Moisture in the Skin

A Hawk-Eye™ System Also Watches What Is Happening On The Field.

It Sees and Measures It, Every Day, All Day and Night, so You Can Take Action.

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Moisture in the Skin

The following set of slides will show how a persistent (every ten minutes, every day) visual and far-IR camera set such as in the Hawk-Eye™ System can help understand the distribution of moisture in the skin.

This is a well managed minor league ball field.
It was laser graded in Mid-July.

An EYAS camera set variant of the Hawk-Eye™ System was used to collect image data between late April through late August. The camera set was not set-up in a location that could "see" the whole field. An ideal location for an EYAS used to measure a baseball field should be high above the field, behind home plate.

Page A is a depiction of the puddle pattern in April and August.
Page B demonstrates dry and wet skin conditions
Page C demonstrates game day conditions. Note the infield between 1st base and 2nd base.
The skin shows moisture differently between 1st and 2nd base.
Page D shows that moisture, mapped by the temperature, resembles the puddle pattern.
Where the puddle was cool with water and hot without water, it it says that the water isn't perking or draining well in the infield area near 1st base to almost where the 2nd baseman stands.
Page E is for thinking about these types of enhanced temperature images and making a notice to inform the grounds men.
Page F is a summary of a study validating a device that can increase percolation of applied water.
Page F' is a snapshot of data from the study validating the device.
Page G is a statement of capability. See, Measure, Understand w/EYAS. Take Action w/Hydrogation Device.
NO MORE BAD HOPS.

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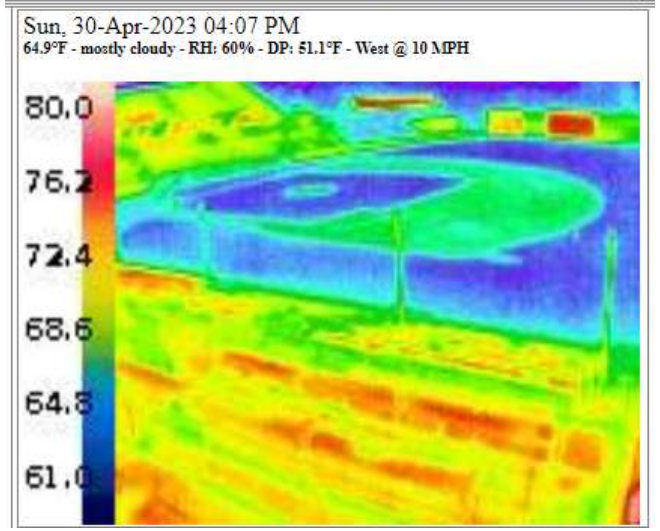
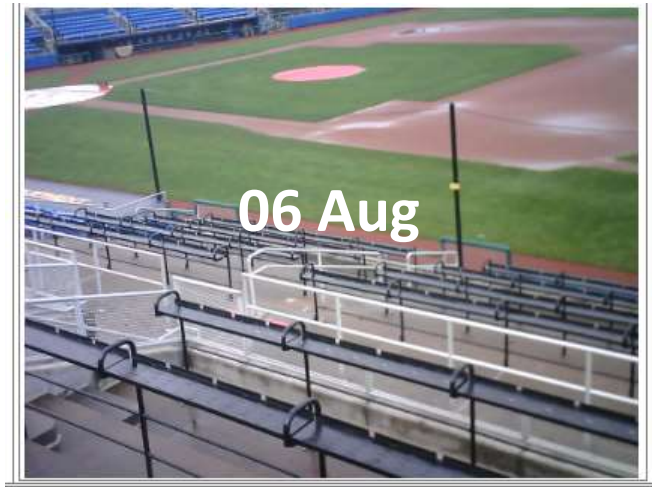
Puddle Patterns

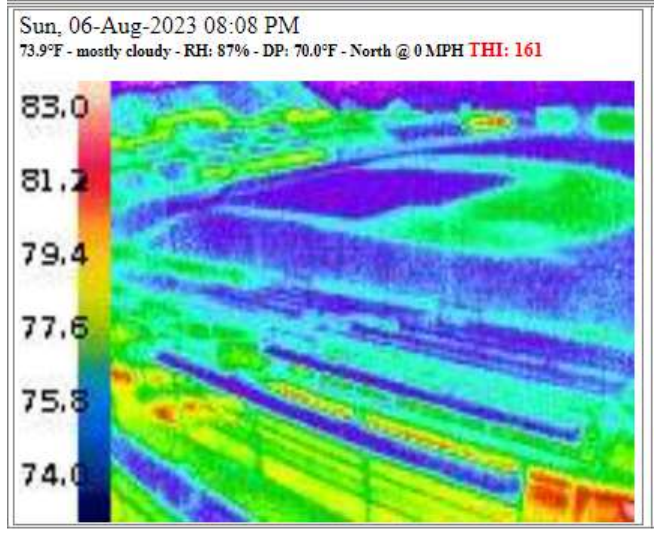
2” on 28 Apr
0.25” on 30 Apr



...may, jun, jul...

