Manure - Conversion From Wet to Dry
For Use With RUSLE2
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RUSLE2 requires that inputs for the amount of manure added to a field be input as mass/ac dry weight. A method to convert the fresh or wet weights of four types of manure to dry weight is shown below. Laboratory data should be used in lieu of these conversion methods where available. Liquid, slurry, semi-solid, and poultry manure types are not as affective in retarding the erosion process as solid manures. RUSLE 2 users should enter only **half** of the dry weight computed for these manure types. Use 100 % of dry weight calculated for solid manure and solid manure plus bedding.

Waste Consistency	Units Applied	Equation	% SOLIDS
Liquid	(gal/ac)	(A)	2
Slurry	(gal/ac)	(A)	7
Semi-solid	(lbs/ac)	(B)	15
Solid	(lbs/ac)	(B)	25

Equations to Convert to Pounds Dry Matter

(A) For liquids and slurries
(gallons of liquid or slurry applied/ac) X (8.34 lbs/gal) (% solids as a decimal) = lbs dry matter

sample calculations:
(10,000 gal liquid/ac) X (8.34 lbs/gal) X (0.02) = 1668 lbs/ac dry matter X .5 = 834 lbs/ac
(10,000 gal slurry/ac) X (8.34 lbs/gal) X (0.07) = 5838 lbs/ac dry matter X .5 = 2919 lbs/ac

(B) For semi-solids and solids
(lbs solid or semi-solid applied/ac) X (% solids or semi-solids as a decimal) = lbs dry matter

sample calculations:
(8000 lbs semi-solid/ac) X (0.15) = 1200 lbs/ac dry matter X .5 = 600 lbs/ac
(8000 lbs solid/ac) X (0.25) = 2000 lbs/ac dry matter

Recommendations for Types of Manure in RUSLE2 Database:
"Manure, poultry litter" (includes municipal sewage): use Equation A, 2% solids
"Manure, settling basin" (beef, swine, dairy lagoon wastes): Use Equation A, 7% solids
"Manure, open lots" (beef, swine, dairy manure from open lots and buildings): Use Equation B, 15% solids
"Manure, with bedding" (includes straw and shredded newspaper): Use Equation B, 25% solids