

# ENVIRONMENTAL BENEFITS OF TURFGRASS

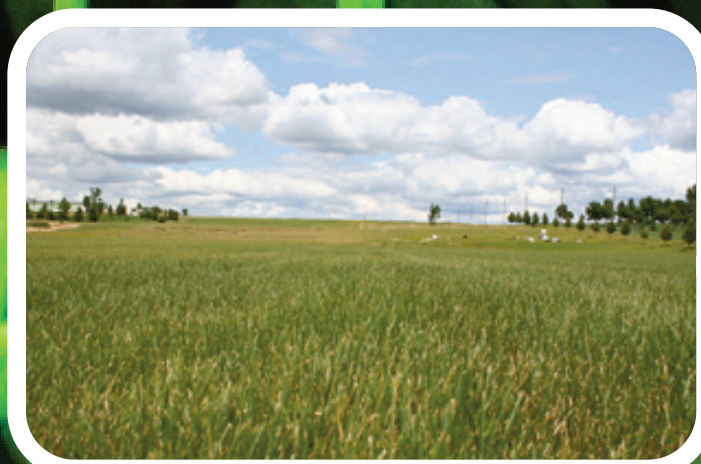


## TURFGRASS REDUCES RUNOFF

Turfgrasses slow down the speed and reduce the force of flowing water, allowing more of it to be absorbed in the soil to the benefit of groundwater reserves. Also, any sediment that has also been picked up by the water is invariably trapped within the stand of turfgrass. This prevents many of the pollutants and other chemicals that rainwater gathers from ending up back in our water system; instead they go in the soil where they can be broken down safely.

## TURFGRASS PREVENTS EROSION

The fibrous root system that turfgrass forms binds the soil together preventing it from being carried off by rains and wind. The blades of grass or canopy, also slow down rainwater dramatically reducing the amount of soil being carried off by the force of the water. With soil erosion becoming an increasing problem, turfgrasses can play a vital role in reducing losses of high quality topsoils.

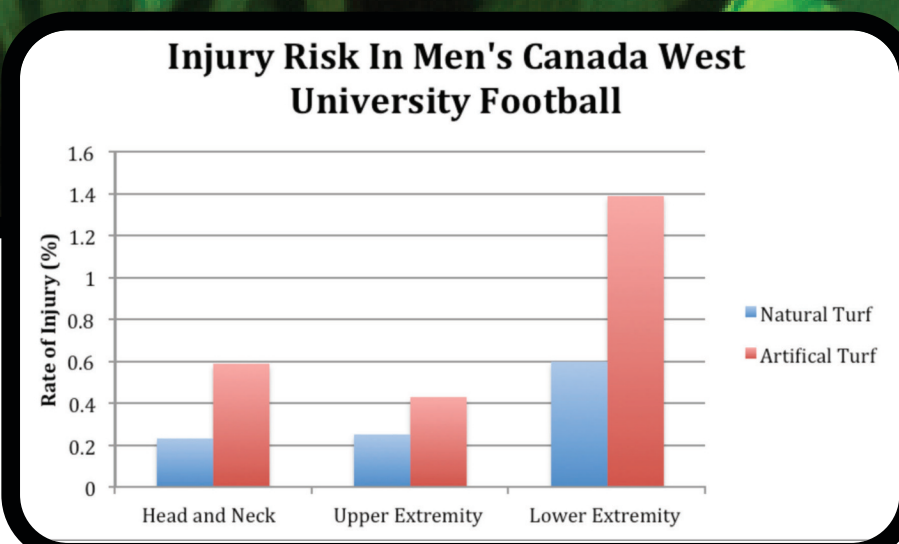


## TURFGRASS REPLENISHES AIR

Plants take up carbon dioxide and release oxygen into the atmosphere (air) and grass is no exception. The amount of oxygen that a 15 x 15m lawn produces can support 4 people for the entire year. The average 18 hole golf course has been studied and is known to produce enough oxygen for 10,000 people! Well managed turfgrass also helps reduce pollen production by preventing the growth of weedy species which produce significant amounts of airborne pollen. Dust and other airborne allergens are also prone to getting trapped within stands of turfgrass.