0.5” on 06 Aug





Warm is Dryer

Cool is Moister

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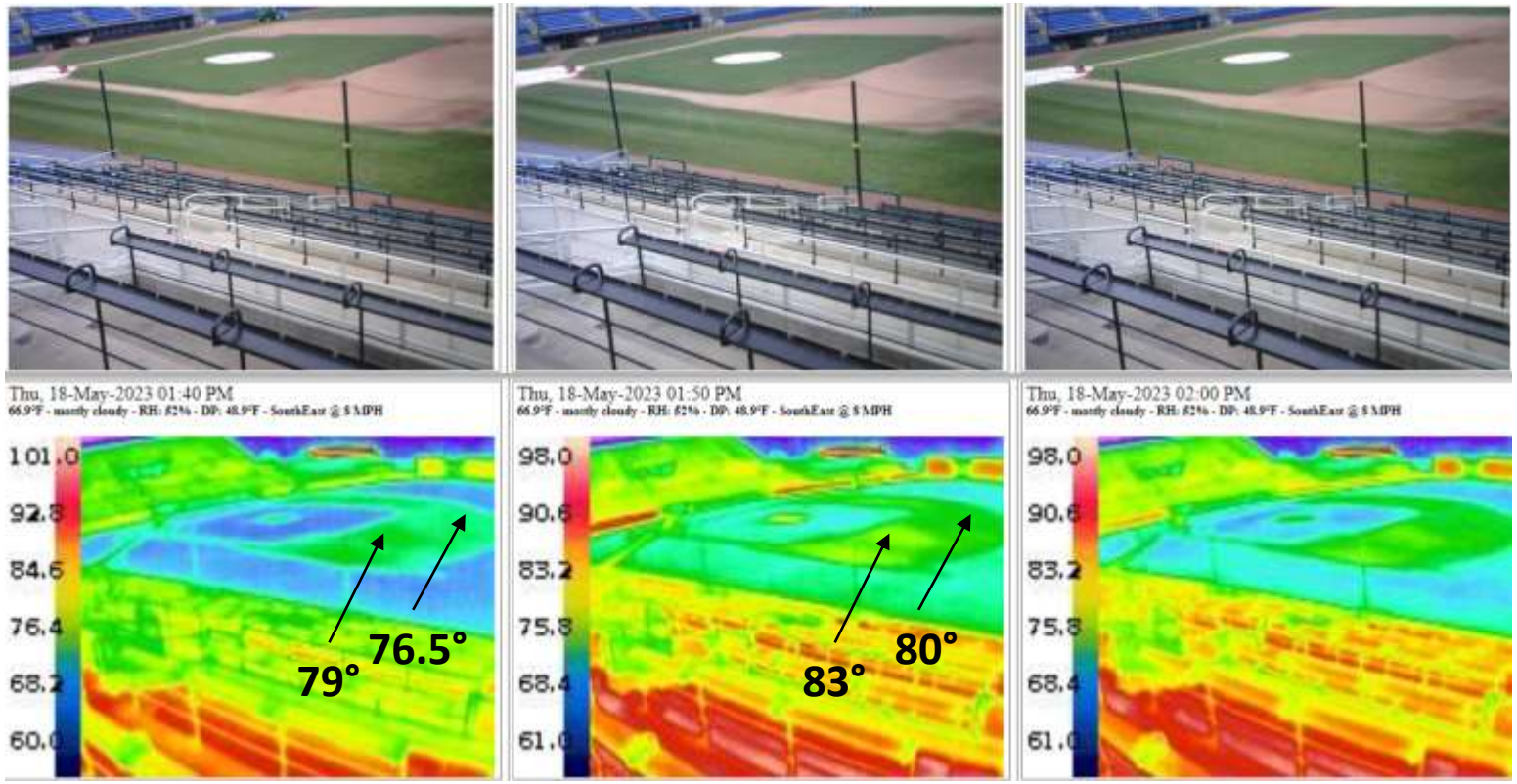
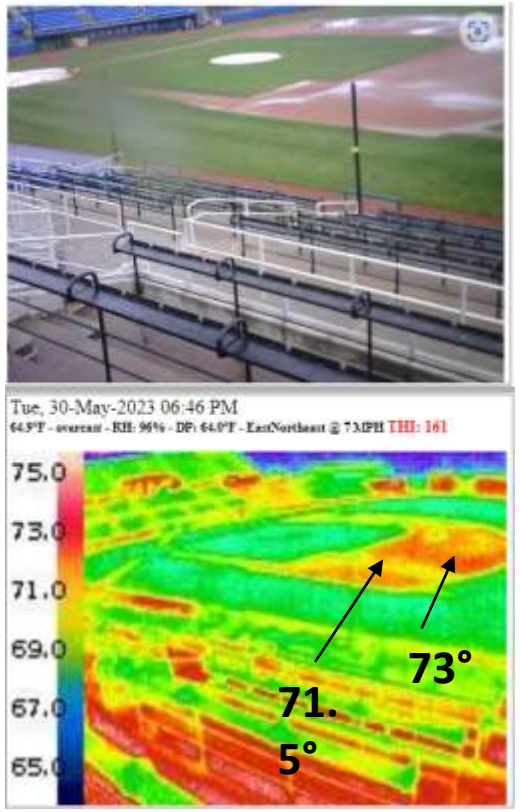
Water on the Skin

