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JUNE 1978

Weed Control In Lawns



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WEEDS cannot compete with a healthy, dense, vigorous stand of grass and usually do not become a problem under such conditions. Follow recommended planting, fertilizing, watering and mowing practices for the establishment and maintenance of a good turf.

- *Sow grass seed in the spring or fall.
- *Prepare a firm seedbed free of weeds.
- *Use high quality, weed-free grass adapted to local conditions.
- *Apply water while the grass is becoming established and during drouthy periods.
- *Leave the grass at least 1½ inches high when mowing.
- *Apply sufficient fertilizer to furnish the grass with needed plant food.

Eradicate any perennial weeds such as field bindweed, Canada thistle and quackgrass present on the lawn site with cultivation or herbicides before sowing the grass seed.

Annual weeds usually are abundant in newly established lawns. Such weed infestations are not serious and usually will be eliminated later by grass competition and mowing.

If it becomes necessary to control weeds on a new lawn, do not apply any herbicide until the grass has reached the three to five leaf stage of growth or is advanced enough for mowing.

Even with proper lawn management, weeds still can be a problem. The soil often is infested with many kinds of weed seeds which may live for years before germinating. Many perennial weeds have deep or spreading roots which store large amounts of food. Such

plants are difficult to kill and repeated chemical applications are required to eradicate them. Several annual and simple perennial weeds can be controlled by occasional hand weeding. Some very effective herbicides are available to help control weeds but chemicals should not be considered a substitute for good lawn management.

HERBICIDES AND THEIR USE

It is necessary to know what weed or weeds are present in the turf before beginning a control program since weeds differ widely in their characteristics. No single herbicide or method of treatment is successful against all species of weeds.

The most commonly used herbicide for controlling many broadleaf weeds in lawns is 2,4-D amine. Silvex (2,4,5-TP) is a chemical which controls several weeds resistant to 2,4-D but is much more injurious to clover than 2,4-D. Silvex and 2,4-D are closely related herbicides, and both should be used with the same precautions.

The 2,4-D esters are volatile (readily vaporizable) and the vapors may injure susceptible plants in the area. The 2,4-D amines are relatively non-volatile and hence are much safer to use near homes and gardens than esters which should not be used. Exercise care in applying 2,4-D to avoid spray drift and subsequent damage to gardens and ornamentals. Weedbars, probes, wands and aerosol spray cans are some of the special ways in which 2,4-D is marketed. They are convenient to use and will do a satisfactory job of controlling weeds under most conditions.

Dacthal, Tupersan, Chlordane and Betasan are herbicides for preemergence crabgrass control. They

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must be applied early in the spring before the weed seeds germinate, generally before May 15. DSMA and AMA are herbicides applied on lawns to control crabgrass after it is up and growing.

Dowpon (dalapon) and amitrole and amitrole-T are used for controlling quackgrass which has emerged, but these chemicals also will kill lawn grasses.

Some of the herbicides suggested for use are given as common chemical names. These chemicals are marketed under several trade names in small quantities for the convenience of the home gardener.

Carefully follow the instructions on the manufacturer's label for safe use and recommended rates. Improper use of 2,4-D and other weed killers can injure the turf as well as ornamentals and gardens in adjacent borders and yards.

Apply herbicides early in the growing season to kill the weeds before they flower, thus preventing seed production. However, guard against spray drift as early treatment means applying the herbicide when garden and ornamental plants are in their most sensitive stage of growth.

The most favorable temperature for spraying lawn weeds is between 65° and 85° F. At higher temperatures, the possibility of injuring desirable vegetation due to drift of chemical vapors or fumes is increased. At lower temperatures, the activity of most selective herbicides decreases markedly and poor weed control may result.

Apply herbicides during a calm period of the day to minimize any possible spray drift to garden and ornamental plants. If there is a breeze, it should blow away from desirable vegetation during the time of application. Protect ornamentals while spraying by covering them with cardboard boxes, blankets, tarpaulins or other suitable materials. Such covers can be removed when the spraying is completed.

After all weeds have been killed, it still is necessary to inspect the lawn occasionally and control any new weed seedlings that may have emerged. Reestablishment of weeds results from seeds present in the soil and from those carried in by the wind. It frequently requires repeated applications of herbicides to eliminate certain persistent weeds such as common chickweed and ground ivy.

