



NORTH DAKOTA
STATE UNIVERSITY

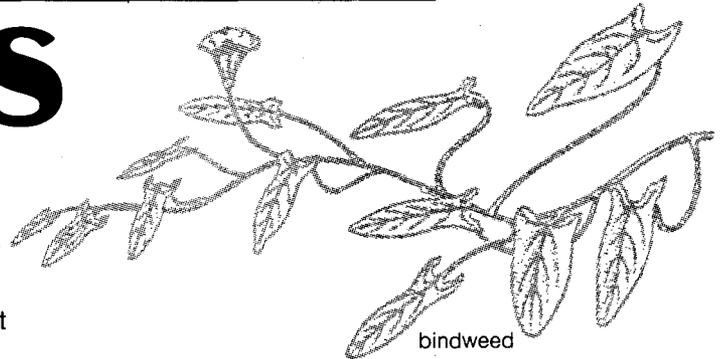
Weed Control in North Dakota Lawns

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Weeds are the most visual of the three big pests of lawns: weeds, insects, and diseases. Weeds not only detract from the aesthetic quality of an otherwise well-maintained turfgrass, they are extremely worthy competitors with lawn grasses for the basic factors of growth — space, light, water, and nutrients.

Many times what is considered a weed in one lawn is a desirable plant in another. For example, homeowners living close to a golf course will often have bentgrass invading their Kentucky bluegrass lawns. In another case, one homeowner may be growing an attractive lawn with a blend of tall fescue cultivars, while another homeowner will consider a single tall fescue plant showing up in a bluegrass lawn to be an undesirable weed.

Correct weed identification is necessary to implement a successful control program. This publication is designed to help the reader identify weeds and focus attention on many of the common and troublesome weeds found in lawns. This circular also provides cultural and chemical control recommendations. Refer to the table and sketches for a quick reference.

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Types of Weeds

Weeds are usually classified by life cycle. Perennials come back every year for three or more years. Annuals begin and complete their life cycles in one growing season. In between are biennials, or plants that require two years to complete their lives, the first year usually as a rosette, then bolts and flowers the second year.

Weeds are also classed as either grass or broadleaf plants. Both methods of classifying weeds are important in managing and controlling weeds. An annual like crabgrass requires different control and management practices than a broadleaf perennial like dandelion. Selective herbicides are used for effective control, along with some good management practices.

Another characteristic of weeds is whether they thrive in cool or warm weather. A cool season annual like annual bluegrass thrives in spring and fall seasons when weather is relatively cool and moisture is high. When consistent warm weather arrives and rainfall becomes sporadic, annual bluegrass will set seed and die. Crabgrass, a warm-season annual, will not germinate until soil temperature reaches 55° F or better.



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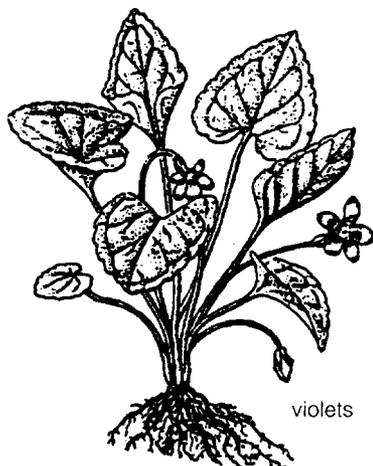
Confusion often prevails in weed identification and lawn care. One of the earliest grassy weeds to show up after snowmelt is quackgrass, a cool-season perennial. Typically this weed is misidentified as crabgrass, and an ineffective herbicide is purchased and applied.

After reading through this circular, the homeowner should be able to, at least broadly, classify the weeds discussed. Noting the time of year of active growth and whether it is a grass or broadleaved type of weed will help in implementing a control program.

