

Session D1: Use of Compost and Microclover to Reduce Runoff and Lawn Fertilizer Use

by Mark Carroll

Background on Chesapeake Watershed

- the urban/suburban pollution source sector is the only pollution sector that is still increasing within the bay's watershed
- 9.4% of the the land area within the watershed is turfgrass
- in Montgomery County, 40% of the land area is turfgrass

Residential Developments

- new residential development lots are compacted and infertile and developers do not improve the soil
- new homes use all lawn for planting the property - changes to the way we plant should start here
- we need new practices to reduce runoff and fertilizer use to limit the Nitrogen and Phosphorus that end up in the bay

Research Study - a study was conducted at the site of new home development in Preserve in Clarksville, Maryland

- Site number 1, the control site, had nothing done to it beyond the turfgrass lawn planted by the builder (no soil improvements, lawn consisting entirely of tall fescue)
- Site number 2 - composted microclover site
 - the soil was improved by adding organic matter in the form of 2 inches of Leafgro
 - the lawn was planted with nitrogen fixing legumes (white microclover and red microclover) mixed with tall fescue
 - some research is also being conducted on sites located at the University of Maryland and Penn State University

Microclover properties

- these plants were propagated from natural selection plants found in northern Europe
- the microclovers are short and are hidden beneath the canopy of the grass
- some Nitrogen bleeds over the turgrass to further lesson the need for added fertilizer
- the microclovers work well with tall fescue, but do not work well with all turfgrass species
- to maintain the "lawn" appearance, microclover must be mowed

Results of the Research Studies

- in the Clarksville study (real world), Site number 2 (the composted microclover site) exhibited less runoff after two years
- in Site 2 the reduction in runoff was most effective when a heavy rain occurred following dry conditions
- in the university studies (controlled research environment) the same results were observed and the composted microclover lawn was twice as thick as the lawn that was only tall fescue