

PROJECT DESCRIPTION # 4
RENOVATING A WEEDY ZOYSIA LAWN

Home owners, landscape maintenance companies and professional turf managers eventually face the problem of a weedy lawn and what to do about it. Many home owners would prefer to renovate a weedy lawn without the use of chemical herbicides if possible. Selective herbicides can effectively remove unwanted plants with little to no damage to the desirable turf and represents a cost effective way to restore a weed free lawn.

In this project, a zoysia lawn will be renovated with a mechanical dethatching machine after both non-chemical means or herbicides are applied to eliminate weedy plants. Non-chemical weed control will be achieved with a 2 week tarping treatment to kill both weeds and above ground lawn. The tarping material will make use of a sheet of woven black plastic weed mat held to the surface of the lawn with landscape staples. Three different herbicide treatments will be used to eliminate weedy grasses and broadleaf species prior to thatch removal. After thatch removal, a ½ inch layer of commercially prepared compost will be applied across the entire experimental area. Following the compost application, a preemergence herbicide will be used on half of the plots to prevent weeds, emerging from seeds, to reinfesting the site. An untreated plot will also be included to determine if any form of weed control prior to dethatching is necessary to obtain an attractive weed free lawn.

PURPOSE: To demonstrate both non-chemical and chemical means of renovating a weedy zoysia grass lawn.

PROCEDURE:

The site for this experiment is a 10 ft. X 30 ft. foot area in front of the weed science field plots at the Magoon facility. Prior to this experiment, the site had only received natural rainfall and occasional mowing. Irrigation will be setup and turned on only after the activation fertilizer treatment has been applied. Calcium nitrate will be applied to the plot area to obtain 50 lb N/a using 2.2 lb across 300 ft². Irrigation will be turned on to properly irrigate the plots and activate the fertilizer for 2 weeks prior to the application of weed control treatments. Use the plot map (Figure 1) to identify the location of the 5 treatments (Table 1) in this experiment and apply the black plastic weed mat with landscape staples. Chemical treatments will be applied by the lab instructor. Two weeks after the weed control treatments are applied the experimental area will be dethatched with a walk behind verticutter. Rake off the thatch toward the road and dispose of it in the facilities' green waste heap. Apply a ½ inch layer of compost evenly across the entire plot. Ronstar G will be applied across half of the experimental area (half closest to the road) by the lab instructor. All procedures are to be recorded with a digital camera, including images of the site and individual treatments prior to the start of irrigation. Notes should record weed control and turf injury during the two weeks after spray application as well as during the recovery phase after verticutting and application of the compost topdress. Raise the tarp weekly to follow turf and weed injury.

Table 1. weed control treatments used to renovate a weedy zoysia grass lawn. These treatments will be applied 2 weeks after the application of fertilizer and the start of overhead irrigation. MSO in the table below means methylated seed oil (wetting /penetrating agent).

Treatment #	Herbicide	Amount/a	Amount active ingredient/a (lb/grams)	Ml/g added to 3 liters of finished spray mix (40 GPA)
1	Fusilade II + Manor 60% DF + MSO	4 oz + .7 dry oz + 1% v/v	0.06 / 27.2 + 0.03 / 13.6 + 51 oz	2.3 ml + 0.4 g + 30 ml
2	Fusilade II + Powerzone + MSO	4 oz + 64 oz + 1% v/v	0.06 / 27.2 + 1.50 / 681 + 51 oz	2.3 ml + 37.5 ml + 30 ml
3	Fusilade II + Milestone + MSO	4 oz + .7 dry oz + 1% v/v	0.06 / 27.2 + 0.08 / 36.3 + 51 oz	2.3 ml + 3.0 ml + 30 ml
4	2 week tarping w/weed mat	-	-	-
5	untreated			

Figure 1, plot map for weed control treatment on zoysia lawn.

Treatment location					10 ft. long
1	2	3	4	5	
untreated					
Ronstar 2% G					
Magoon access road					

PROCEDURES AND ACTIVITIES FOR ZOYSIA LAWN RENOVATION #4

LAB #	DATE	DESCRIPTION OF ACTIVITIES
1	8/24	
2	8/31	Apply fertilizer and start overhead irrigation
3	9/07	
4	9/14	Apply tarping treatment and chemical weed control treatments
5	9/21	
6	9/23	Remove tarp and use verticutting machine to cut away thatch. Apply ½ inch of compost across all plots. Ronstar applied to ½ of plots (road side) by lab instructor.
7	09/28	Photos of all plots
8	10/05	Photos of all plots
9	10/12	Photos of all plots
10	10/19	Photos of all plots, visual rating for weed control and % turf cover
11	10/26	Photos of all plots
12	11/02	Photos of all plots
13	11/09	Photos of all plots
14	11/16	Photos of all plots, visual rating for weed control and % turf cover
15	11/23	Prep data and slides for PowerPoint presentations
16	11/30	Rehearse oral presentations
17	12/07	Oral presentations and written reports due