GRASSY WEED CONTROL

CRABGRASS occasionally is found in lawns in North Dakota.

The two species of crabgrass occurring in the state are smooth crabgrass (*Digitaria ischaemum*) and large crabgrass (*Digitaria sanguinalis*). Large crabgrass, as its name implies, is the larger of the two species.

Both are warm season annuals which usually germinate after mid-May and are killed by the first hard frost in the fall. They reproduce by seeds and stems which trail along the ground and root at the lower nodes. Each plant is capable of producing a tremendous number of seeds which remain alive in the soil for many years.

Leaves of crabgrass seedlings are lighter green and wider than those of turf grasses. The seed-bearing stem has 3 to 10 finger-like branches arising from its tip.

Hand weeding, hoeing or raking are effective ways of controlling scattered crabgrass plants, if this is done prior to seed formation. Crabgrass should be eliminated as soon as it becomes visible. Repeated raking and mowing are effective in reducing crabgrass infestations.

Several herbicides are available for crabgrass control:

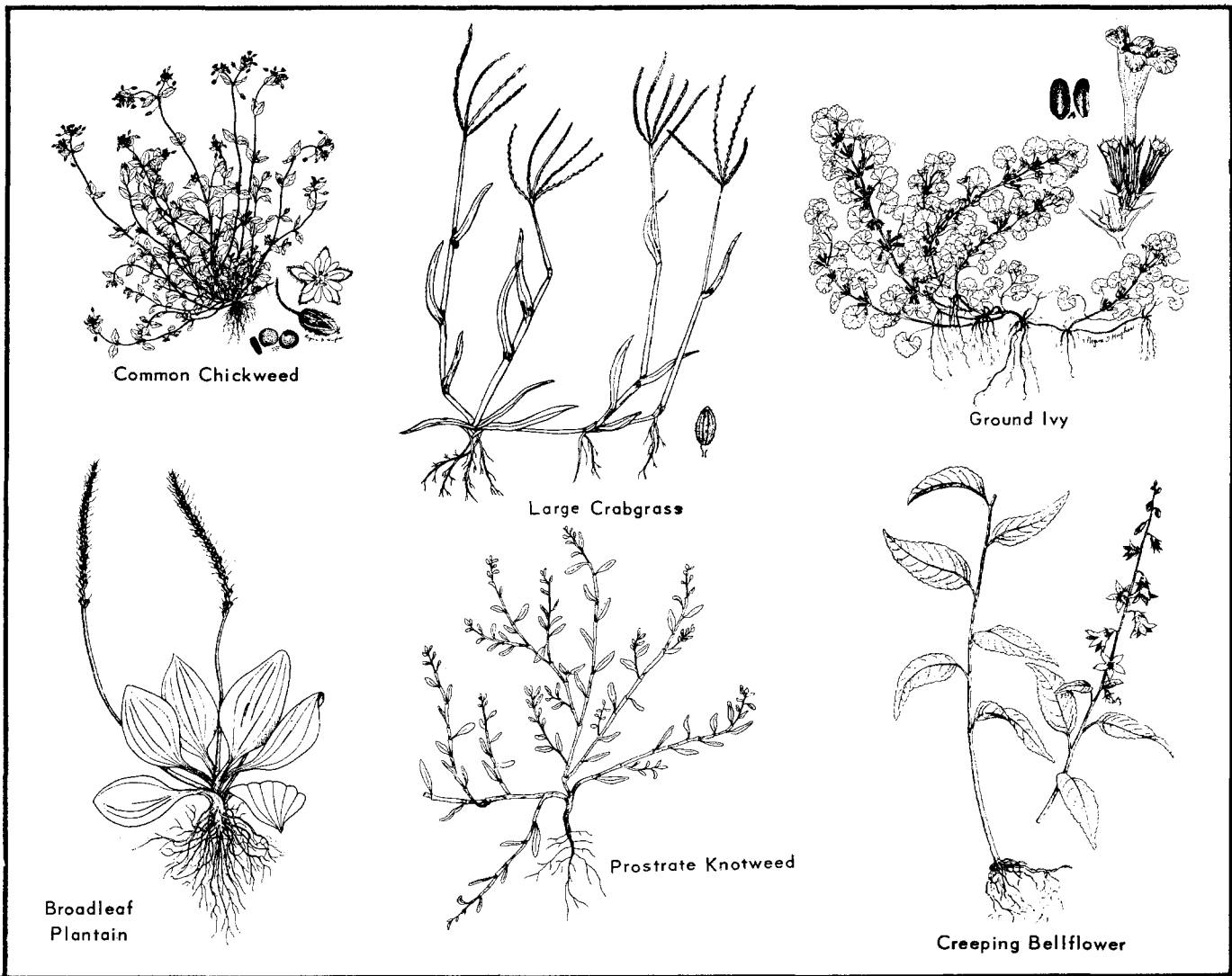
Dacthal is a granular preemergence chemical. Apply it in early May so the herbicide is present when the crabgrass seeds begin germinating. Early application is essential because dacthal has no effect on established seedlings. Granular dacthal can be applied with a fertilizer spreader. A wettable powder formulation also is available. It is mixed with water before application as a spray. Certain other annual grassy weeds and broadleaf weeds also will be controlled.

