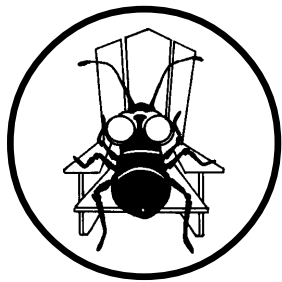


# Effective Timing for Postemergence Ground Ivy Control



## Pest Watch

*Effective ground ivy control appears to be more timing dependent and less product dependent.*

**G**round Ivy (*Glechoma hederacea*), sometimes referred to as Creeping Charlie or gill-over-the-ground, has been a difficult to control weed. It is an aggressive perennial producing a network of above-ground lateral stems that invade turf stands. Historically, ground ivy was associated with shady conditions, yet, it also persists anywhere turf is thin and not competitive. As a result, control has been available via hand-pulling or multiple herbicide applications.

Research reports throughout the United States have indicated inconsistent control with herbicide formulations and rates. Therefore, ground ivy was classified as a hard-to-control weed. Our approach was to select herbicides known to have activity on ground ivy and apply them at full bloom (125-150 base 50 growing degree days) in the spring or following the first frost in late summer/early fall.

The objective of this study is to determine effective timing and herbicide strategies that provide consistent ground ivy control over a three year period.

### Experimental Methods

Herbicide applications were made to a uniform stand of ground ivy growing in a mixed cool-season turf stand. Liquid applications were made with a CO<sub>2</sub> backpack sprayer equipped with 11005 VS flat fan nozzles calibrated to deliver 40 GPA at 45 psi and 3 mph. Applications were made at either full bloom in spring (1994: 127 base 50 GDD; 1995: 140) or im-

mediately following the first frost. Control is evaluated using the point quadrat method with a 4x8 foot grid.

### Results

The 1995 trial was the first evaluation for "after-frost" treatments from 1994. Split applications of Confront performed equally as well as the single full-rate application, however, in both cases the plots were reinfected from adjacent plots. This is typical of ground ivy infestations. The 2,4-D-ester applications and the 3-way premix Triplet (2,4-D, Dicamba and MCPP) provided excellent control applied after frost.

Finalé, a nonselective herbicide with contact-like activity provided excellent control of ground ivy from the fall applications. This was surprising in light of the fact that the spring treatment, at bloom, the previous season was completely ineffective. It is possible that frost predisposes the ground ivy to the contact activity of Finale. This provides important information on Finale that has been touted as ineffective on aggressive perennials such as quackgrass.

The 1995 spring treatments introduced two materials not applied the previous spring. The Turflon-ester + 2,4-D ester was highly effective, to no one's surprise. However, the Ortho Weed-B-Gone (2,4-D + 2,4-DP) did not provide any control. It was determined that the Weed-B-Gone was applied at 1/16 the recommended rate,

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**Cornell  
Cooperative  
Extension**

CORNELL UNIVERSITY TURFGRASS TIMES  
20 Plant Science Building  
Cornell University  
Ithaca, NY 14853

## Pest Watch

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therefore, this treatment was invalid after the spring 1995 treatments. It was applied at the correct rate for the fall application and will be evaluated in the spring of 1996.

Alternatives to traditional herbicides, such as Borax and Sharpshooter (now known as Scythe) have not provided acceptable control over the two years of this study. Results with the Borax treatment are inconsistent with the results reported from Iowa State University in 1991-1993. Several factors might be involved in the lack of efficacy involving ecotype differences and boron availability. Soil tests for boron are being conducted to determine plant availability.

### Summary

Effective ground ivy control appears to be more timing dependent and less product dependent. The typical 3-way herbicide mixture with 2,4-D, or 2,4-D applied alone provides excellent control. In addition, Confront and the Turflon + 2,4-D combination are effective, however, the Confront could be cost prohibitive and is not labeled for use in New York. Still, regardless of control level, if adjacent areas are not kept in check, ground ivy will reinfest, as indicated by the population increases in this study.

FRANK ROSSI, EXTENSION TURFGRASS SPECIALIST  
CORNELL UNIVERSITY TURFGRASS TEAM

**Regardless of control level, if adjacent areas are not kept in check, ground ivy will reinfest.**

Table 1. Data from the 1994-5 Postemergence Ground Ivy Control Evaluation.

Treatment	Rate (lb. ai/A)	Timing**	Number of Ground Ivy Plants/Plot and % Control*					
			28-Apr		9-Jun		11-Sep	
			Mean	% control	Mean	% control	Mean	% control
Untreated			42	0	28	0	19	0
Confront 3 SL	0.5	Spring						100
Confront 3 SL (4 wk Follow)	0.5	Spring	33	22	4	87	5	74
Confront 3 SL	0.5	Fall						100
Confront 3 SL (4 wk Follow)	0.5	Fall	2	95	7	76	9	54
Confront 3 SL	1	Spring	33	21	3	88	8	56
Confront 3 SL	1	Fall	0	100	4	85	8	58
Turflon ester (4EC) + 2,4-D ester (3.8EC)^	0.5 + 0.5	Spring	23	44	3	90	1	95
Turflon ester (4EC) + 2,4-D ester (3.8EC)^	0.5 + 0.5	Fall	1	98	3	90	3	82
Weedone amine 3.7SL	1.85	Spring	25	41	0	99	2	89
Weedone amine 3.7SL	1.85	Fall	9	78	4	87	6	70
2,4-D ester (3.8EC)	1	Spring	37	11	1	98	4	77
2,4-D ester (3.8EC)	1	Fall	0	100	1	95	4	79
Triplet 3.96 EC	1	Spring	28	33	0	100	8	60
Triplet 3.96 EC	1	Fall	1	98	3	88	7	65
Sharpshooter	100ml/2L	Spring	56	0	49	0	24	0
Sharpshooter	100ml/2L	Fall	19	55	20	27	12	35
20-Muleteam Borax	35oz/gal	Spring	39	8	21	24	13	30
20-Muleteam Borax	35oz/gal	Fall	23	44	17	38	15	21
Confront 3 SL + 2,4-D ester (3.8EC) ^	0.5 + 0.5	Spring	44	0	0	99	7	65
Confront 3 SL + 2,4-D ester (3.8EC)^	0.5 + 0.5	Fall	32	24	11	61	8	58
Round-up 4L	2	discont (1995)	0	100	2	93	1	96
Finale 1SL	1	Spring	59	0	36	0	11	40
Finale 1SL	1	Fall	0	100	3	90	6	67
Ortho's Weed-B-Gone^	0.25	Spring	40	5	27	5	13	30
Ortho's Weed-B-Gone^	0.25	Fall	11	73	22	21	16	16
LSD (0.05)			8	15	7	12	5	7

\* 28-April ground ivy counts are a measure of Fall 1994 applications and covariates used for Spring 1995 applications

\*\* Spring treatments applied to ground ivy plants in full bloom (125-150 base 50 GDD); fall treatments applied following the first frost

^ treatments initiated in Spring 1995