18 May 2023 (cool, low humidity, no water on skin)



1st base side warmer (dryer) than 2nd base side

30 May 2023, rainy day



1st base side cooler (moister) than 2nd base side

See the whole day:

https://vimeo.com/manage/videos/836702895

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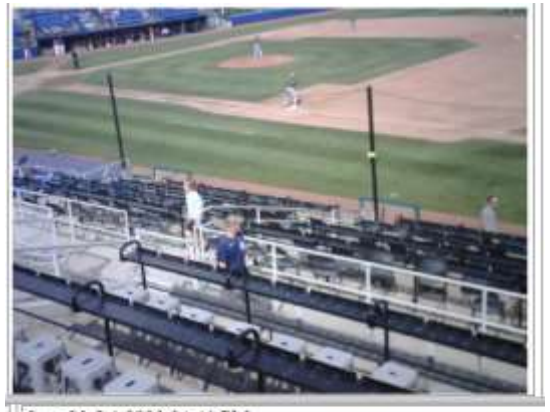
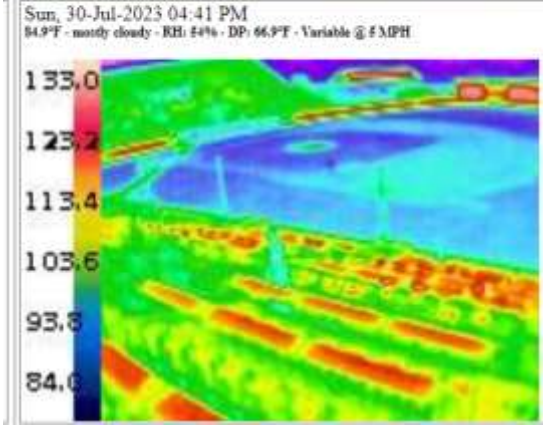
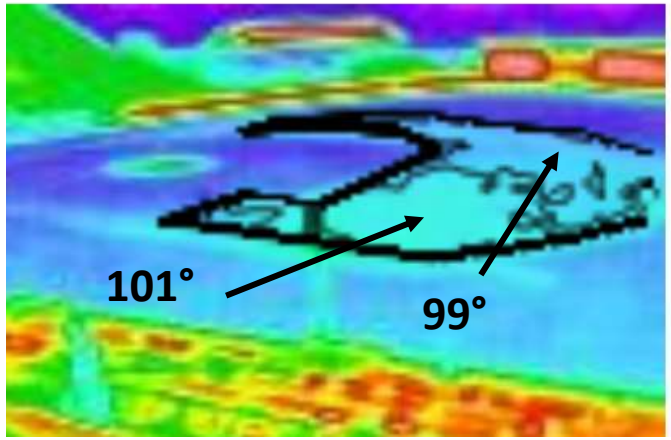
Moisture in the Skin

Game Day, 30 July 2023 (84°, low humidity)



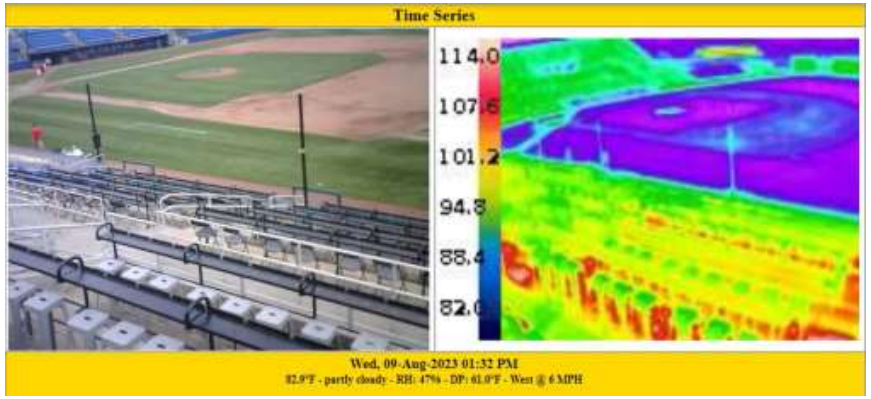




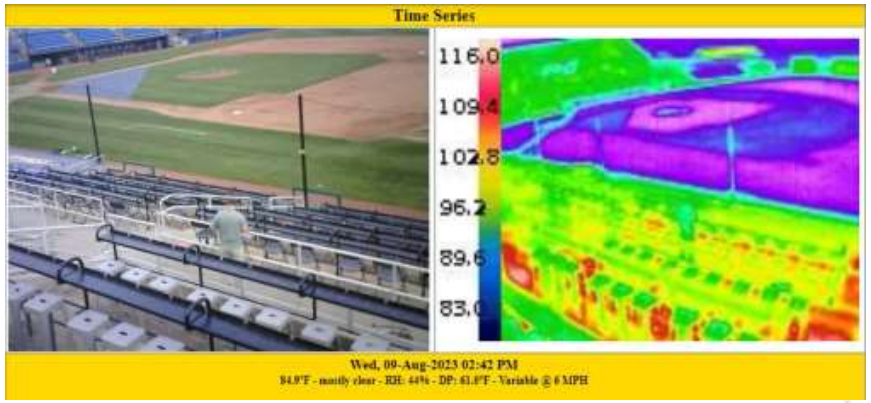
1st base side warmer (dryer) than 2nd base side

