

Slope Stabilization Compost Blankets & Storm Water Blankets

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Design Manual Covers 20 Low Impact Tools for Design



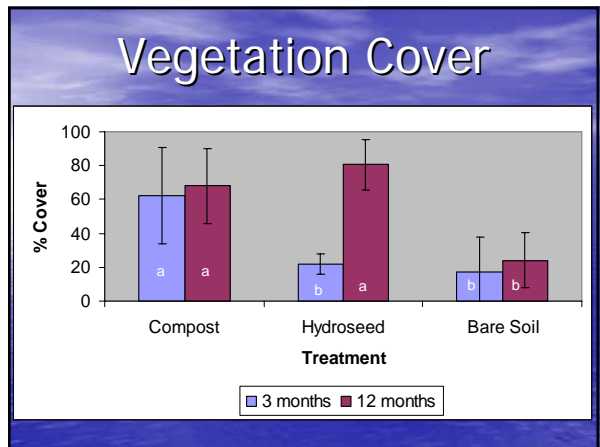
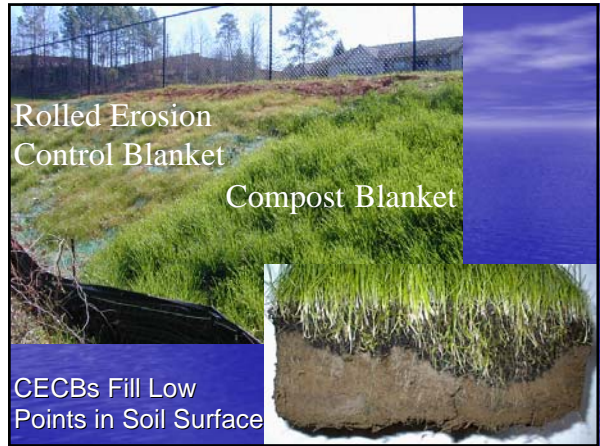
- Compost Blankets
- Silt Soxx
- Green Walls
- Green Roofs
- Bioretention
- Streambanks
- Steep slopes

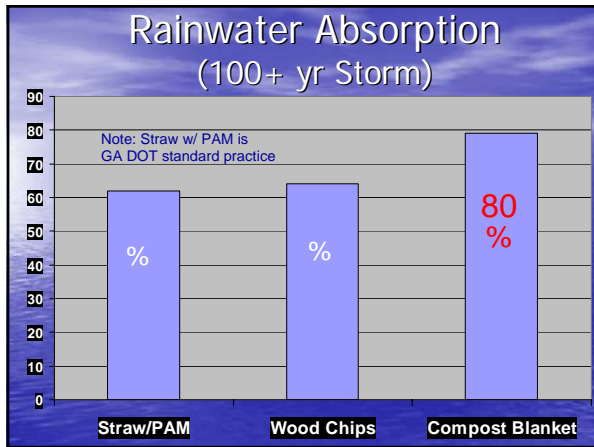
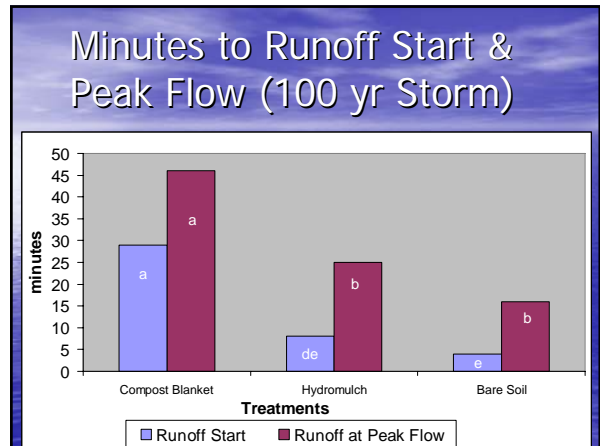
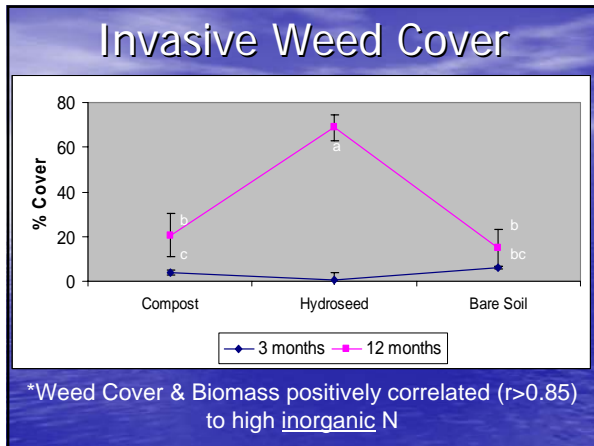
EC/Slope Stabilization? OR Compost Storm Water Blanket?



Designed to: 1) dissipate energy of rain impact; 2) hold, infiltrate & evaporate water; 3) slow down/disperse energy of sheet flow; 4) provide for optimum vegetation growth







Summary: Storm Runoff 100 yr Storm!

