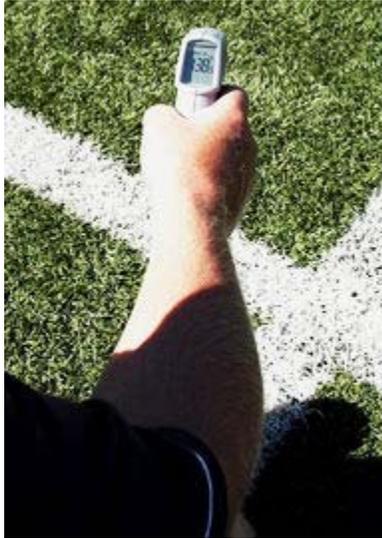


Turf temps: Synthetic playing surfaces hot, but are safe for competition



Eddie Mort, the supervisor of sports facilities for the city of Grand Junction, measures the temperature of Stocker Stadium's surface at 3 p.m. on Thursday afternoon. As the gauge gets closer to the surface, the temperature rises to high levels, shown here at 138.5 degrees.



At knee level, the temperature at Stocker Stadium is recorded at 103 degrees.

By Patti Arnold
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Joe Ramunno wears a watch that doesn't only tell time.

It tells him how hot it is where he's standing, and it's come in handy since Mesa State College installed a synthetic practice field.

"Where I'm standing it's been about 107," the Mesa State head football coach said. "But it's a dry heat. I know if you bury a thermometer at field level you can get some tremendous temperatures."

Mesa's practice field is the same material that was installed at Stocker Stadium in 2007, which is used by the four School District 51 high schools and the college.

The turf allows for as many games as needed to be played, rain or shine, without tearing up the playing surface. Players and coaches love the even playing surface and the advancements in synthetic turf from the old Astro Turf days.

Ankle and knee injuries aren't as common on the surface, which uses crumbled rubber as fill "dirt," allowing the turf to give as players cut back and are tackled.

"With turf you know there aren't going to be ruts," said John Marsh, a senior offensive lineman at Fruita Monument High School. "With turf, you know it's going to be flat and you won't twist your knees and ankles as much."

However, the rubber has a drawback — it attracts heat.

On Sept. 4, when Fruita Monument played Cherokee Trail on a Saturday afternoon, the surface temperature of the field was over 165 degrees. One stadium worker said the temperature gauge before kickoff of the 3 p.m. game read 173.2 degrees, but Eddie Mort, the supervisor of sports facilities for the city of Grand Junction, said when he took a reading that day, it was 168 degrees.

Those temperatures might sound an alarm as being too hot for young athletes to play, but teams take precautions against players getting too hot.

Large misting fans are on each sideline during day games and at night games early in the season to help cool the players when they come off the field.

Training staffs make sure players stay hydrated and coaches are quick to substitute if a player complains of feeling overheated.

"We work around it the best we can," Mesa State head athletic trainer Josh Fullmer said. "We encourage breaks. If their feet are burning up, there's more risk of dehydration. We make sure they have time off their feet, get them on cement or grass on the sideline (during practices)."



At waist level, the temperature at Stocker Stadium is recorded at 94 degrees.



At shoulder level, the temperature at Stocker Stadium is recorded at 85 degrees.

There are only two high school day games at Stocker this season. The first was Fruita's two weeks ago, the other isn't until Oct. 30, when Central plays Lakewood. Mesa State has two day games at home, Sept. 25, the Mavericks' home opener, and the final game of the season, Nov. 13, both at 1 p.m.

School District 51 Athletic Director Paul Cain was on the sideline for the Fruita-Cherokee Trail game and said he didn't see any players become ill because of the heat, and received no complaints about the conditions.

The high school players, who practice on grass all week, notice the difference when they hit the turf.

"The turf is different, it's very different," Marsh said. "It's a lot warmer, that's for sure. It takes a toll on your feet."

Marsh said players can get turf burns — scraped skin — when they fall and slide on the surface, but as far as burning their skin, it's not an issue.

"When I'm in my stance, it doesn't hurt my hand at all," he said. "You don't really feel it when your adrenaline is pumping. You feel it on your feet during (pre-game) workouts, but not as much during the game."

Both Stocker Stadium and Mesa's Walker Field, where college and high school soccer and lacrosse teams play, have watering systems.

Studies have shown surface temperatures drop after a few minutes of watering the field, but it's temporary relief.

"What we found out was it cools it, but within 10 to 15 minutes, it's up to where it was before," Fullmer said. "We were hoping it would have a lasting effect."

Mort's staff has a hand-held digital thermometer that registers surface temperature.

Thursday, he and Rob Schoeber, the recreation director for the city, met at Stocker at 3 p.m., when it was in the mid-80s.

In the middle of the field, between the 15- and the 25-yard lines on the south side, the surface temperature ranged between 137 and 147 degrees.

The white yard lines were about 10 degrees cooler than the green turf. If you dig your fingers into the turf, below the surface, it's noticeably cooler. Where you notice the heat is just above the surface, as the heat rises.

The blades of synthetic grass are warm, but not so hot that you can't place your hand on the ground for several seconds, as an offensive lineman would as a play is called.

"It's a reflective heat," Mort said.

The players notice that.

"You can feel heat radiate off the field. I sweated more than usual," said Marsh, who said he didn't feel a change in his body temperature during the afternoon game.

Several studies have been conducted regarding heat and synthetic playing surfaces, but the National Federation of High Schools has no guidelines regarding playing conditions and field temperatures.

The highest recorded turf temperature is 196.4 degrees, recorded by Penn State University at the Center for Sports Surface Research.

"Awhile back they were messing with it at (the University of) Utah," Fullmer said. "During two-a-days, they put the thermometer at four feet (above the turf) and at eight feet. The difference between four and eight feet off the ground was about 40 degrees."

Mort demonstrated that by checking the temperature on the surface (138.5 degrees), Schoeber's leg (103), belt (94) and shoulder (85).

At Stocker, with the north and south end zones open, there's usually a breeze that helps cool the players, and cloud cover drops the temperatures dramatically, as does sunset.

"Any time you get that air moving, it cools down quite a bit," Ramunno said. "Any time we get a gust of wind or a breeze, it is pleasant."

Allen Gemaehlich contributed to this story.