## TURFGRASS PROMOTES SAFETY

Healthy turfgrass serves as a barrier to fire damage and is capable of preventing large fires from spreading out of control. Well maintained lawns also deter insect pests from invading and creating their habitat and rodent pests are typically deterred from crossing large areas of turf. Turfgrass is also a soft surface for recreational purposes. It is important for a variety of sports as statistics indicate injuries are reduced when compared with artificial surfaces. Natural turf also offers a safe, resilient surface for children, many of which are prone to injuring themselves while playing.



## TURFGRASS REGULATES TEMPERATURE

The process of transpiration has a cooling effect that lowers the temperature of the air around the turfgrass plant. With the high density of the plants transpiring within a stand of turfgrass, the need for air conditioning can be significantly reduced, conserving energy for other uses. Studies have shown that the amount of heat given off by bare land or poorly maintained turf is substantially more than that of healthy, well maintained stands of turfgrass.

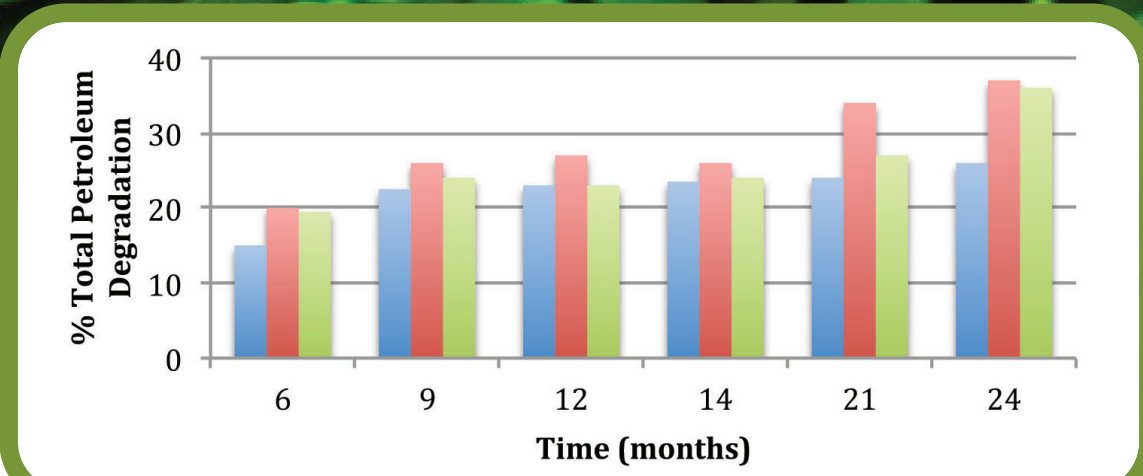


## TURFGRASS SEQUESTERS CARBON

Stands of healthy turfgrass play an important role in carbon sequestration, or removal of carbon from the atmosphere. During photosynthesis, carbon dioxide is converted into plant biomass allowing for long-term storage of carbon below ground within roots. Where grassland systems differ from other ecosystems is that the ratio below-ground biomass to above-ground biomass is relatively large. Since turfgrass is an undisturbed and highly productive system, it has the ability to sequester a large amount of carbon with studies showing that a hectare of golf course turf is capable of sequestering 1 tonne of carbon into the soil per year for 30 years. As this sequestration occurs primarily in the soil it is a more stable form of carbon storage than with above-ground plant biomass.

## TURFGRASS SUPPORTS BIOREMEDIATION

Pollutants, such as hydrocarbons and heavy metals, often end up in our soil and are detrimental to the health of people, plants and animals. These substances can be broken down by bacteria, fungi and other microorganisms within the soil. Healthy stands of turfgrass possess an extensively fibrous root system, providing both a habitat and energy source for these populations and allowing them to be much more productive than they would in the absence of turfgrass.



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# CTRF

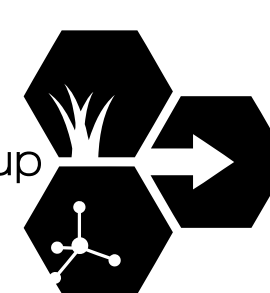
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