



Sight Turfing

Ross Kurcab, CSFM
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INVESCO Field at Mile High

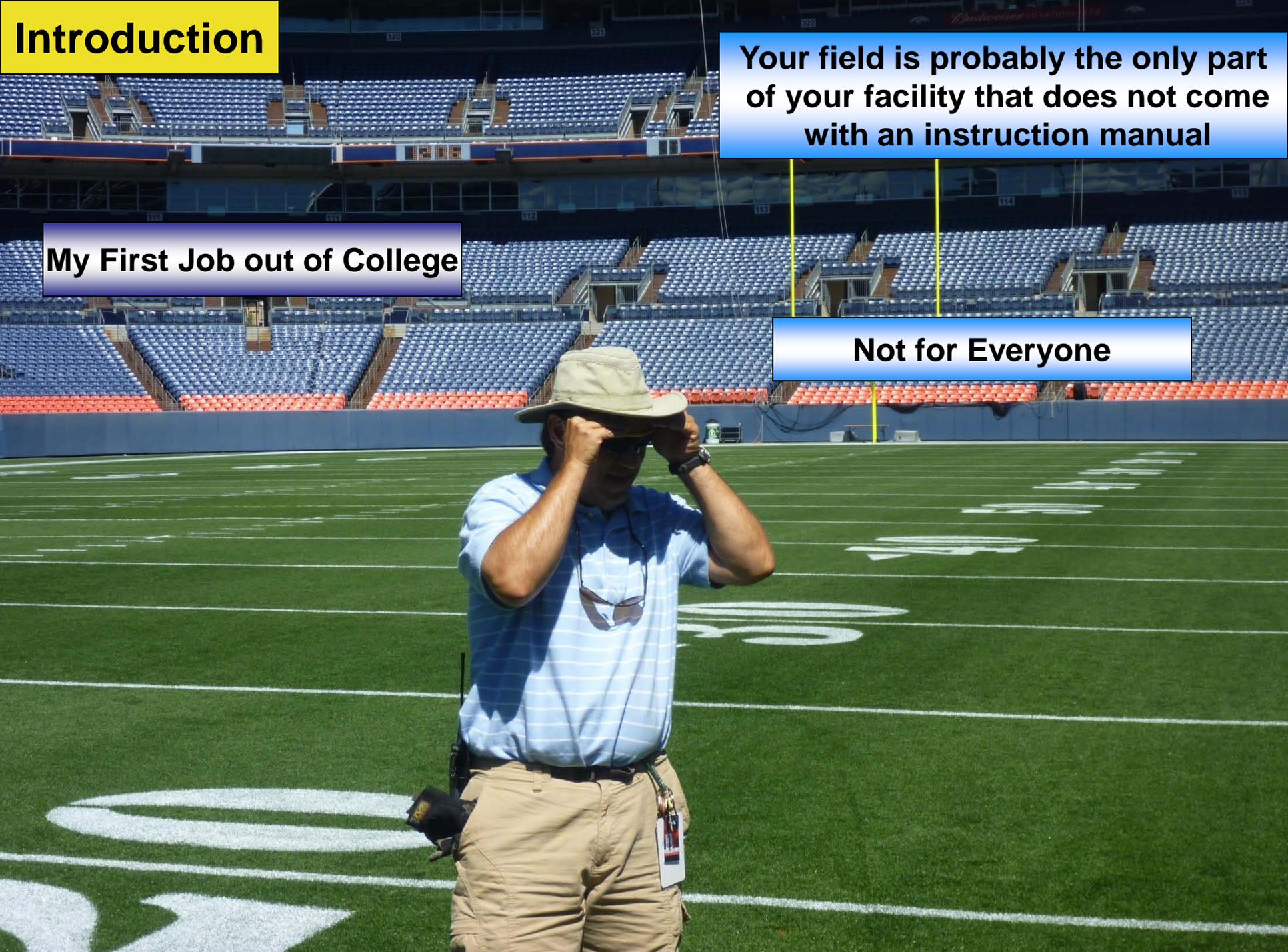
**Use Your Turf-Eyes to Take Your
Field Management Skills to the Next Level.**

Introduction

Your field is probably the only part of your facility that does not come with an instruction manual

My First Job out of College

Not for Everyone



For Want of a Nail

For want of a nail the shoe was lost.
For want of a shoe the horse was lost.
For want of a horse the rider was lost.
For want of a rider the battle was lost.
For want of a battle the kingdom was lost.
And all for the want of a horseshoe nail.





Sight Turfing: A daily read-and-react style of field management that uses your turf eyes as your most valuable tool.

So what is Sight Turfing?