A Management Program For Weed Control

While herbicides simplify weed control in lawns, they should not be used as the sole approach. Weeds are opportunistic plants - give them a little space, and they will occupy it! The trick is to keep them from ever getting any space. This can be started when seeding the lawn. Look for endophyte enhanced seed for greater seedling vigor. Endophyte enhanced seed are commonly found in perennial ryegrass and fescue cultivars, and should be available with Kentucky bluegrass cultivars. If recommendations call for 2 to 2 1/2 pounds of seed per 1000 square feet, applying 4 to 5 pounds will not make a better lawn. High density sowings like that will be competitively crowded for space, air, light, water, and nutrients. As a result, plants will remain immature, become more prone to disease, and allow an opportunity for weeds to establish.

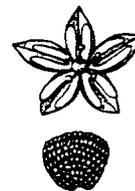
On established lawns, following a balanced fertility program, regular mowing cycle, and proper irrigation practices can keep weeds from encroaching. Lawns in North Dakota are basically a Kentucky bluegrass blend or mixture, tall fescue blend, or in the drier parts of the state, a cultivar of crested wheatgrass, buffalograss, or blue grama. Each species has specific cultural requirements which should be followed (ref. H-244 revised).



Sketches of some of the weeds discussed in this circular are used by permission from the O.M. Scotts & Sons Company, Marysville, Ohio.

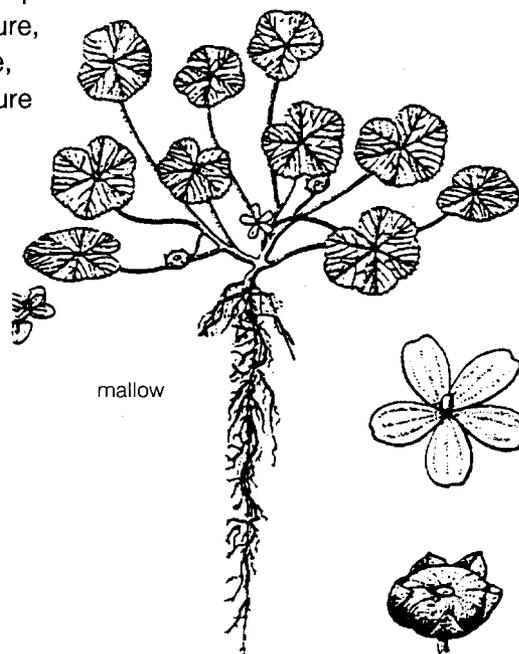
Generally the shorter the grasses are mowed, the greater the weed problem. A minimum mowing height should be no **less than** 2.5

inches, with 3 inches preferred for Kentucky bluegrass blends and mixes and tall fescue blends. Buffalograss and blue grama can be maintained at 1.5-2 inches for lawn purposes, or allowed to go "natural" for xeriscape or informal settings. Allowing the clippings to fall when mowing will help recycle nutrients and reduce the need for fertilizer applications.



Nutrient maintenance is necessary to keep the lawn vigorous. Too much nitrogen, which stimulates shoot growth at the expense of root development, actually weakens the turf, making it vulnerable to weed encroachment. Irrigation practices, which put the applied nutrients into solution and move them into the root zone, can set the stage for weed development if not properly managed.

Basically a lawn should be watered for two reasons: to keep it from going dormant, and to maintain active growth. Anything less or more may allow weeds to establish. Look for signs of initial wilting before applying water. Instead of regularly scheduled waterings with automatic systems, consider the water needs for each lawn exposure (i.e., a south lawn needs more water than a north lawn). A dark, bluish-green color and footprinting are signs that the turf is in need of water. When these conditions exist, water as thoroughly as possible without runoff or puddling. Repeat if necessary until the soil root zone is completely moistened. The amount and frequency depends on the species and cultivars grown, soil texture, exposure, slope, intensity of culture and use, and the specific environmental conditions.



