

# GENERAL RECOMMENDATIONS FOR WEED CONTROL IN TURFGRASS SWARDS

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## 1. CULTURAL METHODS FOR WEED CONTROL

In lawns throughout Ontario, the major species of broadleaf weeds are dandelion, plantain, black medick, chickweed, prostrate knotweed, mallow, henbit, ground-ivy, and white clover. The major grassy weeds are crab grass, annual blue grass, quack grass, orchard grass and bent grass. One of the primary ways that a weed-free lawn can be maintained easily, cheaply, and with a minimum of effort, is through an effective lawn maintenance strategy which takes advantage of the vigorous growth of a turfgrass, and therefore is the key to keeping lawn areas free of weeds. Most weeds cannot compete with a dense, healthy turf, so the maintenance of such a stand is of prime importance in producing a weed-free area. Practices that tend to encourage vigorous grass growth will discourage weed infestations. Such practices include proper irrigation and/or drainage, use of fertilizers, insect and disease control, and the use of the correct type of turfgrass for the situation.

Mowing is beneficial because it stimulates bud development and tillering, inducing the sod to become thick and dense. Commonly grown grasses such as the fescues, blue grasses, and turf-type perennial rye grasses should be cut at a height of 4 to 6 cm. If grasses are cut shorter than this, invasion by weeds may occur. Avoid scalping the turf when cutting around trees and flower beds and do not remove more than one-third of the leaf area when mowing. Mowing too often may reduce the carbohydrate reserves of the turf thereby reducing its competitiveness. Thatch can lead to poor grass growth and encroachment of weeds. Mowing can also be used to remove annual weeds and eliminate seed production thereby reducing or preventing the spread of weeds. Mowing can also be used to remove annual weeds and eliminate seed production thereby reducing

or preventing the spread of weeds.

Fertilizer is particularly important in establishing a thick, dense and healthy turf sward. Too few nutrients applied to the sod will lead to increased susceptibility to disease and insects and the root system of the turf will not develop leading to an inability of the grass to withstand traffic and recover from injury. Too much fertilizer may lead to soft, weak grass that is prone to disease damage.

Watering is particularly important during periods of drought that may injure, kill or induce dormancy in the turf, thereby allowing weeds to establish. Irrigation should be carried out at weekly intervals with about 3 cm of water per application to help produce deep-rooted turf. Frequent light sprinkling will have the opposite effect on the grass roots. Light water applications encourage the germination and growth of shallow rooted species such as crab grass and creeping bent grass. Too much irrigation water will lead to infestations by yellow nutsedge and annual blue grass. Therefore, it is important to install adequate drainage to ensure that waterlogging does not occur. Remember to provide adequate watering near trees and hedges because they compete for available moisture.

Compaction brought about by excessive traffic will often result in invasion by knotweed and annual blue grass. Aeration practices will help in these situations but the best answer is to modify the area to reduce heavy traffic. Immediate resodding or reseeding of damaged areas will help to discourage weed infestations.

Use of the best turfgrass species for a given situation is very important. For example, fescues are tolerant to low light intensity in shaded areas under trees, whereas turf-type perennial rye grass varieties are quick to establish in newly seeded areas and will crowd out germinating weeds. Kentucky blue grass, although slow to establish, is

very competitive once established.

For further information on these cultural practices see OMAF PUBLICATION #448; LAWNS. If these cultural methods do not prevent weed infestations then herbicide use may be considered.

## **2. CHEMICAL METHODS FOR WEED CONTROL**

Before spraying any herbicide product make sure that your sprayer is properly calibrated. Check the sprayer for proper nozzle and screen type, pressure, nozzle spacing, boom height and spray pattern. Once these things have been checked and set to the proper specifications you should run the sprayer as you would on your turf sward to make sure the correct amount of solution is being delivered per hectare. If you must make minor adjustments adjust the speed at which you spray first, the pressure at which the spray is being delivered secondly, and finally change nozzle type if the first two adjustments do not help. Nozzles should be changed frequently throughout the season since they will wear, especially if wettable powders are being used. The maximum area that can be sprayed before replacing a stainless steel and brass nozzle are only about 600 and 12 hectares, respectively.

Remember, before applying any herbicide read the label instruction carefully at least two times. The two biggest sources of error in achieving good weed control arise from the fact that sprayers are improperly calibrated and the label instructions on the herbicide product are not followed exactly.

Please refer to the Ontario Ministry of Agriculture and Food publications "Guide to Weed Control" (publication #75) and "Weed Control In Lawns and Gardens" (publication #529) for more details on the biology of turf-type weeds, sprayer calibration, and/or the type and doses of herbicides to be used.