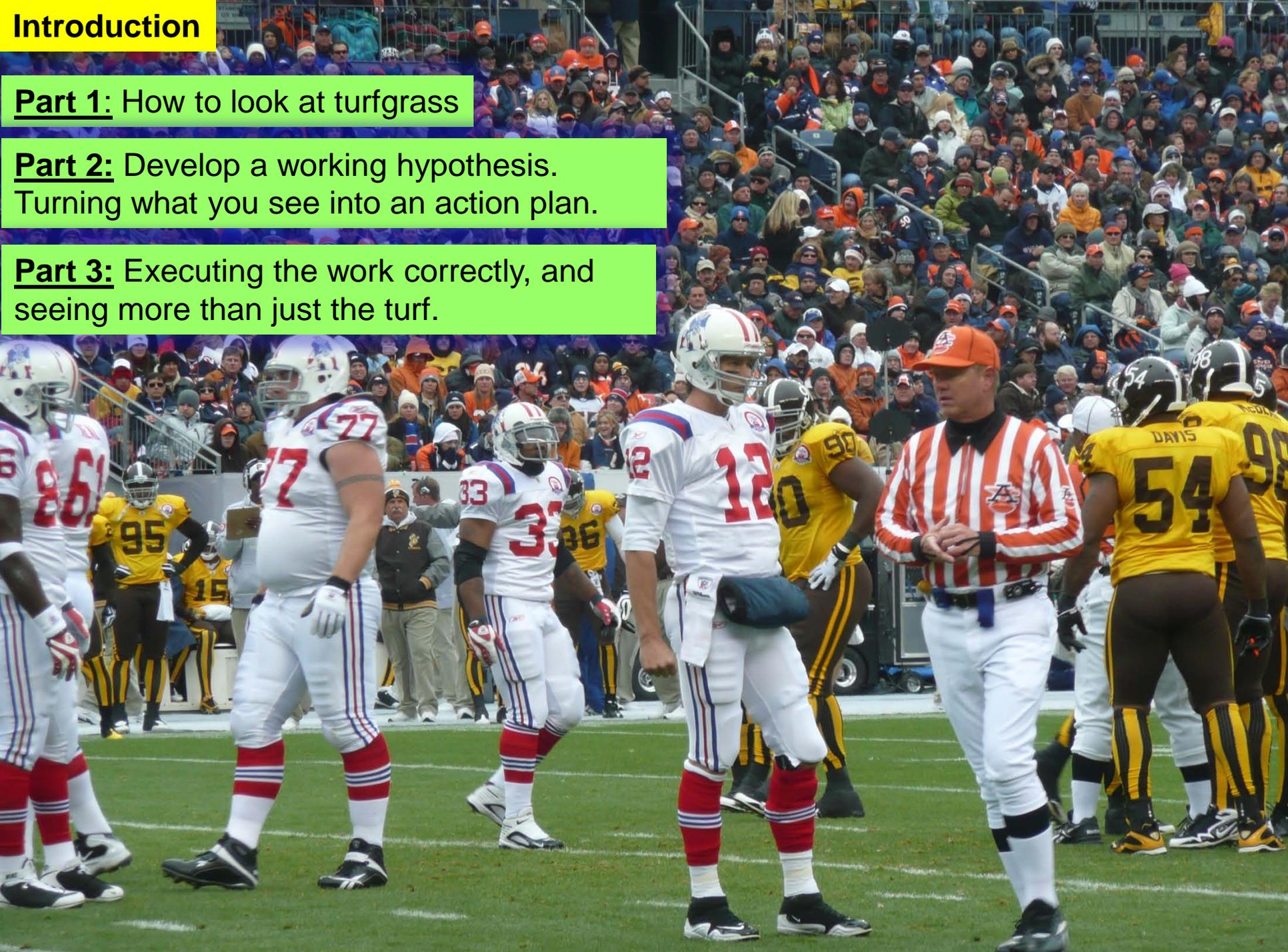
Example: Sight Turfing

Introduction

Part 1: How to look at turfgrass

Part 2: Develop a working hypothesis.
Turning what you see into an action plan.

Part 3: Executing the work correctly, and
seeing more than just the turf.