Chlordane is a preemergence chemical that must be applied in early May before crabgrass germinates. Chlordane also is an insecticide and serves an additional function by controlling several harmful soil insects. Early application is important as established crabgrass seedlings are not controlled by chlordane.

Tupersan (siduron) is a wettable powder that is mixed in water and applied as a spray for preemergence control of crabgrass. It may be used on newly seeded areas as well as on established lawns. Tupersan may be applied at the time of seeding without causing injury to germinating seeds of bluegrass.

Betasan (bensulide) is marketed as either a liquid or granular formulation for preemergence control of crabgrass and certain other weeds. Apply in the spring before crabgrass germinates or in the late fall to established turf. Control will last through the entire growing season. The rate required is determined by the length of the growing season and the amount of water applied.

Organic Arsenate Compounds such as DSMA (disodium methyl arsenate) and AMA (ammonium methyl arsenate) are used for control of crabgrass after emergence. These herbicides are applied as sprays when the crabgrass seedlings are in the one to three leaf stages of growth. Follow-up treatments usually are necessary because not all crabgrass seedlings reach the one to three-leaf stage at the same time due to uneven germination.



QUACKGRASS (*Agropyron repens*) is a perennial grass reproducing by seeds and rhizomes (underground stems). It is deeper rooted than bluegrass, spreads rapidly and is persistent.

Control small scattered patches by digging and carefully removing all underground stems, then reseeding or resodding the area with turf grass. Larger areas can be eradicated with Dowpon (dalapon). Spot spray the infested areas in the spring when the quackgrass is growing actively. Dowpon kills all grasses. The treated area may be reseeded 60 days after chemical treatment.

Amitrole and Amitrole-T also can be used to eradicate quackgrass. As with Dowpon, they are nonselective so lawn grass also is killed. Apply either chemical when the quackgrass is growing actively. These chemicals decompose quite rapidly and the treated area usually can be reseeded or resodded one month after application. Caution: Keep the amitroles well away from flowers, lilacs and green ash trees.

Soil fumigants sometimes are used to eradicate quackgrass. See discussion under creeping bellflower.

BROADLEAF WEED CONTROL

BROADLEAF PLANTAIN (*Plantago major*) is a shallow-rooted perennial, reproducing only by seeds. It can be controlled with 2,4-D amine at the rate recommended for dandelions. However, plantain is an extremely prolific seed producer and difficult to eradicate because of seeds present in the soil.

COMMON CHICKWEED (*Stellaria media*, an annual) and **MOUSEEAR CHICKWEED** (*Cerastium vulgatum*, a perennial) are among the most persistent lawn weeds. Both are spread by seeds and by rooting of stems at the nodes.

The chickweeds produce abundant seeds which germinate readily throughout the growing season so constant regrowth occurs. The leaves and stems of common chickweed are smooth while those of mouseear chickweed are covered with fine hairs. Both species of chickweed prefer shaded areas in the lawn. Mouseear is more difficult to control than common chickweed but does not spread through a lawn as rapidly. It is found only occasionally in North Dakota.

Although the chickweeds are difficult to kill with 2,4-D; silvex, 2,4-D + silvex and 2,4-D + Banvel can be used successfully to control them. Do not use Banvel within the drip line of trees and shrubs. Treat the infested areas in late May or early June before the chickweeds flower. Follow the label directions for the amount of herbicide to use. Silvex marketed for farm use commonly contains 4 pounds acid equivalent per gallon whereas silvex designed for use by home owners contains much less. If using 4 pound acid equivalent per gallon material, apply 3 to 4 tablespoons of silvex in 2 gallons of water per 1,000 square feet of lawn. Apply the 2,4-D mixtures according to directions on the label. In using any of the chemicals, follow the same precautions as with 2,4-D. Applying silvex during hot weather may injure the grass. Follow-up treatments are required with all herbicides for good control.