1. Some compost blankets produced NO runoff
2. No runoff = no pollutant transport to waterways
3. More time to start of runoff = no runoff for small & medium storm events

Design Criteria for Compost Blankets

- C Factor (Universal Soil Loss Equation - USLE)
- Runoff Coefficient (Rational Formula)
- Runoff Curve Numbers
- Pollutant Load Reduction

C Factors

Erosion Control	C Factor	Influencing Factors	Reference
Straw Mulch	0.08-0.19	10-50% slope; 1.6"/25 hr - 4"/1 hr rain; clay loam - silty sand	Demars and Long, 1998; Faucette et al, 2006
Single net erosion control blanket	0.15	33% slope	ECTC, 2004
Double net erosion control blanket	0.20	50% slope	ECTC, 2004
Wood Mulch	0.08-0.16	10-50% slope; 1.6"/25 hr - 3.2"/1 hr rain; clay loam - silty sand	Demars and Long, 1998; Faucette et al, 2004
Wood Chips	0.02-0.08		GSWCC, 2000
Compost Blanket	0.000-0.005	10-50% slope; 1.6"/25 hr - 4"/1 hr rain; clay loam - silty sand	Demars et al, 2007; Demars and Long, 1998; Demars et al, 2004; Demars et al, 2006; Demars et al, 2007
Forest floor	0.001		GA SWCC, 2000

Runoff Coefficients

Watershed Surface	Coefficient
Asphalt, concrete, rooftop, downtown area	0.95
Neighborhood, apartment homes	0.7
Single family home site	0.5
Bare graded soil – clay, silt, sand	0.6, 0.5, 0.3
Lawn, pasture	0.1 – 0.35
Undisturbed forest	0.15
Compost blanket	0.1 – 0.32 (9,28)

Reference: GA Storm Water Management Manual, 2001

Runoff Curve Numbers

Watershed Surface	Curve Number*
Parking lot, driveway, roof	98
Commercial district	92
Dirt road	82
Residential lot: ¼ ac, ½ ac, 1 ac	75, 70, 68
Cropland	71-81
Pasture	61-79
Public green space	61-69
Woodland and forests	55-66
Brush >75% cover	48
Vegetated Compost blanket	50

*Based Hydrologic Soil Group B

Reference: USDA SCS, 1986

Pollutant Load Reduction Relative to -

	Total N	Nitrate N	Total P	Soluble P	Total solids
Fertilizer/seed ¹	88%	45%	87%	87%	99%
Hydromulch ²	58%	98%	83%	83%	99%
Straw mulch/seed ³	92%	ND	ND	97%	94%
Topsoil/seed ⁴	99%	ND	99%	99%	96%

¹ Mukhtar et al, 2004; ² Faucette et al, 2005; ³ Faucette et al, 2006; ⁴ Persyn et al 2004

Retrofits? Curbside? How much capacity to add?

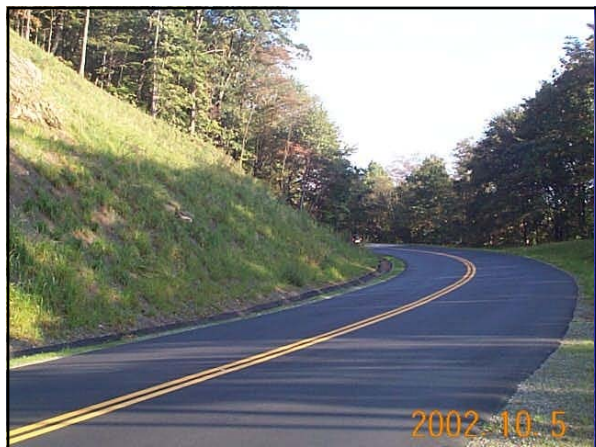
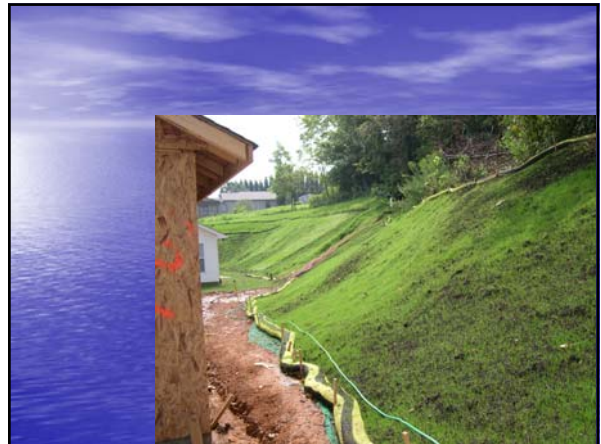


Other tools for blankets...

Filtrex LockDown™ Netting

- Advantages:
 - Adds shear strength to slippery slopes
 - Locks into slope with roots from compost blanket
 - Replaces similar products from \$3-10/c.y.





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