See the Game Day Video: 1200-2200 30jul23: https://vimeo.com/863289112?share=copy

The Pattern Persists, 09Aug



See the video, 1100-2200 09aug23, GameDay: https://vimeo.com/863315578?share=copy



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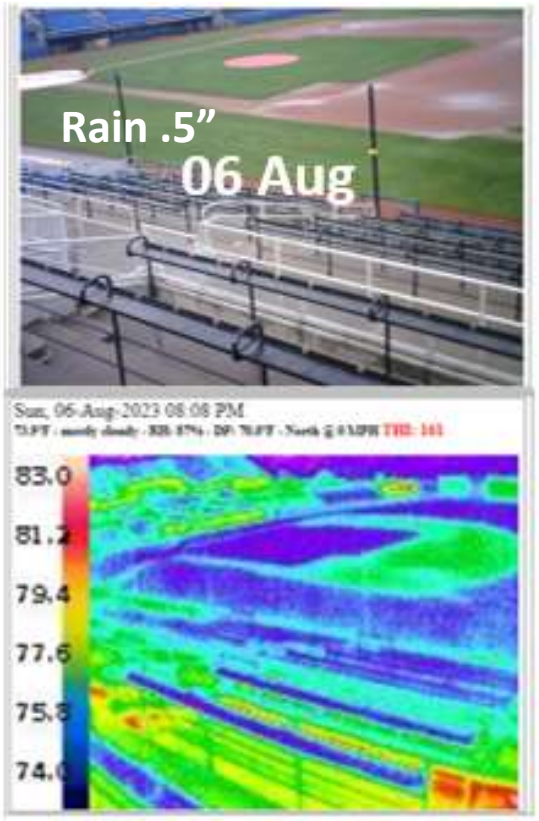
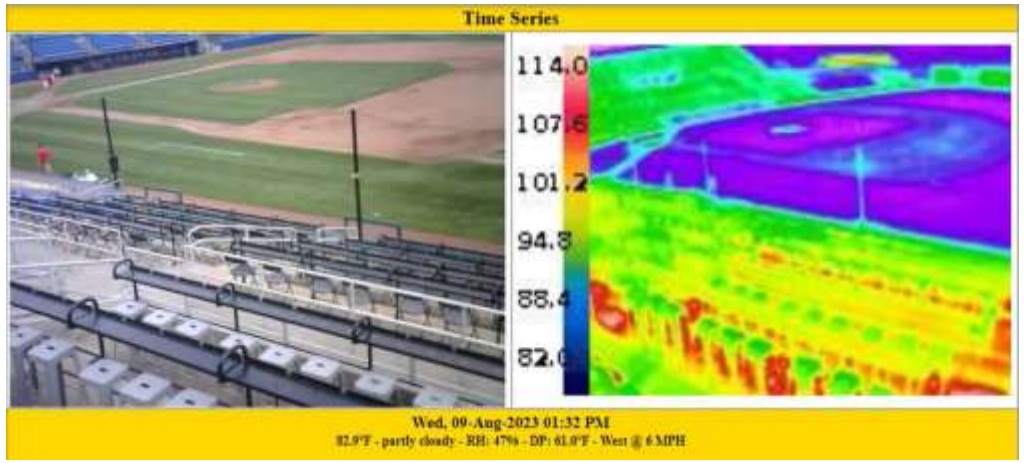
The Temperature Pattern Persists into Game Day





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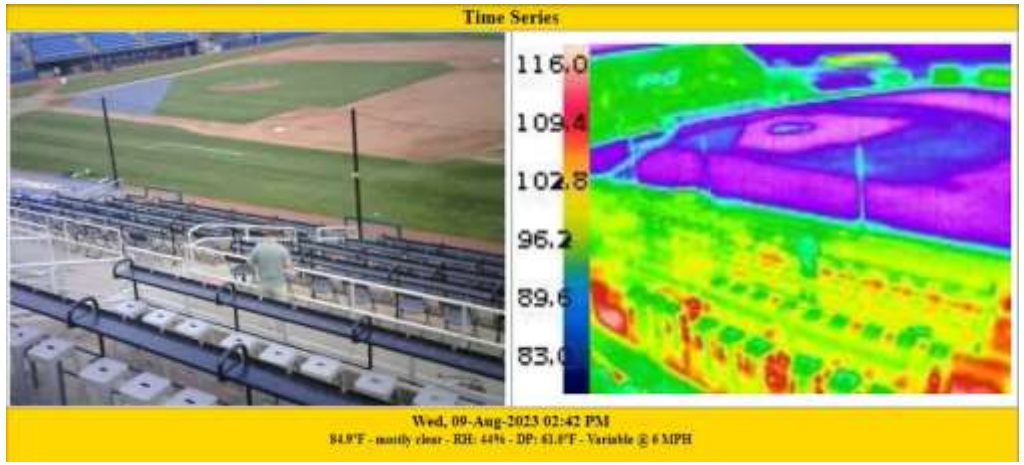