CLOVER (Trifolium spp.) occasionally is not desired or becomes a pest in lawns not fertilized with nitrogen. Clover spreads rapidly from seeds and roots which arise from each node, thus crowding out grass on lawns low in nitrogen.

Established clover can be killed with repeated applications of silvex or endothal applied each time the treated plants begin to recover.

CREeping BELLFLOWER (Campanula rapunculoides) is a lawn pest in several areas in the state. It is a perennial, spreading by seeds and thick, radish-like roots. It produces stalks of attractive purple bell-shaped flowers from July to September and sometimes is grown as an ornamental. Creeping bellflower is difficult to eradicate from lawns.

It can be killed with Banvel (dicamba). Use 2 teaspoons of 49 per cent active dicamba per 1,000 square feet of area. Spray whenever the plants are growing vigorously. Caution: do not spray Banvel within the drip line of trees or shrubs.

Repeated spraying with 2,4-D amine at 3 to 5½ tablespoons in 2 gallons of water per 1,000 square feet of lawn eventually will control creeping bellflower. Spray as often as new growth appears, probably three or four times during the growing season.

One to one and one-half quarts of a soil fumigant such as Vapam or Mylone in 100 gallons of water per 100 square feet will eliminate creeping bellflower. These fumigants will kill all vegetation but treated areas may be reseeded or resodded to grass three weeks after application.

DANDELION (Taraxacum officinale) is a common perennial that reproduces readily from seeds and root sections. Dandelions usually are killed with one application of 2,4-D amine. Use the amount of 2,4-D recommended on the product label. If 4 pound acid equivalent per gallon 2,4-D is being used, mix 1½ to 3 table-

spoons in 2 gallons of water per 1,000 square feet of lawn. Apply the chemical before the blossoming period when the plants are growing actively. Avoid spraying on chilly days for best results.

Seeds germinate throughout the summer. Respray in September to kill established seedlings and insure a dandelion-free lawn the following spring. After a year or two of spring and fall treatments with 2,4-D spraying usually can be limited to fall only.

GROUND IVY or Creeping Charlie (Glechoma hederacea) is a persistent, low-growing perennial spreading by seeds and stems which root at the nodes. Ground ivy is a member of the mint family and has four-sided stems from 15 to 30 inches long. This plant prefers shady, moist areas and produces clusters of small, blue flowers.

Ground ivy is difficult to kill. Raking the plants from the lawn affords some control. Repeated applications of silvex at rates recommended for chickweed will control this pest.

PROSTRATE KNOTWEED (Polygonum aviculare) is a mat-forming annual, reproducing only from seed. It often grows in cracks between sidewalks and in hard trampled areas such as playgrounds and paths. It withstands close cutting, drouth and trampling. Individual plants are relatively easy to remove by hand when the soil is wet. Large areas can be eliminated by treating with silvex at the rate recommended for chickweed control. On large plants repeated treatments may be necessary.

WESTERN YARROW (Achillea lanulosa) is a shallow-rooted perennial that reproduces by seeds and short rhizomes. This strongly aromatic plant is difficult to control with 2,4-D amine. Yarrow must be sprayed in the seedling stage as old plants become very resistant to 2,4-D. Adding a teaspoon of liquid household detergent to every gallon of spray solution increases the per cent control.

Table 1. Susceptibility of additional common lawn weeds to control by 2,4-D and silvex. The degree of control is based on one or more foliage applications of one pound per acre or less of the chemical.

WEED NAME	CONTROL 2,4-D	CONTROL SILVEX
Black medic (<u>Medicago lupulina</u>)	Good	Excellent
Canada thistle (<u>Cirsium arvense</u>)	Good	Good
Common yellow woodsorrel (<u>Oxalis stricta</u>)	Fair	Excellent
Dwarf mallow (<u>Malva rotundifolia</u>)	Fair	Fair
Field bindweed (<u>Convolvulus arvensis</u>)	Good	Good
Kochia (<u>Kochia scoparia</u>) (seedlings)	Excellent	Excellent