INVESCO FIELD

at Mile High

BUD LIGHT

comcast

UNITED

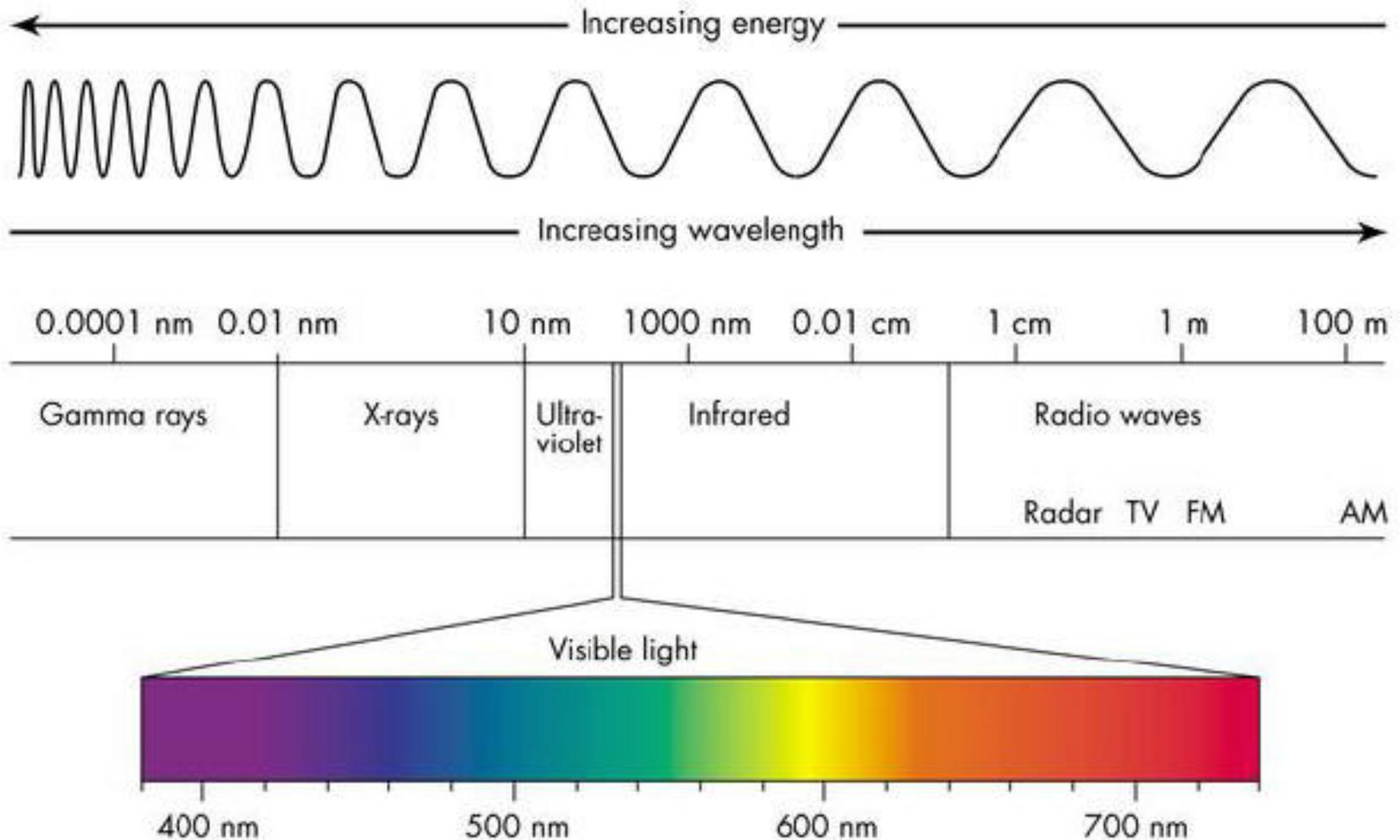
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YEAR OF THE BRONCOS

