

Artificial, what?

It seems everywhere I go lately, I hear and read raving reports about artificial turf. It is in all the latest gardening magazines and professional newsletters: encouraging people, homeowners and landscapers alike to use it in all outdoor settings in place of real lawns in order to save the Planet and boost business. It is the hype, the cool, the latest green. So I could not help myself, but set out to discover what on Earth is artificial turf? The following is what I concluded after talking to supporters and critics alike and doing my own research.

What is artificial turf anyway? It is green colored. It can widely vary in price and of course quality. Its main purpose is to make one feel like they are looking at, walking on, resting in: grass, even though one isn't. It is in short: fake lawn.

Most of us grew up seeing the old fashioned versions on mini golf courses, some high-end soccer fields, decks and patios and rolled out around the camper on long summer nights. It was used as an easy-to-clean-and-store surface to soften concrete. Artificial turf came a long way! I must say, what I discovered, blew me away. Today's possibilities include really thick custom-fabricated materials complete with perfect grass-green artificial grass blades. These are guaranteed not to shrink or stretch, fade or disintegrate even if pets use it as their bathroom, or the sun is beating down on it every day for years. When installed, very fine sand can be swept into the surface ensuring that the site will feel just like real grass for all who walk on it barefoot. These lawns will never need mowing, watering, fertilizing ... they are absolutely low maintenance (remember, nothing is maintenance-free, not even plastic) and care-free products.

Supporters are listing all the benefits of this new solution. They claim this is the best invention next to computers (think of all the trees we saved with email) and it will save our environment. It is advertised as the greenest green, the new lawn choice for all people who are serious about Low Impact Development (LID).

Why? Because it wastes no water, in fact needs none. Because it requires zero chemicals to stay lush green and adds no emission into the environment by needing zero fertilization and no mowing...ever. And because most of the artificial turf brands are made of, at least partially, using recycled rubber or plastic.

Critiques say the greatest problems with this product are precisely these same things. It is that artificial turf is just green impervious surface. It adds to dangerous run-off even more than traditional real lawn which simply sheet-flows water in heavy rains. It is made of rubber and plastic which are leaching into the soils below for decades (no one knows how long, decades or centuries exactly) and most of these leached compounds are carcinogenic. The surface does not mitigate temperatures, and provides no habitat for anything. Production of the material does produce pollution and once it is removed and discarded, it will have to go to the dump, so eventually, it will add to the landfill problems.

What do I think? After much deliberation, I decided to support the critics. I do not recommend artificial turf for any outdoor application and also until products approved by the American Lung Association for indoor air quality (also certified non-carcinogenic) come out, not even for the indoors. This is why:

- Installation: In order to properly install this surface, one has to remove the existing vegetation and it is recommended by all manufacturers that the area is sprayed with a broad range weed killer to ensure nothing will grow back...next is to excavate to a depth of at least 4 inches, bring in crushed rock and compact it with a mechanical plate-compacter until it is as solid as concrete.

As the area is ready, the artificial turf can be unrolled with care to line all grass blades in the same direction. Seams can be finished with outdoor carpet-tape; the edges are secured with 8" long carpet staples. Infill will weight down the entire surface and provide life-like effects so the surface will feel just like real grass. The infill can be fine play sand or crumb rubber (finely ground petroleum based rubber), but in any case it has to be applied at the rate of one pound per square foot.

So, in the end, the properly installed surface is just as impervious as traditional concrete.

- Clearly, the surface is not allowing for water and air to get into the soil. This means that roots in the area, any soil microorganism or larger critters, worms and such will have no water, no food dissolved in water and air available to them. The soil below this material will become a dead-zone. This is a growing problem. We have larger and larger 'dead-zone' soil areas in the World the same way our oceans have **dead-zones** now. The consequences are so complex, we do not even know for sure what this means for humanity in the long run.
- As one lays down in this turf, ultimately one lays on ground up tires and other plastic products that are questionable quality when it comes to human health. I would not call that a relaxing afternoon, rather a **toxic nightmare**.
- Artificial turf has negative effects on water table levels. Because the area is impervious and no water can penetrate it, the **water cannot be recharged** into the soil below. In turn, the water levels in our aquifers drop and the available drinking water is less. **The natural water cycle is interrupted**. On the long run this alters the weather because less moisture in the soil means less humidity in the air, less rain and ultimately, it leads to changes in the weather patterns. Yes, it is small scale when the turf is used in individual backyards, but if many sites have it, the effects not only add up, but multiply. Our ecosystem is on the verge of collapse as it is. **Every little bit counts**. Every square foot we manage well, helps and every square foot that is destroyed increases the problems exponentially.
- Rolls of fake lawn made of plastic and petroleum-based rubber do not break down into soil building and soil organism feeding particles. In fact it will break down only over a very-very long time even in the landfill, where it will end up some day.
- The only critters who will find some food unfortunately will be some small birds, which do eat the crumb rubber **mistaking it for tiny seeds**. They can get very sick, even die as a result.
- Real lawns help to mitigate the outdoor and therefore the indoor temperatures. In the summer, the green and even the brown, dormant grass lowers the temperature on any given day, artificial turf

however will have the same effect on temperatures as colored concrete, or worse, since the rubber base heats up, then **holds and radiates back the heat for a long time**.

- This material may not need fertilizer, but it is made of chemicals that leach into the surrounding environment and are **carcinogenic**.
- **Artificial turf is the latest ‘green wash’ of LID.** Low Impact Development is about increasing the quality of life for humans and their environment. We use LID to mitigate and reduce run-off and ultimately lower pollution, recharge the aquifers, limit negative impacts and fluctuations within our natural water bodies, preserve available drinking and potable water, and restore or retain wildlife habitats. Artificial turf achieves the exact opposite of these goals.

In the end, I cannot endorse this product. Low maintenance and water usage should not be the end of a conversation about Low Impact Development. If that is the only thing that matters and artificial is the answer, what is the point of living? Do we really want grass-like green in the backyard and real-like, real-tasting foods on our plates? Our bodies and our environment, our very planet, are living systems. We have to use natural, real ways and real materials to preserve what we so love about it - it is not life-like, it is REAL.

In the Pacific Northwest lawns are not only difficult to grow and maintain, but they are usually a source of serious pollution because of what they require to look good and green all year. Artificial turf however is even worse than lawns when we measure the impact on the environment and our own health. Maybe, and I know, this is a tough one for many gardeners, the answer is no lawns at all. Maybe it is time we looked at other solutions, changed our attitude toward the backyard and got creative in solving this problem - for REAL.

Author is Zsofia Pasztor, a Certified Professional Horticulturist and Arborist, Tree Risk Assessor, Independent Consultant, Landscape Designer, Installation and Management Specialist and can be reached at 425-210-5541.