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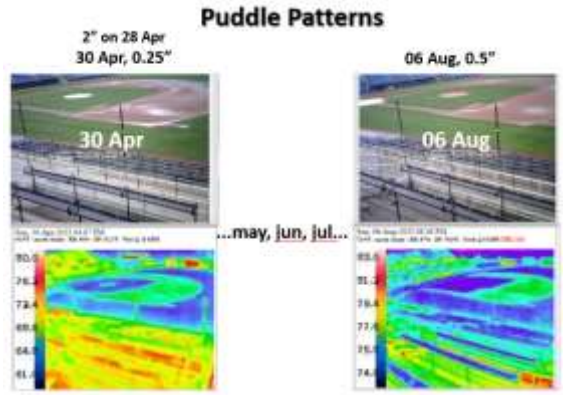
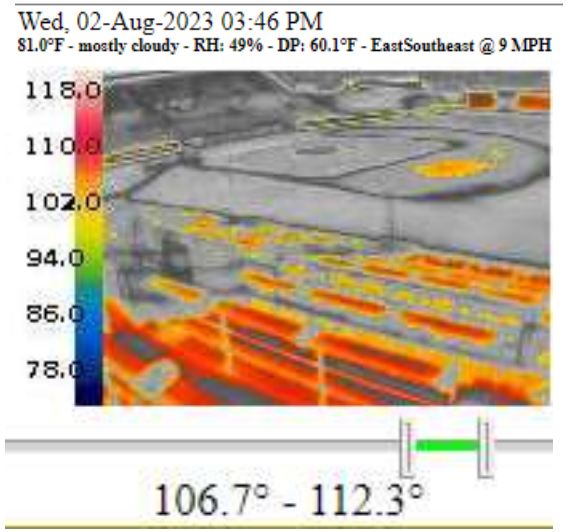
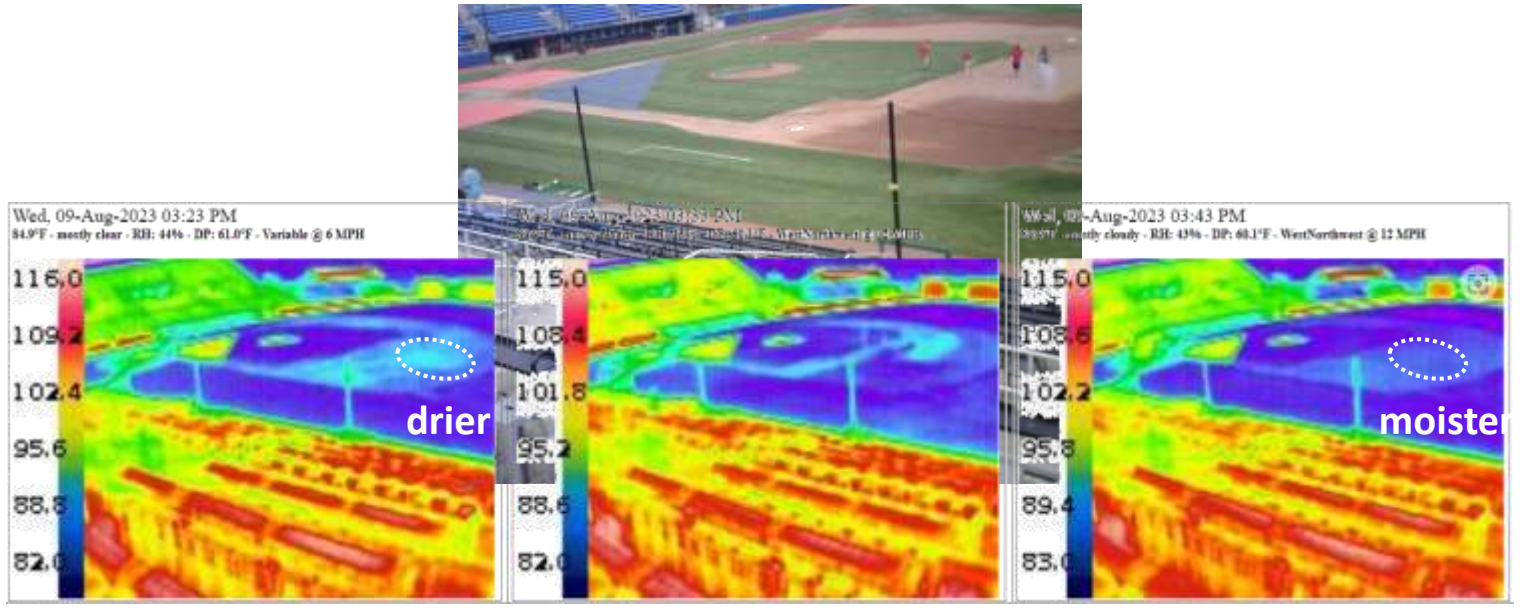
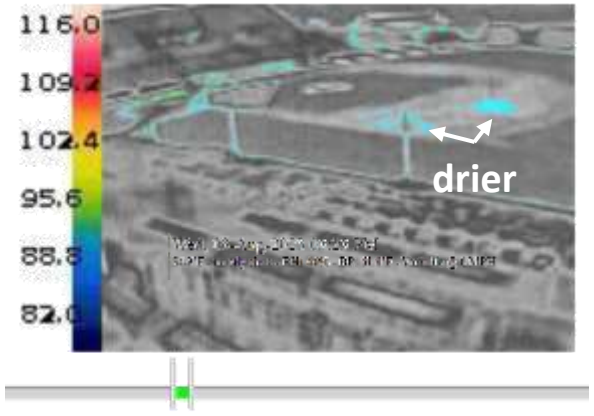
Puddles Become the Driest Spots