NEW YORK TO THE

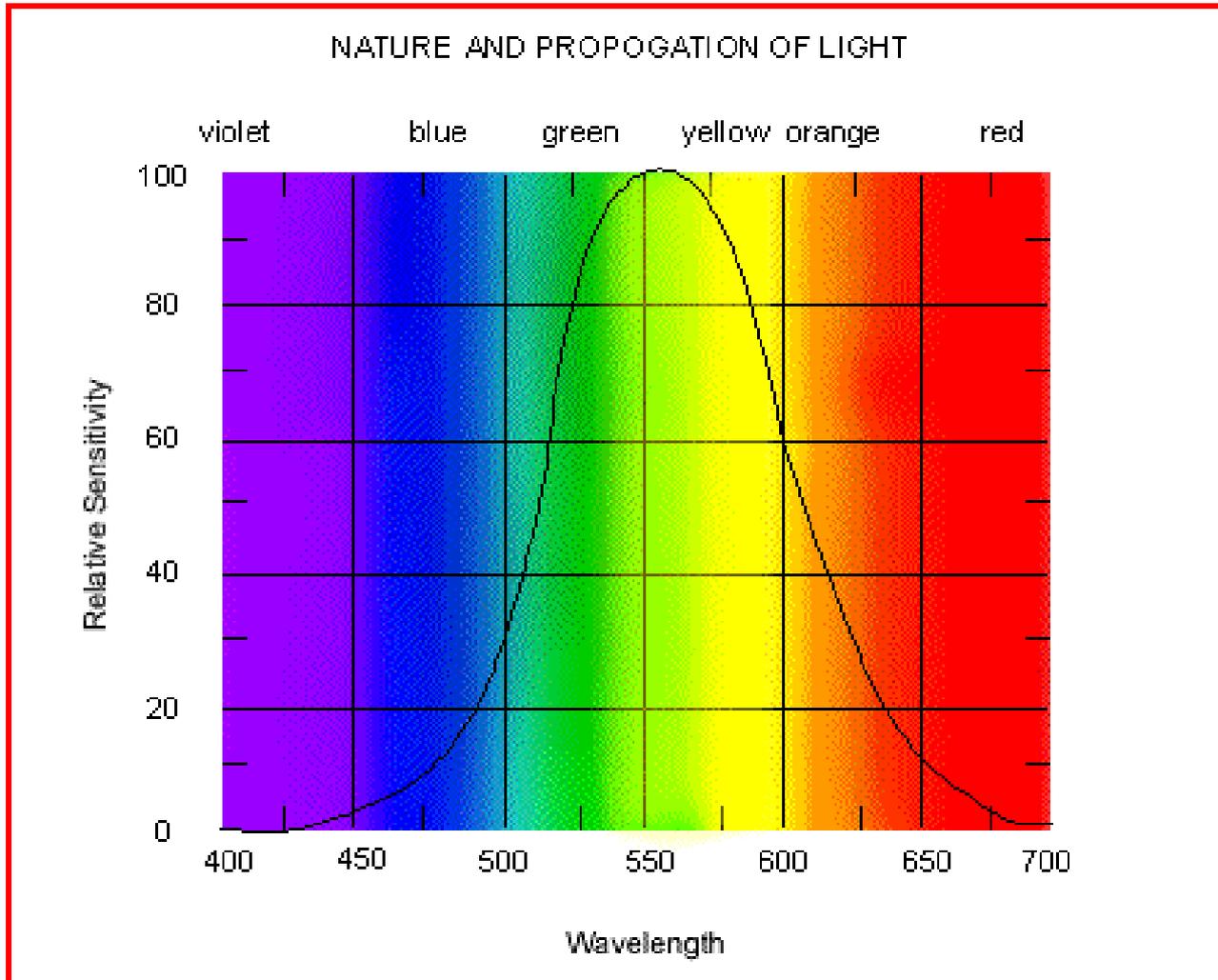
SIDEWINDER

SIDEWINDER

The electromagnetic spectrum



Visible light spectrum



Light Intensity

Measured in lumens

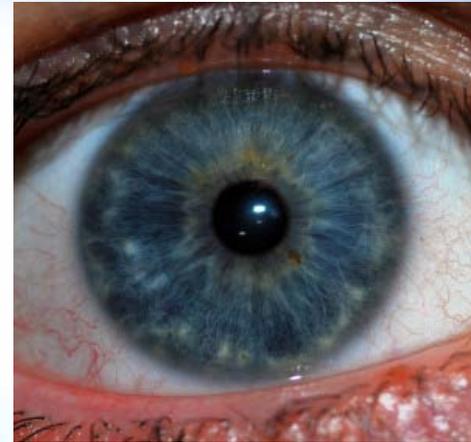
Howstuffworks.com:

