

## Study debunks staph bacteria scare in synthetic turf

**S**ports trainers and coaches are concerned about outbreaks of an antibiotic-resistant staph bacterium that some people have associated with synthetic turf fields. But a study by researchers in Penn State's College of Agricultural Sciences should help put those concerns to rest.

Conducted by the university's Center for Turfgrass Science, the study found no trace of *Staphylococcus aureus* bacterium in any of the 20 infilled synthetic turf fields tested at various locations in Pennsylvania last year.

"These infilled systems are not a hospitable environment for micro-

bial activity," said study author Andy McNitt, associate professor of soil science. "They tend to be dry and exposed to outdoor temperatures, which fluctuate rapidly. Plus, the infill media itself (ground-up tires) contains zinc and sulfur, both of which are known to inhibit microbial growth. Considering the temperature range for growth of *S. aureus* is 7-48 degrees Celsius, we didn't expect to find this bacterium in fields exposed to sunlight, since the temperatures on these fields far exceed 48 degrees frequently."

*Staphylococcus aureus* is a common bacterium that often lives harmlessly on the skin or in the nose. When introduced into the body through a cut or medical incision, it can cause anything from minor



**DIAMOND PRO**  
PROFESSIONAL GROUNDSKEEPING PRODUCTS

# PROFESSIONAL MOUND CLAY

- Higher Clay Content For Greater Compaction
- Easily Conforms To High Stress Areas
- Great For Constructing & Repairing Pitcher's Mounds & Home Plate Areas

800.228.2987

[diamondpro.com](http://diamondpro.com)

Fill in 133 on reader service form or visit <http://enr.hotims.com/12050-133>

skin lesions to life-threatening bloodstream infections, pneumonia or organ damage. A strain of the bacterium, MRSA (methicillin-resistant staphylococcus aureus), has developed resistance to the antibiotic (synthetic penicillin) typically used to treat it and is becoming a major concern for sports teams with synthetic turf fields. The strain has also become one of the most common causes of skin infections requiring emergency room treatment nationally.

“Currently, there are between 700 and 800 of these fields being installed annually in the country, and there’s been quite a scare about turf and MRSA,” McNitt said. “Some pro football players came down with it, and a Pennsylvania high school team has had 13 players sickened by it over the past 2 years. So this is an important finding.”

McNitt said the center’s study didn’t differentiate between MRSA and the nonresistant strain because “they are the same bacterium. It’s just that some of the bacteria have devel-

oped resistance to antibiotics. We didn’t differentiate, as we didn’t find any staph, resistant or otherwise, in the synthetic turf.”

The Penn State study also found low overall microbial populations in the synthetic turf systems. “The microbe population of natural turfgrass far exceeds anything we’ve found in the infill systems,” McNitt said. “In fact, a number of the infill systems had zero living microbes in the sample at the time of testing.”

Even though temperatures of indoor fields would not be expected to fluctuate nearly as much as outdoor fields, he said, the microbe population of the indoor fields tended to be lower than outdoor fields.

“That was unexpected,” McNitt said. “We really expected to see higher microbe populations indoors and purposely tested the fields during periods of high use and humidity. While we are unsure as to why the indoor fields had lower microbe counts, it could be due to the almost complete lack of moisture.”

The researchers did find *S. aureus* on other

surfaces (blocking pads, weight equipment, stretching tables and used towels), as well as on the hands of five randomly tested passersby. The bottom line, McNitt said, is that while everyone should be concerned about the spread of bacteria and the cleanliness of equipment and other surfaces that players contact, infilled synthetic turf systems do not appear to be a breeding ground for microbes generally.

“Some other studies indicate that a player playing on synthetic turf may acquire more skin abrasions due to the abrasiveness of the surface,” McNitt said. “Thus, they have more entry points for the staph, but they’re not getting it from the field – they’re picking it up in the locker room or somewhere else. One study shows that players who shave their ankles prior to taping up, for instance, also have a greater incidence of staph because the shaving creates little nicks for infection to enter.”

A preliminary report can be found at <http://cropsoil.psu.edu/mcnitt/microbial/index.cfm> ■

**There is  
a smarter  
way.**

**NOT JUST SMART  
CONTROLLERS,  
THE SMARTEST  
CONTROLLERS**

Internet Based Central control;  
**iCentral™** combined with the  
Eagle-i controller provides...  
Patented Automated Intelligence  
that maximizes water savings  
no matter what the weather.

[www.rainmaster.com](http://www.rainmaster.com)  
(800) 777-1477



**RAIN MASTER**

Bringing Intelligence to the Smart Controller



Fill in 134 on reader service form or visit <http://oners.hotims.com/12050-134>