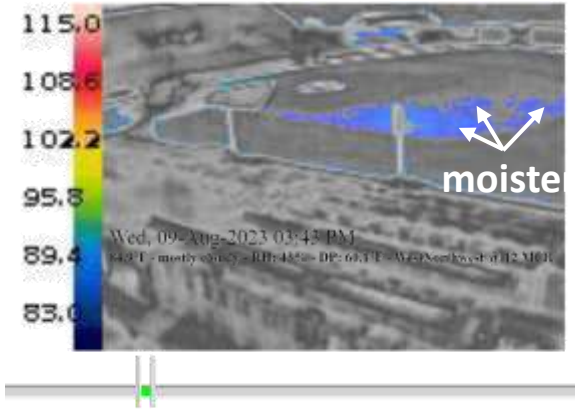


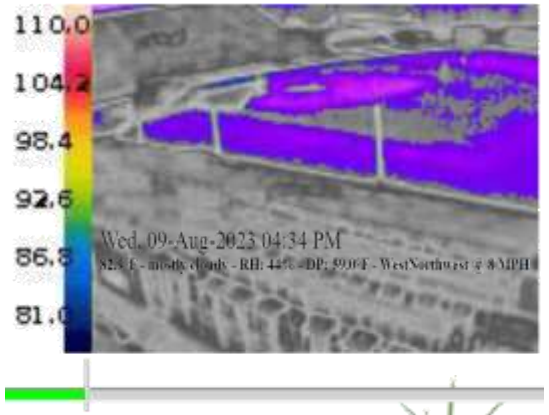


Hot = Dry = Hard?









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Pertinent Study

Ground Surface Moisture Study, Results

Left and right sides are watered excessively by a left sprinkler and a right sprinkler at same time.

03 Oct - left side water is treated, by “Hydrogation” device.

10 Oct - right side water is treated with “Hydrogation” device.

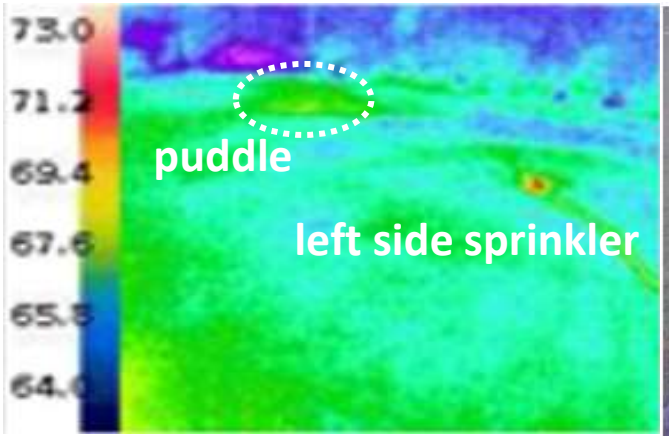
see Data Snapshots next page

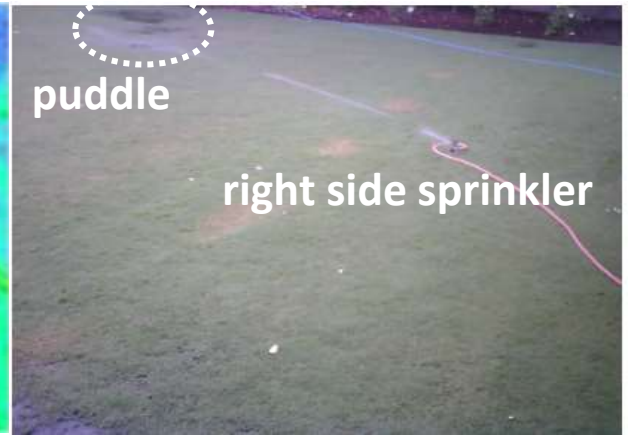
Large puddle occurs in the same location (left side) during both waterings.

