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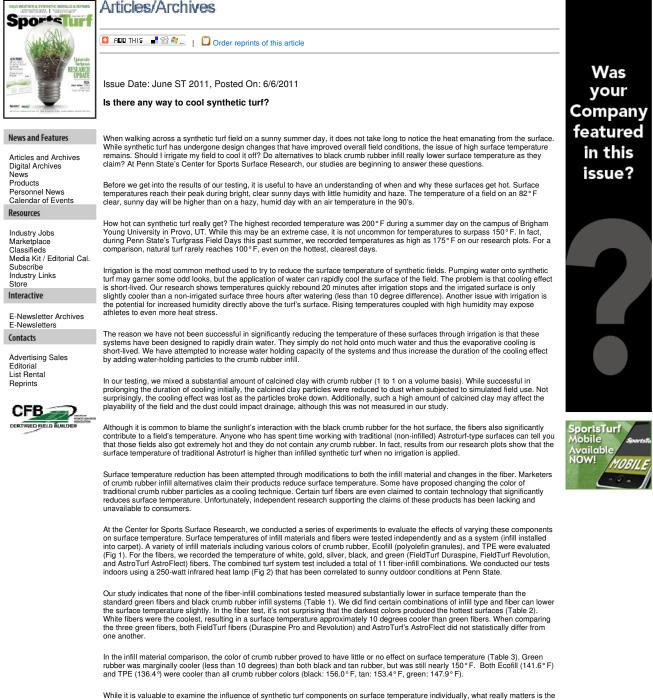
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while it is valuable to examine the initiation of synthetic fun components on surface temperature individually, what really matters is the effects of these components after they are combined in turf systems. In our study, any effect of fiber color was essentially negated with the addition of black crumb rubber infill (Table 1). It did not matter whether the fibers were white or black—surface temperature was essentially the same for any fiber color tested. AstroTurf's AstroFlect was not statistically different from FieldTurf Duraspine Pro fibers (green) that contained either TPE, green rubber, or tan rubber, even though it trended about four degrees cooler.

No magic bullet

What do these results tell us? As of right now, it is obvious that there is no "magic bullet" available to dramatically lower the surface temperature of synthetic turf. Reductions of five or even ten degrees offer little comfort when temperatures can still exceed 150° F. Until temperatures can be reduced by at least 20-30 degrees for an extended period of time, surface temperature will remain a major issue on synthetic turf fields.

We will continue to investigate methods to cool these systems. You can follow our work on our website (http://ssrc.psu.edu), "Liking" us on Facebook (Penn State's Center for Sports Surface Research), following us on twitter (@PSUsportsturf) and on www.stma.org. We have also introduced a free video series on our website called the "Sportsturf Scoop." Topics related to both natural grass and synthetic turf (including a video on surface temperature of synthetic turf) are available and new topics are added regularly.

Tom Serensits is manager of Penn State's Sports Surface Research Center.

Table 1. Surface temperatures of various f	iber-infill combinations after 3 ho	urs under heat lamp.	
Fiber Color	Infill	Surface Temperature (F)	
Gold	Black Rubber	171.1 a [†]	
White	Black Rubber	170.4 ab	
Silver	Black Rubber	169.2 ab	
Black	Black Rubber	169.2 ab	
Green	Ecofill	167.3 abc	
Green (FieldTurf Revolution)	Black Rubber	165.6 abcd	
Green	Black Rubber	165.5 abcd	
Green	Green Rubber	163.8 bcde	
Green	Tan Rubber	161.1 cde	
Green	TPE	160.5 de	
Green (AstroFlect)	Black Rubber	158.9 e	
All fibers were FieldTurf Duraspine Pro unless otherwise noted			

[†]Temperatures that do not share the same letter are significantly (statistically) different

Table 2. Surface temperatures of various fibers	after 1 hour under heat lamp	
Fiber Color	Surface Temperature (F)	
Silver	149.4 a [†]	
Black	144.3 b	
Green (FieldTurf Duraspine Pro)	140.5 bc	
Gold	139.8 bc	
Green (FieldTurf Revolution)	138.6 c	
Green (Astroflect)	137.9 c	
White	128.7 d	
All fibers were FieldTurf Duraspine Pro unless otherwise noted		

[†]Temperatures that do not share the same letter are significantly (statistically) different

 Table 3. Surface temperatures of various infill after 1 hour under heat lamp Infill
 Surface Temperature (F)

 Black Rubber
 156.0 a[†]

 Tan Rubber
 153.4 a

 Green Rubber
 147.9 b

 Ecofill
 141.6 c

 TPE
 136.4 d

 [†]Temperatures that do not share the same letter are significantly (statistically) different

SportsTurf

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