### **2.1 Crabgrass and other annual grasses.**

Crabgrass and other annual grass weeds (except annual bluegrass) such as barnyard grass, green foxtail and witch grass can be controlled

with preemergence applications of bensulide (11.0 to 16.5 kg ai/ha) and chlorthal-dimethyl (11.6 to 20.3 kg ai/ha). These herbicides must be applied before the grasses germinate in early spring, or in the fall to established turf. Use the higher doses for fall application. Reseeding cannot be done for several months after application of these herbicides. Repeated applications of bensulide and chlorthal-dimethyl will provide annual bluegrass control. Preemergence application of siduron (9.0 to 13.5 kg ai/ha) can be used to control crabgrass. Crabgrass can be controlled in newly seeded areas with 6.8 kg ai/ha of siduron. This chemical must be applied after seeding but before emergence of the crabgrass only in early spring.

MSMA is the only herbicide registered for post-emergence control of crabgrass. Follow the manufacturer's directions to avoid damage to turf grasses. Several new experimental postemergence herbicides are now being tested for crabgrass control in turf. These products include MON-15126 and fenoxaprop-ethyl (ACCLAIM). Neither of these products are registered for use at this time.

### **2.2 Broadleaf weed control.**

The most common herbicides that are currently registered for use to control broadleaf weeds are 2,4-D, MCPA, mecoprop, and dicamba. Currently registered combinations of herbicides for broadleaf weed control are 2,4-D/mecoprop, 2,4-D/mecoprop/dicamba, 2,4-D/2,4-DP, and 2,4-D/dicamba. Currently, there is no registration that allows the mixing of MCPA with mecoprop, dicamba, or mecoprop and dicamba.

Dandelion, plantain and many other common weeds may be controlled by the application of 2,4-D and may be controlled by the application of 2,4-D amine at 1.12 kg ai/ha. Certain broadleaf weeds such as clover, chickweed, black medick and ground ivy are somewhat tolerant to 2,4-D and may be controlled by spraying mecoprop at 0.84 to 1.12 kg ai/ha. Mixtures of 2,4-D with mecoprop and/or dicamba as well as 2,4-D/2,4-DP are advantageous for broad-spectrum weed control in turf. Dicamba applied alone at 0.6 kg ai/

ha will give excellent control of most broadleaf weeds except plantain. The use of dicamba at such high doses is not recommended in any areas where drift or leaching may affect nearby shrubs, trees, and flowers. Dicamba is best when combined, at low doses, with 2,4-D and/or mecoprop.

In hot and humid weather 2,4-D may cause damage to bentgrass. Mecoprop (0.56 to 0.84 kg ai/ha) should generally be used on bentgrass. However, if mecoprop tolerant weeds have infested bentgrass mixtures of this herbicide with no

more than 0.28 kg ai/ha of 2,4-D amine may be used.

MCPA often will provide as good control of dandelion, plantain and many of the weeds 2,4-D will control. There have been reports that MCPA is not quite as good as 2,4-D in controlling dandelion but this usually occurs only under hot and dry weather conditions. Generally if the MCPA dose is increased by 15 to 20% of the dose used to control dandelion with 2,4-D good results will be achieved.

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## TREASURER'S REPORT

### FEES

Yes, a year has passed. Time for renewals fast approaches. Our Executive Committee has suggested renewal notices be circulated now to allow members the opportunity of paying their fees in 1988 fiscal year or delaying to 1989. Our fiscal year ends February 28th, therefore we require payment of this \$100.00 prior to that date.

We look forward to your renewal application.

### REVENUE

Over the first two years of our Association's existence we have been successful in receiving two grants from the Provincial government. These funds assisted us in our initial set-up, as well as offset costs for our 1st Annual Meeting and Educational Conference. Our application has been received and we understand soon-to-be-approved for funds to assist us in the costs of providing the high calibre speakers at our Field Day.

The Association is greatly appreciative of the

Ministry of Tourism and Recreation for these funding opportunities.

### THE FUTURE

Our bank balance is sufficient to allow our Association the opportunity of providing a service to our membership. At our last Executive Meeting we approved numerous educational ventures which may draw considerable money initially — as treasurer I trust that this up-front cost will be cost effective and result in future revenue.

My recommendation to the membership at our next Annual General Meeting will be requesting approval for a modest increase in our fee structure. I will report more on this in future issues.

Please do not hesitate to contact me at (416) 392-7261 if you have any questions or concerns regarding the finances of our Association.

Cheers

R.W. (Bob) Allen, Secretary/Treasurer

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**\* \* ADVANCE NOTICE \* \***  
**SPORTS TURF ASSOCIATION**  
**CONFERENCE 1989**  
**PLANS ARE IN PROGRESS FOR A**  
**DECEMBER 1989 CONFERENCE**