

UNITED STATES GOLF ASSOCIATION GREEN SECTION EASTERN REGION

NORTHEASTERN DISTRICT
RUTGERS UNIVERSITY
NEW BRUNSWICK, NEW JERSEY

MID-ATLANTIC DISTRICT
PLANT INDUSTRY STATION
BELTSVILLE, MARYLAND



EASTERN TURFLETTER

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WEEDS

In the highly specialized field of golf turf management, weeds although pesky are no longer the painful problem they once were. Today's herbicides are more selective and specific, and when used properly, the injurious effect on permanent grasses is normally negligible.

There are two approaches to weed control: the first is weed prevention, and the second is weed eradication.

WEED PREVENTION

Under this heading we have several angles worthy of consideration.

(1) Cultural practices -- which cover the selection of the proper turfgrasses; the proper mowing technique (height and frequency); the correct amounts of lime and fertilizer; proper watering; good insect and disease control practices; and all the other requirements necessary to grow healthy turf. A healthy turf is the first approach to weed prevention.

(2) Pre-emergence herbicides -- are the newest types of herbicides for the most part, although one of the oldest, lead arsenate, has been used for many years as a crabgrass, chickweed, and Poa annua deterrent. The pre-emergence herbicides appear now to be the most interesting of the newer chemicals because of the bright prospect of killing weeds as they emerge and before they ever get to the troublesome point. Several new pre-emergence herbicides are now available, but are being used with caution and on a rather small scale presently. With many herbicides of this general class, Experiment Station trial results varied widely from year to year with any given product, indicating that climatic conditions have much to do with their performance, and that we need to follow Experiment Station results carefully for answers to these puzzlers.

(3) Soil fumigants -- In this general class, we have three products used by golf course superintendents. They are calcium cyanamid, Dowfume MC-2 (methyl bromide), and Vapam (sodium N-methyl dithiocarbamate). Each has been used to good advantage in soil sterilization. Each of these chemicals kills most of the weed seeds in the soil, thus assuring a minimum of difficulty with new plantings. There is a required waiting period for each of the soil fumigants, and the manufacturer's recommendations on the label must be carefully followed. Very good success has been had with methyl bromide in eliminating deep rooted plants such as Bermudagrass prior to establishing greens to bentgrass.

One of the very important uses for soil fumigants is in connection with topdressing preparation for greens. We do believe that it is important to sterilize the topdressing soil well in advance of the date of intended use. Because of labor difficulties and pressure from memberships to keep budgets down, proper techniques in topsoil sterilization cannot always be practiced. But in a sense, this is false economy, because weeds surely are being introduced into greens with non-sterilized soils. Proper topdressing of greens is an expensive item unquestionably, but regular topdressing is one of the important practices in keeping fine putting surfaces.

One of the best examples of a fine topdressing program is that of Arcola's Superintendent, Mr. D. Jules. For the forty plus years that Mr. Jules has been in charge, he has topdressed each year with a soil that has been mixed to the same exact specifications, and he begins to prepare his topdressing soil 10 years in advance of the time it is to be used. The soils in Arcola's greens are uniform to a depth of approximately one foot, and the putting surfaces are usually billiard-table smooth.

WEED ERADICATION

Since the advent of 2,4-D and the remarkable effect of this herbicide on control of broad leaf weeds, golf course turf, we might say, is now primarily a grassy weed problem. Weeds of the grass family such as Poa annua (and here we go again, is it friend or foe?), crabgrass, and silver crabgrass are the principal offenders in this region. Clover no longer is the problem that it once was, since 2,4,5-T came into the picture. But for clover, and for that matter all other weed pests, chemical control is not the entire answer. Higher nitrogen feeding will reduce clover population. If yearly reinfestations of any weeds occur, then it is a sure bet that there is a fundamental cause for their presence. Although chemical eradication may be temporarily helpful, it would be wise to investigate basic reasons for weed trouble, and these may be thin unthrifty turf, poor drainage, soil compaction, mis-use of water, etc.

So as it goes with every phase of this fine turf field, weed control is but one important phase of the overall program.

LEARN MORE ABOUT WEED CONTROL

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| August 6 | <u>Beltsville Field Day</u> , Plant Industry Station, Beltsville, Md.
Dr. Felix Juska |
| August 8 | <u>Rutgers Field Day</u> , Rutgers University, New Brunswick, N. J.
Dr. Ralph E. Engel |
| August 15-16 | <u>Rhode Island Field Day</u> , University of R. I., Kingston, R. I.
Dr. Jesse DeFrance |
| September 4-5 | <u>Penn State Field Day</u> , Pennsylvania State Univ., University Park, Pa.
Prof. H. B. Musser |

GENERAL WEED CONTROL CHART

WEED	GREENS	FAIRWAYS	ROUGHES	REMARKS
Smooth and hairy crabgrass	FIA formulations applied prior to emergence or in seedling stage. DMSA formulations on seedling or later stages.	Phenyl mercuric acetate, or dimethyl sodium arsenite, or potassium cyanate. Latter primarily on blue grass turf only.	Same as fairways	Follow directions on label. Three to four treatments normally required for smooth, additional treatments required for hairy crabgrass.
Silver crabgrass	HAND WEED	Normal rates of FIA or DMSA with 1/5 oz. 2,4-D amine in 5 gals. water per 1000 sq. ft. 3 or more treatments at 7-10 day intervals.	Same as fairways	Begin treatments when in 2-leaf stage. Correct soil compaction.
Clover	Spot treat with light rates of ammonium sulphate.	1/2 to 3/4 lb. 2,4,5-T to the acre.	1 lb. 2,4,5-T to the acre.	Mid-spring or mid-fall best time.
Seedling and mature knotweed		Liquid sodium arsenite at 1 1/2 pints followed by 2 treatments at weekly intervals of 1 qt. to the acre.	Same as fairways	Soil moisture must be good. Avoid using sodium arsenite when temperatures are above 85°.
Broad leaf weeds; i.e. dandelion, plantain, etc.	HAND WEED	1/2 to 3/4 lb. 2,4-D amine to the acre. One treatment mid-spring or early fall.	1 lb. 2,4-D per acre	Yearly applications may be required until desired control attained.
Mixed clover and broad leaf weeds		1/2 to 3/4 lb. each 2,4-D amine and 2,4,5-T per acre. 1 treatment in mid-spring or mid-fall.	1 qt. each 2,4-D and 2,4,5-T per acre.	" " "
Chickweed	Dust with lead arsenite or 50-50 mixture of lead arsenate & ammonium sulphate	Similar sodium arsenite treatments as for knotweed.	Same as fairways	Follow usual precautions for use of sodium arsenite (see above).

Where no rates are given, follow recommendations on the label, as treatments are more or less standard. This is a general chart of weed control recommendations for persons familiar with the use of chemicals listed. If using any chemicals for the first time, please write so that we can go more into detail on precautions necessary, as space here is limited, or experiment on your own in isolated areas only.

Eastern Turfletter

USGA GREEN SECTION

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