400-600 lumens : typical indoor artificial light

1,000-6,000 lumens : Bright sunny day outside

>4,000 lumens : Our eyes begin to have difficulty absorbing light

>10,000 lumens : Damage to the eye



Sunglasses



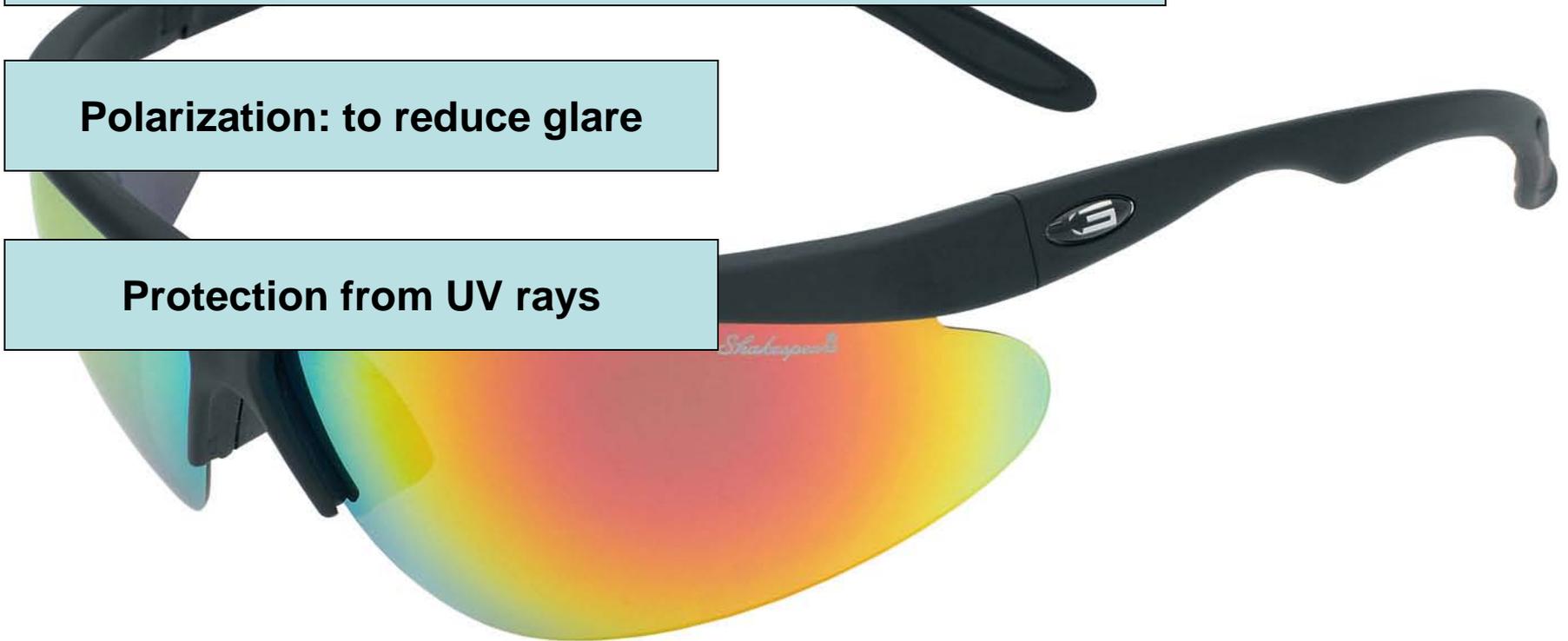
Sunglasses as light conditioners

Reduce the amount (lumens) of light absorbed by the eye

Different tints filter out different wavelengths (colors)

Polarization: to reduce glare

Protection from UV rays



Tint: Which are best for Sight Turfing?



Grey: good for brighter light, best all around for transmitting light naturally with least amount of color distortion.

Yellow or gold tint: best for low light, they 'gather light'. Yellow reduces amount of blue light. Blue light tends to bounce and scatter easily, creating a type of glare or 'blue haze'. This is why the sky is blue. Yellow tint can add clarity. Yellow has the greatest affect in color distortion.

Copper/Rose/Browns: like yellow, good at filtering easilly scattered blue light for calrity, but perform better in brighter light.

Green tint: blocks some blue and glare, offers best contrast and visual accuracy. Very popular. But that is not what we want for detection glasses.

Purple tint: offer the best contrast of objects with a green or blue background. Good choice for hunting.

Purple tint stress detection



Turf-tec International®















Plant Stress Detection Glasses

Takes a few minutes for my eyes to adjust

They work best in bright sunlight

Great for wilt patrol

Fairly intense adjustment when I put them on,
and I don't wear them as everyday glasses

Don't wear these driving on
streets. They wipe out the
green lights at stoplights.

A few thoughts on sunglasses

Good sunglasses are safety equipment as well as a valuable tool. but not always the best safety glasses for all jobs. Do your homework.

**Lens material/Lens quality: Glass or plastics.
Do a 'straight line test'.**



Lens darkness 60-97%

**Special coatings and features:
Polarization, mirrored lens.**

Frames and lens design



Tips for sighting turf problems

See what you are not looking for

Look for tonal contrast. A perfect green grass field will be very consistent, *look for anything not green and ask why.*

I'm always lifting my glasses up and down to get a different look.

Look at the area from different sun angles!



Looking sun into my face



Looking sun at my back



Looking sun at my back



Looking sun in my face

More tips for sighting turf problems

Do it every day every way, not just on your field. Lawns, parks, other fields. Practice, it takes time.

Look macro and look micro



Don't walk past something that looks 'off'

Get a working hypothesis (turning what you see into an action plan)

**Biotic or Abiotic?
(Natural or man made)**



Abiotic Disease!!







