

Q: How does synthetic turf impact the environment?

Synthetic turf has a measurable, positive impact on the environment. Depending on the region of the country, a typical grass sports field requires between 500,000 to a million gallons of water or more each year. During 2010, between four to eight billion gallons of water were conserved through its use. According to the U.S. Environmental Protection Agency (EPA), the average American family of four uses 400 gallons of water a day. Therefore, a savings of four to eight billion gallons of water equates to the annual water usage of over 27,000 to 55,000 average American families of four.

Tax credits and rebates are being offered to residential and corporate users by an increasing number of local governments in light of the tremendous impact on water conservation. The Southern Nevada Water Authority estimates that every square foot of natural grass replaced saves 55 gallons of water per year. If an average lawn is 1,800 square feet, then Las Vegas homeowners with synthetic turf could save 99,000 gallons of water each year or about \$400 annually. In Atlanta, homeowners could save \$715 a year, not including much higher sewer charges.

The estimated amount of synthetic turf currently installed has eliminated the need for millions of pounds of harmful pesticides and fertilizers, which has significant health and environmental implications. For example, according to the North Carolina Department of Environment and Natural Resources, polluted storm water runoff is the number one cause of water pollution in their state, with common examples including over fertilizing lawns and excessive pesticide use.

In addition, synthetic turf helps reduce noxious emissions (the EPA reports that a push mower emits as much pollution in one hour as 11 cars and a riding mower emits as much as 34 cars) and reduces grass clippings, which the EPA states are the third largest component of municipal solid waste in landfills.

Q: Is synthetic turf safe?

More than 50 independent and credible studies from groups such as the U.S. Consumer Product Safety Commission, and statewide governmental agencies such as the New York State Department of Environmental Conservation, New York State Department of Health and the California Environmental Protection Agency, have validated the safety of synthetic turf (see [Position Statements](#) to learn more).

Recent highlights include:

- In October 2010, the California Office of Environmental Assessment completed its multi-year study of air quality above crumb rubber infilled synthetic turf, and bacteria in the turf, and reported that there were no public health concerns.
- In July 2010, the Connecticut Department of Public Health announced that a new study of the risks to children and adults playing on synthetic turf fields containing crumb rubber infill shows "no elevated health risks."
- The California EPA released a report dated July 2009 which indicated there is a negligible human health risk from inhaling the air above synthetic turf.
- Independent tests conducted by the New York State Department of Environmental Conservation and New York State Department of Health, released in May 2009, proved there

were no significant health concerns at synthetic turf fields.

- In July 2008, a U.S. Consumer Product Safety Commission staff report approved the use of synthetic turf by children and people of all ages.

Q: Should I be concerned about lead in my field?

Absolutely not. In April 2008, concerns about lead in synthetic turf arose when elevated levels were found in several New Jersey fields. At the time, the lead chromate that was used to promote colorfastness in synthetic turf was encapsulated to prevent it from being readily absorbed by the body or released into the environment. The issue was resolved, and the safety of synthetic turf was validated on July 30, 2008 when the U.S. Consumer Product Safety Commission staff released the results of its study of lead in synthetic turf, and concluded that "young children are not at risk from exposure to lead in these fields." Here is their full statement. In over 40 years there has never been an instance of human illness or environmental damage caused by synthetic turf.

Today, synthetic turf is made without lead as a pigment ingredient. This change in the pigment formulations was a voluntary and responsible response by the synthetic turf industry to the CPSC's request of all industries that lead be removed from all products, if possible.

Q: Is crumb rubber safe?

Yes. Crumb rubber infill, made from reclaimed tires, is a popular infill option for many synthetic turf fields. It has been safely utilized since being introduced in 1997, and in playgrounds and tracks for much longer. This resilient material provides enhanced durability and safety. Its use in synthetic turf sports fields and landscape has also kept more than 105 million used tires out of landfills. Crumb rubber has been critically examined and studied since the late 1980's. Science has proven it to be safe for children and people of all ages (see [Research and Latest Thinking](#) and [Crumb Rubber FAQs](#) to learn more).

Q: What impact does heat have on my synthetic turf field?

During the summer months on hot sunny days, when synthetic turf is exposed to direct sunlight, some synthetic turf fields have reported surface temperatures significantly hotter than the surface temperature of a natural turf field. In such conditions, many coaches will schedule practices and games for the cooler times of day, and limit the number and duration of practices. They will also follow, as STC advocates, the heat-acclimation guidelines published by the National Athletic Trainers' Association.

Some field managers might opt to water their fields, while others advocate misting the athletes and keeping them properly hydrated. A misting station normally needs only five gallons of water per hour based on full use. On a typical day, when the heat is at its peak for four to six hours, that equals 20 to 30 gallons of water.

Q: Are athletes playing on a synthetic turf more susceptible to MRSA/staph infections?

MRSA and other staph infections strike due to poor hygiene, regardless of type of playing surface. That's because it is spread by people in close contact with each other, like athletic team members, healthcare providers and patients, children in day care centers, military recruits, firefighters, and many other groups. Recent studies are in agreement. A California EPA report dated July 2009 stated "it is unlikely that the new generation of artificial turf is itself a source of MRSA."

A Penn State University study released in January 2009 found there was no difference in survival rates of staph on natural grass and synthetic turf surfaces. In addition, it stated that synthetic turf is not a hospitable environment for microbial activity such as staph. The issue goes beyond abrasions, since athletes can get cuts on any playing field – from the most well-manicured or dirt-compacted natural grass to state-of-the-art synthetic turf fields that are regularly irrigated and cleaned.

Q: How can I learn more about scientific studies on the health and environmental safety of synthetic turf?

See [Research and Latest Thinking](#) to view unfiltered U.S. and international studies, links to industry resources and new position statements as materials are developed.

PLAYER USAGE & INJURIES**Q: What impact does synthetic turf have on playing time?****Q: How does synthetic turf compare to natural grass on player injury rates?****COST, INSTALLATION, MAINTENANCE & DISPOSAL****Q: What are the advantages of contracting with an STC member company?****Q: How long can a synthetic turf field be used?**