

Artificial turf: Solution or problem?

By Gilbert Woolley/ Special To The Tab
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Astroturf, the original brand of artificial turf, was used for the first time in 1968 in the Houston Astrodome baseball stadium. Many indoor and some outdoor fields were covered in Astroturf, but the surface was well described by a critic as "carpet on concrete" and it fell out of favor.

In the early 21st century several brands of artificial turf have overcome some of limitations of Astroturf and other early products.

Construction varies in detail, but the newer products try to produce a playing surface that is close to that of natural turf. This is achieved by adding around an inch and a half of a resilient material, sometimes mixed with sand, around the synthetic "grass blades," which can be made of nylon, polyethylene or polypropylene (which in turn can be made from recycled plastic). The resilient material is, typically, ground up waste rubber from worn out tires, or in one case, the soles of athletic shoes.

It has been estimated that an average soccer or football field of artificial turf uses 45,000 recycled tires that might otherwise take up space in a landfill or an illegal waste site. About 250 million scrap tires are generated in the US every year. Today 80 percent are ground up and recycled: 30 percent mixed with asphalt for highways; 30 percent mixed with plastics for molded products which do not need to have a good appearance; and 15 percent are used for athletic surfaces, including artificial turf.

Artificial turf is low maintenance, and requires no herbicides, pesticides, or watering, and no need for reseeding. The most important advantage, with respect to the management of the field, is that it can be played on every day, winter and summer. It doesn't get bald patches and doesn't get muddy when it rains.

Disadvantages are that, in summer, artificial turf gets much hotter than natural turf, but this problem is not so critical in Massachusetts as some places. Also, dealing with animal droppings and human "body fluids" is more difficult. On natural turf, there is natural "treatment" from bacteria in the soil, but on artificial turf solids must be frequently removed and the surface sanitized. The "sanitizer" must be harmless to the skin of players.

The improved artificial turf has been widely accepted in the US but In Europe the response has been mixed. FIFA, the international organization governing soccer has approved Field Turf, one of the newer brands, for all games, except for World Cup tournaments. (The English governing body for soccer approves it for practice but not for league games while the Scottish Premier League banned artificial turf for competition matches in 2005.)

The trade association of natural turf providers claims that ground up tires are hazardous and supports this claim by pointing out that tires are banned from many landfills. But, in fact, the reasons tires are banned from landfills is that they are a

breeding ground for mosquitoes, create a risk for serious fires that are hard to extinguish, and that tires are unstable in landfills.

Of course, just because turf is "natural" does not mean it is environmentally harmless. Large amounts of fertilizer, herbicides and pesticides are sometimes used to keep a field in first class shape. Newton practices Integrated Pest Management, which reduces the use of these products significantly, but maintaining the fields may still require the use of materials that we would prefer to keep out of storm drains.

If gas or diesel powered machines are used for mowing, or to spread fertilizer, that has environmental impact, as does the use of large quantities of water, usually drinking quality, to keep the grass healthy.

It is most likely that, at end of life, the artificial turf may be too heavily soiled to be economically recycled and will need to be disposed of in a landfill. This is where the bulk of the material, the rubber, would have gone if not used for turf. But it is now in a form much preferred by landfills to intact tires. The rubber will not be broken down by microorganisms in the landfill or dissolved by water and will be there almost "forever", like most of the inorganic materials that go into landfills today.

The existing playing field at Newton South High School, where there is interest in using artificial turf, is large and not perfectly level.

It has bare spots, especially around the basketball court. It does become muddy in wet weather. It is liberally covered with goose droppings. The geese use the area for feeding. They dig in their beaks to extract worms and grubs. If the grass were replaced by artificial turf, the geese would soon learn that there was nothing to eat in the area.

This writer's opinion is that there are no heavy "environmental" issues involved, and that the decision to use, or not use, artificial turf should be based on cost over (say) a ten-year period. Suppliers claim a much longer life. It may be economical to use artificial turf only in areas of heavy use like the basketball diamond.

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