

Why Artificial Grass Is Bad for the Earth



Artificial turf is bad for people, for animals and for the earth.

Rossmoor was smart in limiting the use of artificial turf to our dog park. The plan was well researched; it has complete shade, was properly installed and is cleaned regularly with appropriate compounds. And users get their paws washed after a visit. Unfortunately, many Californians now regret their uninformed decisions to replace real lawn with fake — assuming it would save water as well as maintenance time and money.

Members of the Rossmoor Water Conservation Committee were encouraged to testify when EBMUD voted last month on whether to offer a rebate for users who replaced real grass with fake grass. So we did some research and learned a lot from experts there.

Why is Artificial Grass Harmful?

Artificial turf retains heat. Temperatures reach nearly 200 degrees F both above and below it [“Synthetic Surface Heat Studies” Brigham Young University, 2002]. Typically, pets and barefoot children cannot tolerate walking on it on warm, let alone hot days. It creates a “heat island” effect, which holds in heat during the day and releases it at night – not what we need during a drought.

Underneath, it kills healthy soil bacteria, worms and root systems. It must be watered regularly to keep it cool — water that can be better used to maintain any of several types of drought-resistant sod (if a playing surface is needed) or lush drought-resistant planting. It also requires water to wash it, and is far from maintenance-free. Herbicides (like Roundup) and fungicides are included in the washing — both are bad for the water table below. Real lawn or plants absorb carbon dioxide from the air and release oxygen. Artificial turf doesn’t, and sadly it diminishes the incentive to learn healthy drought-sensitive planting, mulching and irrigating.

Another serious drawback is its expense; current prices range from \$8 to \$15 per square foot. It can easily cost \$5,000 to cover a small yard and over \$100,000 for an athletic field. The cost includes preparing the ground and using specific layers of padding underneath to help drainage. The older forms of artificial turf were made of various synthetic ingredients, including crumbled old tires. These

are considered more toxic for reasons I'll include below, but they are still on the market, and are typically sold more cheaply – attracting cost-conscious buyers.

It's Toxic Too

The toxins in artificial turf threaten our health via contact, consumption (via water), and inhalation. All these routes expose humans and other living things to acetone, arsenic, benzene, chromium, halogenated flame retardants, lead, mercury, dioxin, carbon black, styrene and Butadiene. These chemicals have been proven to cause cancer and other diseases. As the turf degrades over time, larger quantities of chemicals are released.

When worn-out synthetic turf is replaced, the old pieces will likely end up in landfills, and that can lead to toxic water runoff. Plants and organisms that absorb contaminated water often increase its concentration – a special concern if eaten by humans or other animals. The EPA strictly regulates the disposal of rubber tires; however, there is no regulation of the disposal of artificial turf containing crumbled tires. The newer, more expensive forms of turf have replaced the bits of tires with materials that are untested.

The turf is a reservoir for not only fungus and bacteria, but also contaminated organic matter. It lacks the normal biocycles in nature that reduce the hazards of this exposure. Serious skin abrasions and infections (including MRSA — antibiotic resistant “super bugs”) are among the reasons the women’s soccer league recently took legal action to avoid playing on it.[NIH 2011, CDC 2013].

As the turf becomes warmer, the amount of its “off-gassing” increases; this is code for toxic fumes. There are measurable short term ill effects from this; long-term side effects have not been studied — often a concern to neighbors. The industry knows about the risk of high heat – that’s why their turf is impregnated with flame retardants. The effects of drinking, eating (via plants raised with toxic water) and regularly inhaling this flame retardant have not been studied.

The seven EMBUD directors found it easy to “just say NO” (their words) to the proposed rebate for artificial turf. However, the use of artificial turf is increasing. Many cities and counties are considering lifting previous bans on its use. Governor Jerry Brown, who was previously opposed, has recently said that he’d “now consider it due to the drought.” We need to contact these elected officials. A list of their emails and phone numbers is available on request.

This article originally appeared in the *Rossmoor News*, August 02, 2015. Authored by Carol Weed, M.D.



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