Symptoms of abiotic disease



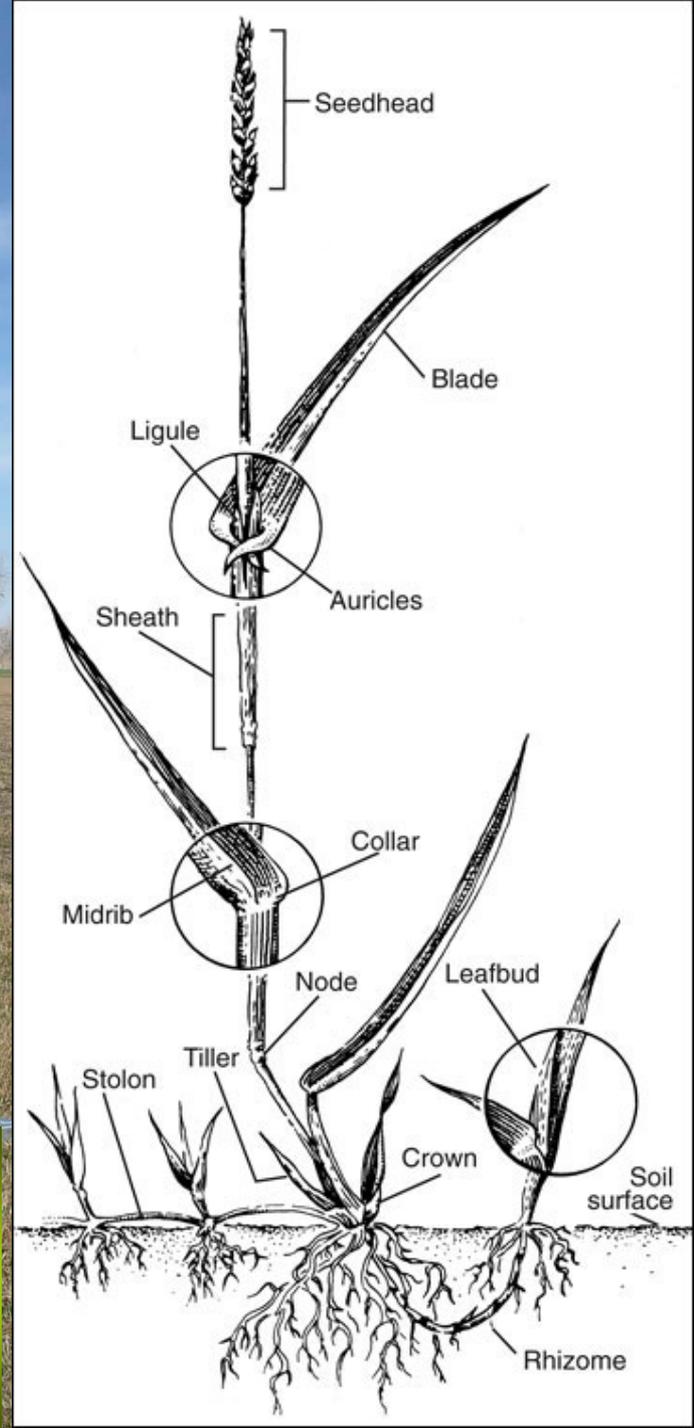






17 days later

What's the most important part of a grass plant on your field?



To be able to predict, analyze, and execute effective treatments for a timely recovery, you must have a very good understanding of how your turfgrass grows and develops and a fundamental understanding of soils.



What is the re-growth potential of this divot?



Looks bad from far away

**Closer inspection shows only leaf tip burn.
Crowns and roots fine.**

Remedy: Grow it and mow it!



Think we have any live crowns over here?





usually more regrowth potential than I think.





6 Days after the show



21 days after the show



A *hypothesis* is a proposed explanation for an observable phenomenon.
Wikipedia.com)



You might say that our job description as sports turf managers is a daily update to a working hypothesis.

Use your turf eyes watching the games

For football: Footing, divoting, watching different position types, different shoe-types, different areas of the field.

Use your turf-eyes post game

Divot types: Flaps. Skates. Moguls, wrinkles, blow-outs. Depth of the divots. Recuperative potential.

Whenever possible, bring in other sight turfing and get their hypothesis.

Give them the background, and answer questions, but don't try to steer them to a conclusion.

