Pre and Post Emergence Common Dandelion Control with Tenacity in a Traditionally Overseeded Establishment

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Introduction

Broadleaf weed control and phytotoxicity evaluations were conducted on a stand of mature 'SR-4200' perennial ryegrass (*Lolium perenne* L.) at The Valentine Turfgrass Research Center, Penn State University, University Park, Pa. The objectives of the study were to determine the efficacy of Tenacity for the pre and post emergence control of common dandelion (*Taraxacum officinale*) and to evaluate the phytotoxicity to both previously established and newly overseeded perennial ryegrass.

Methods and Materials

One month prior to the application of materials, the test site received a broadleaf weed herbicide treatment of Trimec Classic at 4 pt/A. On July 2, 2012 (SEED) the entire test area was core cultivated, verticut, and overseeded with common dandelion at a rate of 1.5 lbs/M and 'Amazing GS' perennial ryegrass at 4 lbs/M. In addition to the seeding at the time of application, urea (46-0-0) was applied at 0.25 lb N/M immediately following the overseeding.

All turfgrass test areas were rated by recording the population of common dandelion starting one week after the application of any treatment, on a plot by plot basis. The rating was conducted by way of visual interpretation. This was repeated following the application of materials and a percent control of the population was produced. The test plots were 18 ft^2 each.

The study was a randomized complete block design with three replications. Applications were applied to wet foliage on July 2, (SEED), and again on July 25, 2012 (2 WAT) using a three foot CO_2 powered boom sprayer (Figure 1) calibrated to deliver 80 gpa using one, flat fan, TP9508EVS nozzle at 40 psi.

The test site (Figure 2) was mowed at three inches weekly with a rotary mower with clippings returned to the site. The test site was irrigated to prevent moisture stress.

Results and Discussion

There was no turfgrass phytotoxicity found on any rating date (Table 1). There were three rating dates during the study.

Four common dandelion control ratings were taken during the study (Table 2). Overall, across time, treated turfgrass had varying levels of control of common dandelion. At the conclusion of the study all treated turfgrass significantly reduced the weed populations compared to non-treated turfgrass. Additionally, significant differences were found among treatments.

Tenacity again has performed at a high level of excellence, proving that common dandelion populations can be reduced prior to and after germination in a traditional overseeding scenario. .

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Table 1. Evaluations of turfgrass phytotoxicity where 0 = dead turf, 7 = acceptable, and 10 = no phytotoxicity in 2012.

Treatment	Form	Rate oz/A	Timing	(--Turf Phytotoxicity--) 7/9	8/7
TENACITY	4SC	5	SEED	10.0	10.0
TENACITY	4SC	8	SEED	10.0	10.0
CHECK				10.0	10.0
TENACITY	4SC	5	SEED	10.0	10.0
TENACITY	4SC	5	2 WAA		
TENACITY	4SC	8	SEED	10.0	10.0
TENACITY	4SC	8	2 WAA		
TENACITY	4SC	5	2 WAA	10.0	10.0
TENACITY	4SC	8	2 WAA	10.0	10.0

Table 2. Percent control of the common dandelion population following applications of selected herbicides in 2012.

Treatment	Form	Rate oz/A	Timing	(----------Dandelion Control[1]----------) 7/9	7/23	8/1	8/15
TENACITY	4SC	5	SEED	80.0ab	50.0b	58.3bc	48.9b
TENACITY	4SC	8	SEED	80.0ab	50.0b	50.0c	35.6b
CHECK				0.0c	0.0c	0.0d	0.0c
TENACITY	4SC	5	SEED	86.7a	93.3a	91.7a	90.7a
TENACITY	4SC	5	2 WAA				
TENACITY	4SC	8	SEED	100.0a	100.0a	92.2a	92.9a
TENACITY	4SC	8	2 WAA				
TENACITY	4SC	5	2 WAA	60.0ab	23.3c	69.4b	90.7a
TENACITY	4SC	8	2 WAA	33.3bc	16.7c	69.4b	96.4a

1- Means followed by same letter do not significantly differ (P=0.05, Duncan's New MRT)

Figure 1: CO_2 powered boom sprayer used for applying liquid materials.

Figure 2: Representative overview of broadleaf trial at the conclusion. Photo taken 8/15/12.