From the temperature and visible images, the shape and size of the puddle is similar on both days, but the 10 Oct (treated) extent is smaller.

From the 03-04 Oct & 10-11 Oct nighttime temperature images, the 10 Oct (treated water) puddle and all the left side area dissipated/percolated much quicker.

And, from the temperature images, the sprinkler on the right side has a very irregular distribution pattern.





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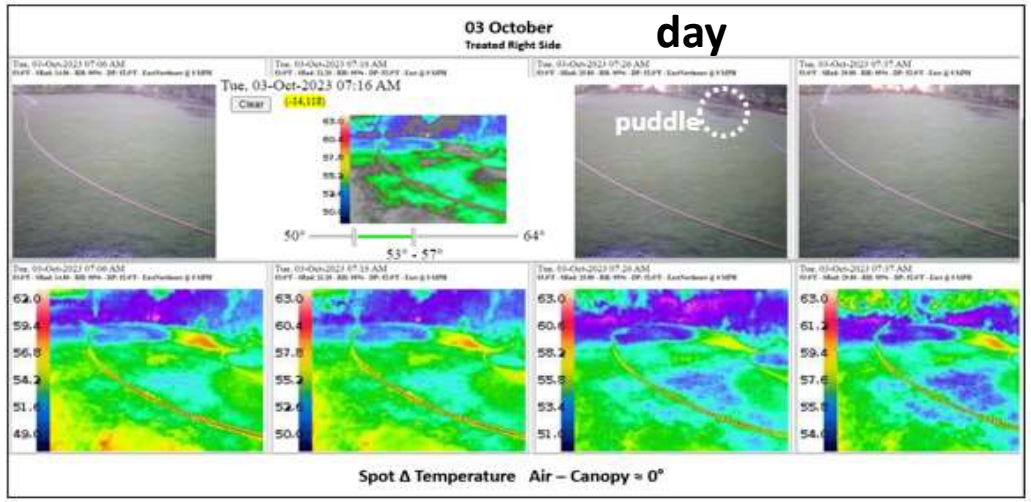
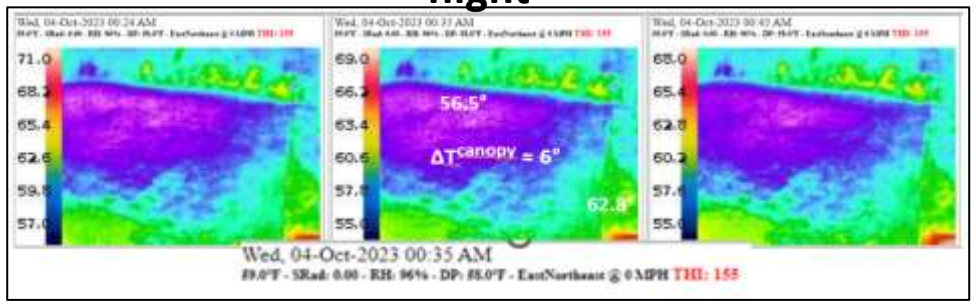
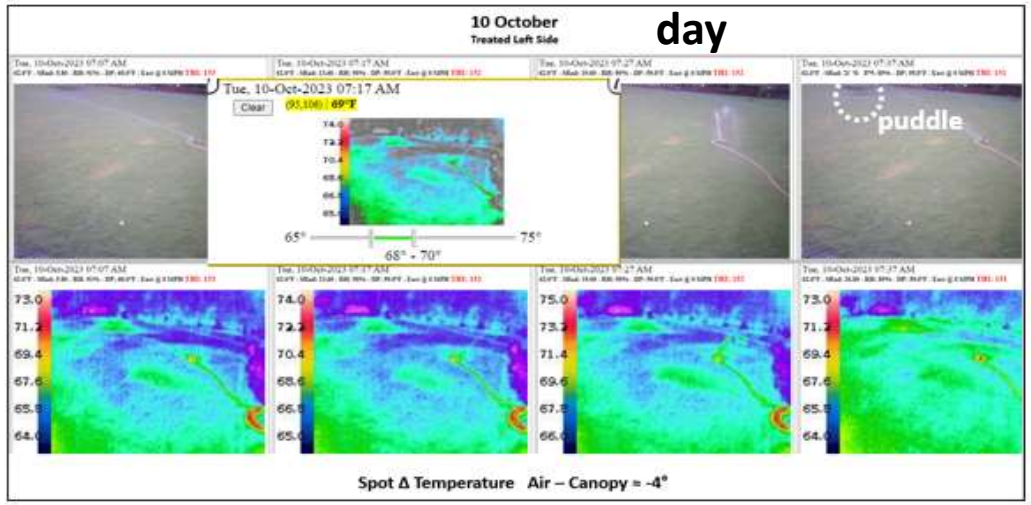
Pertinent Study