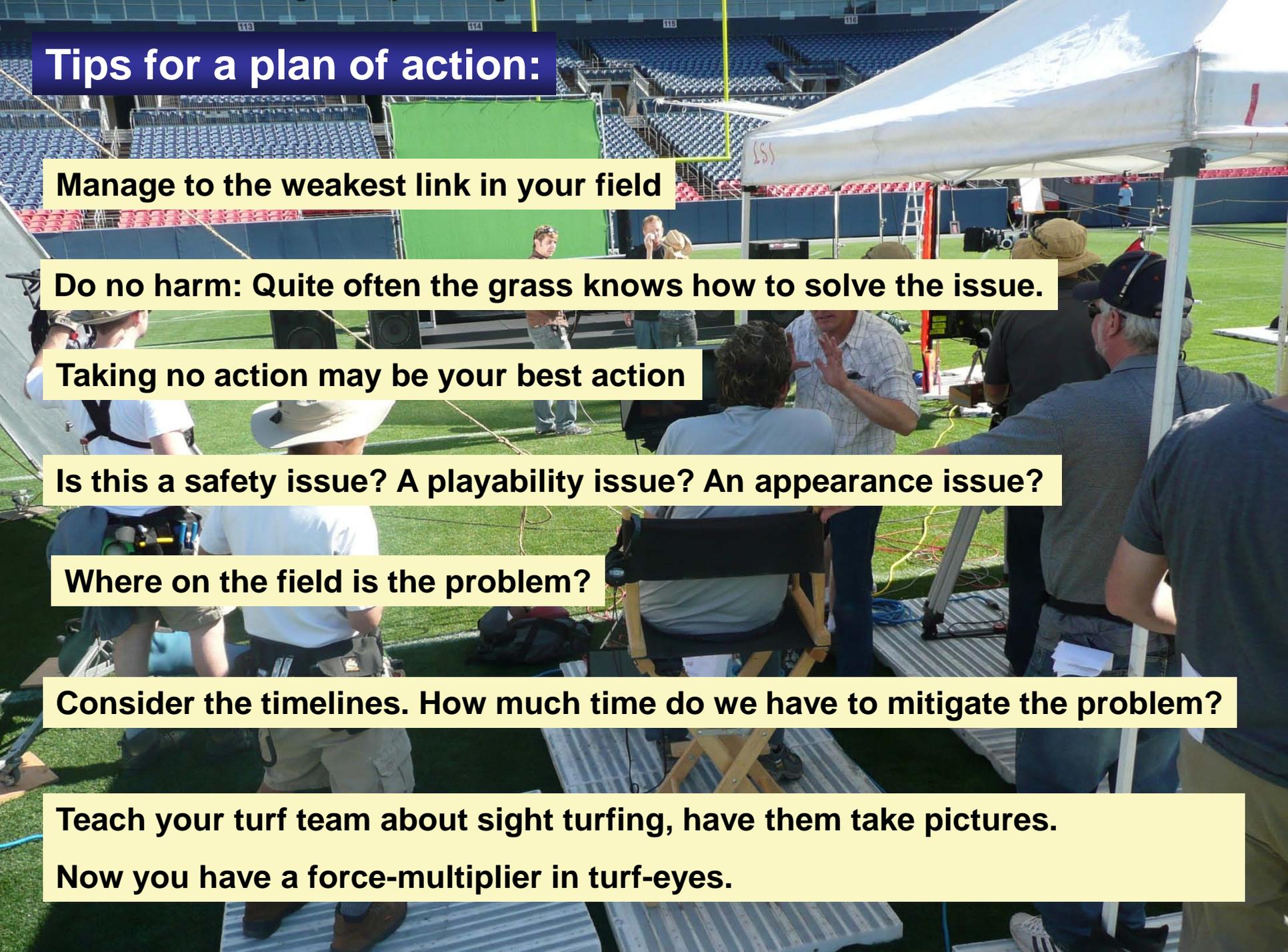


You don't always have time to call in the experts.

They can't really see the problem in context like you do-being there every day.

Most times, you are going to have to solve the puzzle yourself.





Tips for a plan of action:

Manage to the weakest link in your field

Do no harm: Quite often the grass knows how to solve the issue.

Taking no action may be your best action

Is this a safety issue? A playability issue? An appearance issue?

Where on the field is the problem?

Consider the timelines. How much time do we have to mitigate the problem?

Teach your turf team about sight turfing, have them take pictures.

Now you have a force-multiplier in turf-eyes.

Tips for a plan of action:

Boil your plan down to a simple sentence.

