



Abstract

Water Retention and Evaporative Properties of Landscape Mulches

David A. Shaw¹, Dennis R. Pittenger², and Mark McMaster³. 2005. Proc. 26th Annual Irrigation Show, Phoenix, AZ, Nov. 6-8, 2005, pp.134-144. Irrigation Association, Falls Church, VA.

Mulches can benefit landscapes by reducing soil evaporation, cooling soil, and suppressing weeds. However, some mulch materials may absorb and evaporate enough water to offset their conserving properties. A replicated field trial with 12 different mulch treatments applied to 25-sq.-ft. plots was established near San Diego, Calif. After overhead sprinkler irrigation, samples were weighed daily to determine absorption and evaporation rates. Water holding capacity ranged from near zero for the control, rock, and fabric mulches to 0.3 in./in. for fine-textured organic mulches. Evaporation rates from soil and mulch treatments were as much as 100% ET_o following irrigation. Water loss was not significantly different between bare soil, fabric mulch, and fine-textured organic mulch for five days following irrigation. Three-inch bark and rock treatments evaporated less water. These findings indicate that less frequent overhead irrigation (or use of drip irrigation) is necessary to take advantage of the water conserving properties of mulches.

¹Farm Advisor, University of California Cooperative Extension, San Diego County.

²Area Environmental Horticulture Advisor, University of California Cooperative Extension, Central Coast & So. Region/Los Angeles County/U.C. Riverside.

³McMaster and Jackson, Inc., El Cajon, Calif.