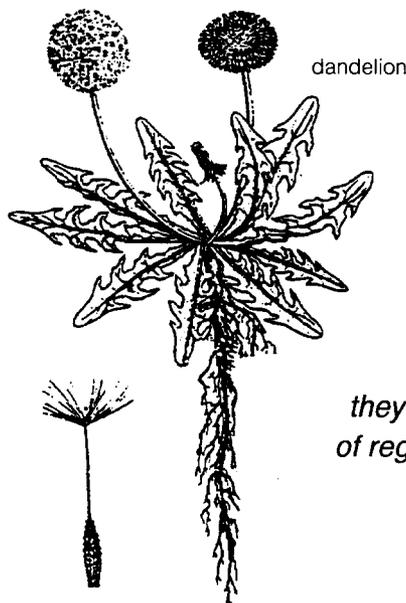
Using Herbicides Effectively To Control Weed Populations

Refer to the accompanying table and sketches for quick reference. For the homeowner, weeds are controlled with two broad classes of herbicides, preemergence and postemergence. Preemergence herbicides are applied to the turf area before weeds emerge. Their main use is in controlling grassy weeds like green and yellow foxtail, barnyardgrass, and crabgrass. They are applied when soil temperatures are at about 50°F. With the exception of Tupersan (siduron), most preemergence herbicides will also inhibit the emergence of desirable grass seed. Consequently, the waiting period specified on the label (from 42 to 60 days) should be observed before any reseeding is carried out. All preemergence herbicides need to be activated through watering to be effective. Generally, 0.5 inch of water (about 300 gallons per 1000 square feet) is recommended for optimal control.

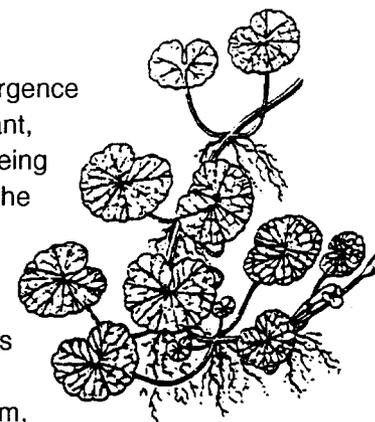
If vigorous seedlings in May turn out to be crabgrass in August, control can be achieved with postemergence herbicides. Control of crabgrass is most effective if post-emergence herbicides (Acclaim and Dimension) are applied while plants are small.

Postemergence herbicides are usually used to control perennial and biennial broadleaved weeds. These products are most effective when weeds are young and actively growing, but should not be used when air temperature is higher than 85°F to prevent secondary damage to desirable grasses.

Unlike preemergence herbicides, lawns should not be watered for 24 hours after application to allow for absorption into the target plant. Mowing should also be delayed for a few days after application for the same reason.



Seasonal timing of postemergence herbicide application is important, with late summer or early fall being the best time. This is because the weeds are translocating the products of photosynthesis in the greatest amount at that time, and the applied herbicides (assuming systemic capability) will be carried to the root system, giving the most effective kill. Herbicides without systemic characteristics are simply contact (or burn-down) products, effective only on sprouting annual weeds. Mature perennial weeds like dandelion or common plantain will regrow after contact herbicides are applied.



ground ivy



Variability in weed control is common when herbicides are applied by homeowners. This is due to any number of factors: herbicide tolerance of weed species, or antagonistic contaminants in the water, such as clay, organic matter, high sodium bicarbonate levels, and high calcium and magnesium levels. Ammonium sulfate applied with postemergence herbicide reduces antagonism, making herbicides more effective. The need for any additional adjuvants, surfactants, or fertilizers is indicated on the product label.

Herbicides are useful, effective tools in the control of weeds in turf areas. **Product labels should always be read and followed when using a herbicide, or any other pesticide.** Herbicides are not a miracle cure, as they provide only short-term relief from weeds. The best approach is an integrated regime of proper mowing, fertilization, irrigation, and use of other cultural practices to maintain a vigorous turf.

Count on weeds being a problem at some time during home ownership.

The best defense against them is a thick, dense, well-managed turf.

Healthy, attractive lawns do not just happen, they are planned and maintained via an on-going program of regular mowing, watering as needed, and fertility balance.

Diligence in these basic lawn care steps will keep presence of weeds to a minimum!

