

Does Tarp Color Matter



Have questions? Send them to Dave at: ISU, Hort. Dept., Ames, IA 50011.

by Dr. Dave Minner

I am doing a science fair project on the effects of colored tarps when they are used to cover grass. Do you have any information on this subject?

-Andrew Denner

Algona, IA

This is not the first time someone has mentioned tarp color to me. Four years ago, Baltimore Ravens Head Grounds Manager Vince Patterozzi told me he had noticed a difference in turf performance depending on which color tarp he was using. Working with M. Putterman & Company, he arranged to send us several different samples of tarp colors. The study below is what developed from his very astute observation.

Study

The Putterman Rain Buster athletic field tarps used in this study were designed to keep rain and snow off fields. Respectively constructed of six-ounce polyethylene and 10-ounce vinyl, these tarps are generally placed on the field temporarily and then removed when the rain event ends.

Fields are generally covered for only a few hours, but in some cases a tarp may

be left on the field for three days or longer. Three different studies have been conducted since spring 1998 on a mature stand of Midnight Kentucky bluegrass. The studies pinned five-foot by five-foot tarps of each color to the ground in a randomized block design with three replications.

Tarps placed on April 9 were removed April 24 in study A. Study B placed the tarps on the field November 3 and removed them the following March 23. In study C, tarps placed March 23 were removed April 20.

The studies rated turf color on a scale of 1-10. The darkest green turf earned a 10 rating, while a 1 rating was given to white/brown turf with no green color. A 6 rating reflected the lowest acceptable color.

Results

Studies A and C were similar because they covered the field only during spring green-up. Study B covered the field during the entire winter, and then removed the tarp just before any green-up or growth occurred.

In each of the studies, tarp color had a dramatic effect on turf color. Yellow, orange, red, and white tarps produced the best turf color. Their ratings ranged between 6.5 and 10. Tarps with these col-

ors generally enhanced turf color when compared to the control.

Tarp colors light blue, blue, and purple produced some yellowing of the turf that made them inferior to tarp colors yellow, orange, red, and white. Tarp colors gray, light-green, dark-green, and black produce the greatest decrease in turf color, and they were considered unacceptable.

It's clear that tarp color affects turf performance. More investigation will be needed to evaluate duration of tarp cover, season of tarp cover, heat load under tarps, potential for disease, sliminess under tarps, and light penetration. But for now, it looks like tarps bearing team colors yellow, orange, white, and red may have an advantage when it comes to growing grass.



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Figure 1. The effect of tarp color on turf color

	Study A	Study B		Study C
	Turf covered for 16 consecutive days in April 4-28-98	Turf covered for 140 consecutive days Nov. to Mar.		Turf covered for 29 consecutive days Mar. to Apr. 4-20-99
		12-04-98	3-23-99	
Orange	7.5	9.5	9.0	8.5
Red	6.5	8.3	9.7	8.7
Yellow	8.0	8.7	9.0	9.0
White	9.0	8.0	6.0	10
Light blue	5.0	5.0	6.0	6.0
Blue	5.5	6.5	7.0	6.0
Purple	5.0	5.7	5.0	4.0
Gray	2.0	4.0	4.0	2.5
Light green	3.0	3.7	4.0	3.7
Dark green	1.0	2.7	1.0	1.0
Black/white	1.0	3.0	1.0	1.0
White/black			1.0	8.0
Control (no tarp)	7.5	6.0	1.0	6.3