



Healthy Turfgrass Protects Virginia's Waters

Pollutants carried in water and on sediments threaten Virginia's waterways. University research confirms that a healthy, vigorous stand of turfgrass is second only to a forest soil in retaining nutrients like nitrogen and phosphorus as well as other environmental pollutants. Research also shows that judicious applications of fertilizer actually help turfgrass to do a better job of filtering pollutants than lawns that are not fertilized.

Nutrient management is a practice that entails the optimized application of fertilizers to support healthy plant growth while also protecting water quality. **When fertilizers or other nutrient sources are applied to the land properly, there is a reduced risk for pollution of surface and ground waters.** ¹

The value of healthy turfgrass is vividly demonstrated in this photo taken by Dr. Mike Goatley of Virginia Tech

Major Points

- Healthy turfgrass protects water
- Healthy turfgrass prevents sediment, nitrogen, and phosphorus from entering Virginia's waters
- Plants absorb, filter, and release water and oxygen back into the atmosphere.
- Turfgrass softens the urban landscape, allowing water to soak into the soil where it recharges aquifers.
- Turfgrass converts carbon dioxide to oxygen and one yard manufactures oxygen for a family of four.
- Turfgrass reduces radiant heat in cities

Turf cover is now equivalent to the area devoted to row crops (corn, soybeans, wheat) in the Chesapeake Bay watershed.²

The Chesapeake Bay Program recommends maintaining a dense vegetative cover of turf grass to reduce runoff, prevent erosion, and retain nutrients. The research demonstrates that dense vegetative cover helps to reduce surface runoff which can be responsible for significant nutrient export from the lawn, regardless of whether it is fertilized or not. Dense cover has been shown to reduce surface runoff volumes in a wide range of geographic settings and soil conditions.²

If a lawn does not have a dense cover, it has an elevated risk for nutrient export, especially if soils are compacted or slopes are steep. In these situations, the primary nutrient management practice is to identify the factors responsible for the poor turf cover, and implement practices to improve it (e.g., tilling, soil amendments, fertilization or conservation landscaping).²

¹ Commonwealth of Virginia, Chesapeake Bay TMDL Phase III Watershed Implementation Plan

² Recommendations of the Expert Panel to Define Removal Rates for Urban Nutrient Management, CBP Approved Final Report, 2013.

Turf and Landscape Industries Contribute Billions to Virginia's Economy



The photo at left from Dr. Tom Turner of the University of Maryland demonstrates the need for proper nutrition. The plot on the left received phosphorus fertilization in accordance with soil test reports. The plot on the right received no phosphorus.