



Modified from CASQA Stormwater Best Management Practices - Construction
Mulching is a temporary erosion control method in which materials such as grass, hay, wood chips, wood fibers, straw, or gravel are placed on exposed or recently planted soil surfaces. The primary function of mulching is to reduce erosion by protecting bare soils from rainfall, increasing infiltration, and reducing runoff. Mulching can also be used in conjunction with temporary or permanent seeding to enhance plant establishment. When used in combination with seeding or planting, mulching can aid plant growth by holding seeds, fertilizers, and topsoil in place, preventing birds from eating seeds, retaining moisture, and insulating plants roots from extreme temperatures.

Usage

Mulching is often used in areas where temporary seeding cannot be used due to season or climate. It can also be used in areas where slopes are steeper than 2:1, where runoff is flowing across an area, and where seedlings need protection from severe weather

Benefits

- provides immediate protection to soils and effective erosion control
- reduces the speed of stormwater runoff
- requires no removal because of natural deterioration
- adds monetary and aesthetic value to a real estate site
- costs substantially less than other erosion control methods

Limitations

- must be reapplied in order to maintain effective soil stabilization
- prone to washing away and erosion in large storm events
- unsuitable for areas exposed to concentrated flows
- may delay germination of some seeds since material reduces the soil surface temperature
- mulch must remain in direct contact with soil surface to prevent erosion from water flowing under the mulch material
- netting or binding material should be used for optimal efficacy; however, nonbiodegradable netting must be removed from site

Estimated Cost

\$4,000/ac/yr (wood)

\$2,500/ac/yr (straw)

(covers installation and maintenance, assuming a 3-4 mo lifespan)

Alternatives

- Geotextiles (p. 2-6)
- Hydroseeding (p. 2-8)
- Seeding (p. 2-14)
- Sodding (p. 2-18)

Notes:

Material	Rate per Acre	Requirements	Notes
Organic Mulches			
Straw	1 - 2 tons	Dry, unchopped, unweathered; avoid weeds	Spread by hand or machine; must be tacked or tied down
Wood fiber or wood cellulose	0.5 - 1 ton		Use with hydroseeder; may be used to tack straw. Do not use in hot, dry weather
Wood chips	5 - 6 tons	Air dry. Add fertilizer N, 12 lb/ton	Apply with blower, chip handler, or by hand. Not for fine turf areas
Bark	35 yd ³	Air dry, shredded or hammermilled, or chips	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack
Nets and Mats			
Jute net	Cover area	Heavy, uniform, woven of single jute yarn. Used with organic mulch	Withstands water flow
Excelsior (wood fiber) mat	Cover area		
Fiberglass roving	0.5 - 1 ton	Continuous fibers of drawn glass bound together with a non-toxic agent	Apply with compressed air ejector. Tack with emulsified asphalt at a rate of 25 - 35 gal/1,000 ft ²

Typical Mulching Materials and Application Rates Table, courtesy of USEPA, 2004

Vendors

See Appendix pages F10-F11

References

Begin, Lisa. Stormwater Authority, LLC. 2005. Best Management Practices for Stormwater Control.

California Stormwater Quality Association (CASQA). 2003. California stormwater best management practices handbook for construction.

Pitt, Robert. 2004. Module 1: Introduction to Erosion and Sediment Control, Problems and Regulations.

USEPA. 1993. Stormwater Management and Technology. Noyes Data Corporation. Park Ridge, New Jersey.

USEPA. 2004. Development Document for Final Action for Effluent Guidelines and Standards for the Construction and Development Category. USEPA, Washington, D.C.

Installation Tips

- unnecessary to perform a final grading before mulching
- choose an appropriate mulching material based upon site conditions and application use
- vary the application depth (2-3 in) depending on the type of material; distribute mulch evenly across desired area
- may or may not require binding, netting, or tacking of mulch to the ground (netting and tacking will provide continuous contact between the mulch and the exposed soil, preventing water from flowing under the mulching material)
- avoid placing the material on roads, sidewalks, drainage channels, or existing vegetation
- detailed installation tips can be found in the ODNR Rainwater and Land Development manual

Maintenance

- inspect mulching areas often to locate areas of loosened or washed out mulching material
- necessary to reapply and reseed said areas to prevent erosion and sediment movement
- continue inspections until vegetation is firmly established
- maintain the mulch so that it will last long enough to achieve the desired erosion control as established in the project objectives