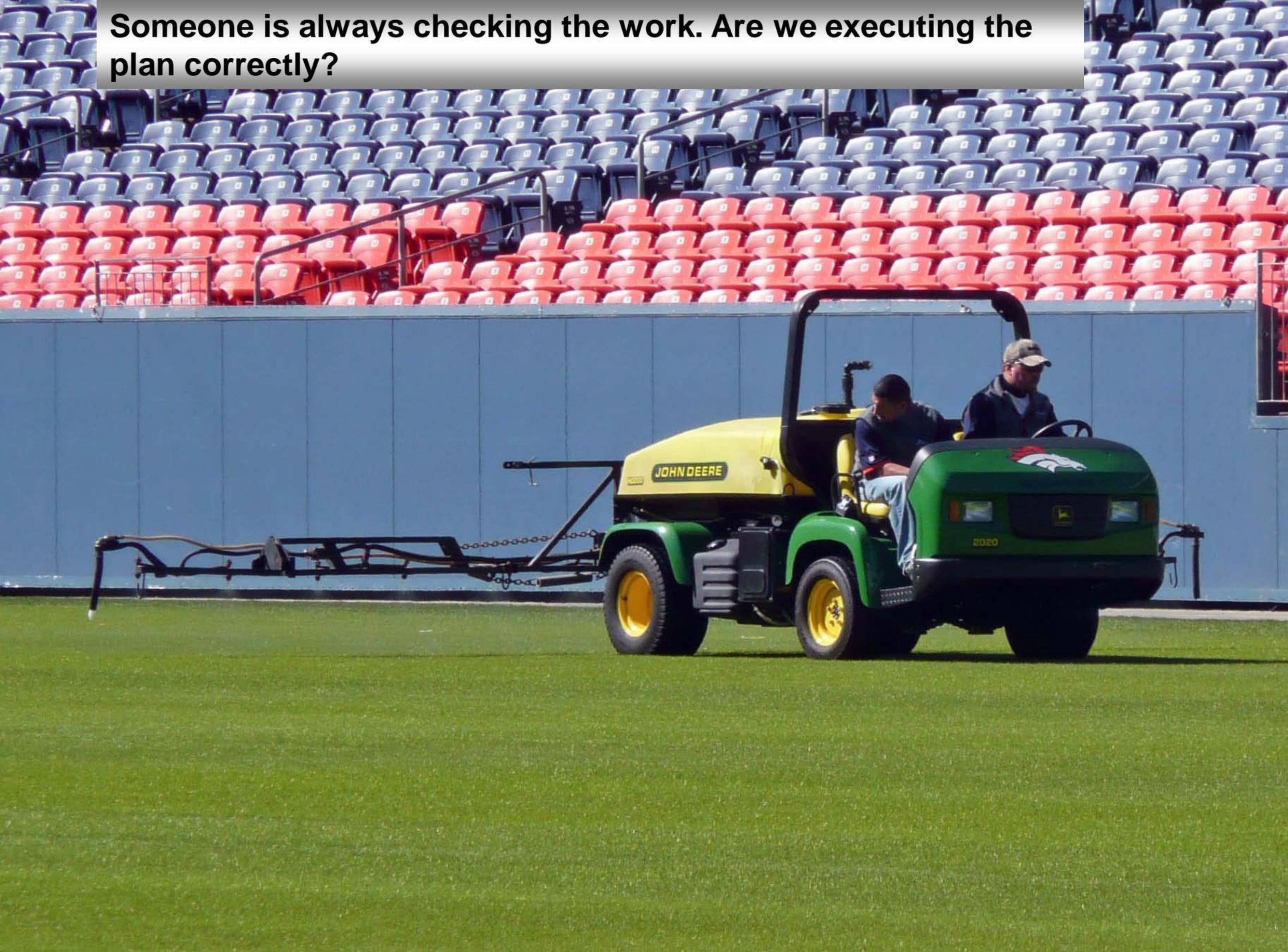
Visualize what you intent to do with the prescribed treatments



Doing the work correctly



Someone is always checking the work. Are we executing the plan correctly?



Calibration



We are meticulous, and relentless about doing the work correctly.



Always checking the work.

Catch a problem early, it's not a problem.



77 KARL MECKLENBURG 1963-94 49 DENNIS SMITH 1961-94 20 LOUIS WRIGHT 1975-96



INVESCO FIELD *Carroll O'Connell*



March 22, 2001

The best advice in the world does you no good unless you can execute it.



Good hypothesis, but the work was not done correctly.





Analyze the effectiveness of past treatments.

Look for clues, there is always a spot or area where you don't treat, sort of a 'control'.

It's fairly easy to create a 'control' area for your treatments.

**Lessons learned. You can't do true research,
so you need to try to learn what you can from what your field tells you.**



**This does not diminish our great need for research, quite the opposite.
Whenever possible, it should be the basis for our decisions.**

**Use all your other senses when Sight Turfing.
Well, maybe not taste...**



**Always be looking for clues.
Playing golf gave me the idea of lower mowing heights
And I got improved field performance.**



Next to your turf eyes, a digital camera might be your most valuable tool.

Storage has become fairly inexpensive.

Almost all of them take video with sound. A great way to keep logs.



Thank you for coming today.

Questions?

