
<td>Late winter or early spring</td>
<td>Good</td>
</tr>
</tbody>
</table>
CONTROL D-2: (Post-emergence) DSMA and AMA

2 to 3 applications required at 7- to 10-day intervals. May cause slight discoloration of lawn grass. Reduce rates under high temperature.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crabgrass or large crabgrass Fall panicum Goosegrass Sandbur Yellow foxtail</td>
<td>Spring and early summer</td>
<td>Fair to good</td>
</tr>
</tbody>
</table>

CONTROL E: Dalapon

Will kill all plants treated. Restrict treatment to small areas.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall fescue Quackgrass</td>
<td>Spring, summer, fall</td>
<td>Good Fair to good</td>
</tr>
</tbody>
</table>

CONTROL F: Liquid Zytron or endothal

Not always satisfactory. Requires repeated treatments. Endothal may cause discoloration of turfgrass. Cannot seed for some time after using Zytron.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostrate knotweed Nimblewill</td>
<td>Spring Spring</td>
<td>Fair Fair</td>
</tr>
</tbody>
</table>

CONTROL G: Methyl bromide or dalapon

Methyl bromide is a dangerous gas, and is not recommended for general use. 2-3 applications of dalapon at 5- to 20-day intervals give fair control.

<table>
<thead>
<tr>
<th>Weed</th>
<th>Usual best time to treat</th>
<th>Degree of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bermudagrass</td>
<td>Spring or summer</td>
<td>Good to fair</td>
</tr>
</tbody>
</table>

CONTROL H: No good control except fumigation or sterilization.

Stinkgrass
As an aid to identification, the common names and active ingredients of herbicides frequently used in weed control are listed below.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Active Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium cyanamid</td>
<td>Calcium cyanamid</td>
</tr>
<tr>
<td>Chloropicrin</td>
<td>Nitrochloroform</td>
</tr>
<tr>
<td>Methyl bromide</td>
<td>Methyl bromide</td>
</tr>
<tr>
<td>Mylone</td>
<td>3,5-dimethyltetrahydro-1,3,5,2H-thiadiazine-2-thione</td>
</tr>
<tr>
<td>Vapam or VPM</td>
<td>Sodium methyl dithiocarbamate</td>
</tr>
<tr>
<td>2,4-D</td>
<td>2,4-dichlorophenoxyacetic acid</td>
</tr>
<tr>
<td>2,4,5-T</td>
<td>2,4,5-trichlorophenoxyacetic acid</td>
</tr>
<tr>
<td>2,4,5-TP</td>
<td>2-(2,4,5-trichlorophenoxy) propionic acid</td>
</tr>
<tr>
<td>Calcium arsenate</td>
<td>Tri-calcium arsenate</td>
</tr>
<tr>
<td>Dachthal</td>
<td>Dimethyl 2,3,5,6-tetrachloroterephthalate</td>
</tr>
<tr>
<td>Zytron</td>
<td>O-(2,4-dichlorophenyl) O-methyl isopropyl phosphoramidothioate</td>
</tr>
<tr>
<td>Bandane</td>
<td>Polychlorodicyclopentadiene isomers</td>
</tr>
<tr>
<td>Betasan</td>
<td>N-(beta-O, 0 di-isopropyl dithiophosphoryl-ethyl)-benzine sulfonamide</td>
</tr>
<tr>
<td>AMA</td>
<td>Amine methyl arsonate</td>
</tr>
<tr>
<td>DSMA</td>
<td>Disodium monomethylarsonate</td>
</tr>
<tr>
<td>Endothal</td>
<td>3,6-endoxohexahydrophthalic acid</td>
</tr>
<tr>
<td>Dalapon</td>
<td>2,2-dichloropropionic acid</td>
</tr>
</tbody>
</table>