Common weeds found in North Dakota lawns and their control

Weeds to Control	Cultural Controls	Chemical Controls
ANNUALS		
Annual bluegrass (A) (<i>Poa annua</i>)	Mow high, follow the cultural practices to favor desired turf species. Collect clippings (and seedheads) to reduce population pressure.	Use Acclaim®, Dimension®, or products that contain DSMA, Dacthal, Betasan, Balan, pendimethalin, or Tupersan.
Barnyardgrass (A) (<i>Echinochloa crusgalli</i>)	Maintain turf density, mow high.	Use preemergence products that control annual bluegrass.
Common chickweed (A) (<i>Stellaria media</i>)	Avoid overwatering, increase sunlight penetration to turf canopy, prevent going to seed. Birds relish seed, causing spread.	Many pre and postemergence products available for control. Use Dimension®, Confront®, or products listed for control of common plantain, or annual bluegrass.
Common mallow (A) (<i>Malva spp.</i>)	Maintain turf density and nutrient status.	Use 2,4-D or any combination product such as Trimec®, or Confront®.
Crabgrass (A) (<i>Digitaria spp.</i>)	Maintain turf density, mow high, avoid overwatering.	Use Acclaim®, Dimension®, or products that contain DSMA, Dacthal, Betasan, Balan, pendimethalin, or Tupersan.
Foxtails (A) (<i>Setaria spp.</i>)	Avoid turf disturbance, maintain turf density, especially adjacent to untended fields.	Use preemergence products that control annual bluegrass.
Knotweed (A) (<i>Polygonum aviculare</i>)	Correct compaction, spread traffic.	Use products that contain 2,4-D or dicamba in early stages of growth.
Sandbur (A) (<i>Cenchrus pauciflorus</i>)	Maintain turf density and nutrient status.	Use Balan, Dacthal, or Pre-M and reseed in 60 days.
Thistles: Sowthistle (A) (<i>Sonchus oleraceus</i>) Canada (P) (<i>Cirsium arvense</i>) Bull (B) (<i>Carduus lanceolatus</i>)	On newly established lawns, mow early and frequently, avoid overwatering, maintain high turf density.	Use products that contain 2,4-D, and dicamba (Trimec®), or use Confront®.
Wild buckwheat (A) (<i>Polygonum convolvulus</i>)	Usually only a problem on newly established lawns, controlled by mowing.	Low rates of 2,4-D or other broadleaf postemergence products will provide control.
Witchgrass (A) (<i>Panicum capillare</i>)	Maintain turf density, avoid overwatering, mow high.	Use preemergence products that control annual bluegrass.
PERENNIALS		
Clover (P) (<i>Trifolium repens</i>)	Avoid excessive irrigation practices.	Use products that contain 2,4-D, dicamba (Trimec®) or Confront®.
Common plantain (P) (<i>Plantago rugelii</i>)	Correct soil compaction, spread traffic.	Use products that control clover.
Dandelion (P) (<i>Taraxacum officinale</i>)	Follow good cultural practices to maintain turf density.	Use products that control clover.
Field bindweed or creeping jenny (P) (<i>Convolvulus arvensis</i>)	Invasive and extremely difficult to control once established! Maintain optimal turf density to prevent establishment.	Use repeat applications of combination products like Confront® or Trimec®.
Ground ivy or creeping charlie (P) (<i>Glechoma hederacea</i>)	Avoid overwatering, trim trees to allow for greater sunlight penetration, or accept as a ground cover substitute for grass.	Use products that control field bindweed.
Quackgrass (P) (<i>Agropyron repens</i>)	Be sure topsoil or topdressings are free of quackgrass rhizomes; mowing high and maintaining optimal turf culture minimizes impact. Most noticeable in early spring or fall or under drought stress.	Only non-selective herbicide like Roundup® is effective. Note: Non-selective means all green plant material intercepting the spray will be killed.
Tall fescue (P) (<i>Festuca arundinacea</i>)	Short mowing in fall may kill tall fescue. Don't mix seed with other cool-season grasses.	Spot kill with Roundup®, or use TFC® (Tall Fescue Control), a selective herbicide, if available.
Violets (P) (<i>Viola spp.</i>)	Maintain optimal growing conditions for turfgrass.	Very difficult to control, has extensive perennial root systems; repeat applications of Trimec® or Confront® will be necessary.

A = annual; B = biennial; P = perennial