Ground Surface Moisture Study, Data Snapshots

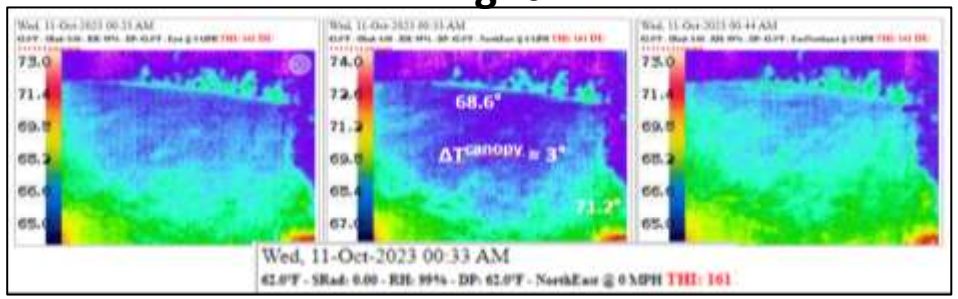


night





night



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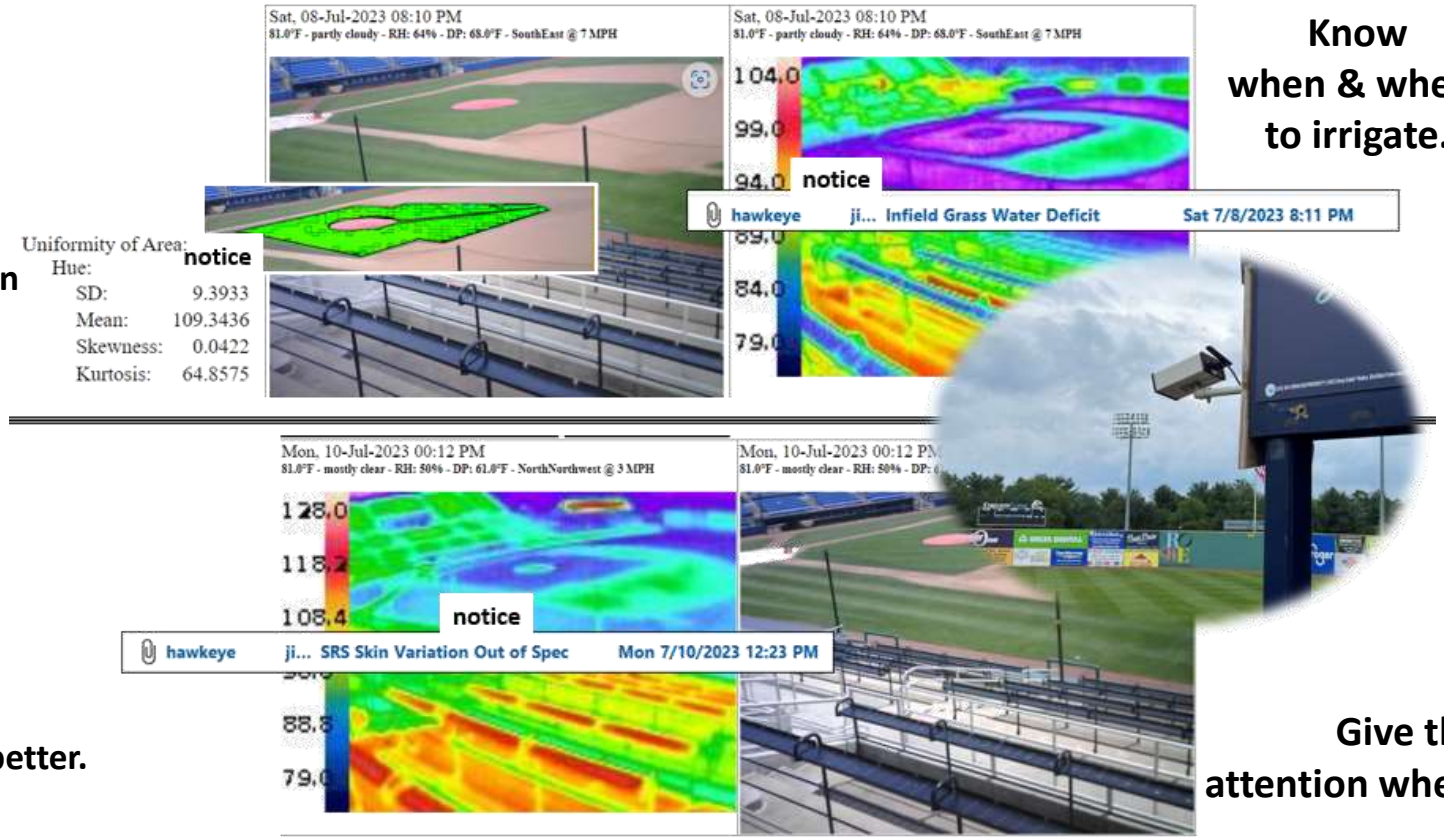
Watch the real-time character of the skin.
See if/when it is out of specs.

Hawk-Eye™ System
Shows & translates what the skin and the turfgrass has to say.
All Day and Night



Know when & where to irrigate.

No More Bad Hops!

Hydrogation Device
Makes the water percolate better.
Get the skin right.

Give the skin attention where it's needed

See it. Measure it. Be Notified. Take action.

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