

Know How Much You Haul !



To use manure as a quality, dependable fertilizer, you must accurately determine your spreading rate and calculate your manure nutrient credits. This whole process can take less than a hour! All you need to get started is this sheet, a calculator and portable axle scales. Contact your land conservation department, county extension agent or the Nutrient and Pest Management Program (*see other side for NPM contact information*) for assistance with scales.

STEP 1. DETERMINE LOAD WEIGHT



TOOLS NEEDED: CALCULATOR, PORTABLE AXLE SCALES

Using a typical load size, the tractor with spreader is weighed empty and full, axle by axle.

What is typical? If you normally haul one load every day at about the same time, weigh a load with 24 hours worth of manure. Or if you normally wait until the spreader is filled to capacity, weigh the spreader filled.

STEP 2. DETERMINE SPREADING RATE



TOOLS NEEDED: CALCULATOR AND FIELD RECORDS OR MEASURING WHEEL*

You can now calculate your tons per acre spreading rate using field records on how many loads you put on a particular field of known acreage (*see equations on other side*). This rate can be considered the "standard" for the farm. Make sure you use typical ground speed, PTO speed and spreader settings.

To develop variable rates (such as high, medium and low) experiment with different speeds and spreader settings. These rates could be useful when dealing with fields that have special fertilizer, tillage or environmental considerations.

*You can get an estimate of a per acre rate right away by using a measuring wheel on the area just spread. Use caution with this method since it does not take into account overlap or load tapering.

STEP 3. DETERMINE MANURE NUTRIENT CREDITS



TOOLS NEEDED: CALCULATOR

Using University of WI guidelines (*table on other side*) you can estimate the available nutrient content per ton of the manure you are spreading. You can also have your manure analyzed for its specific nutrient content. From either of those numbers, you can figure your manure nutrient credits per acre. (If you develop variable rates, use additional sheets to determine their manure nutrient credits.) **Now you have the information you need to accurately use manure as a fertilizer!**

It's a good idea to repeat this process for any different types of spreaders or manure you routinely apply on your farm. For more copies of this publication or information on developing a nutrient management plan for your farm, contact your land conservation department, county extension agent or the NPM program.

STEP 1. DETERMINE LOAD WEIGHT

FULL

	Left wheel	Right wheel	
Rear tractor axle	<input type="text"/>	<input type="text"/>	
Front spreader axle	<input type="text"/>	<input type="text"/>	
Rear spreader axle	<input type="text"/>	<input type="text"/>	full total lb
	<input type="text"/>	+	<input type="text"/> = <input type="text"/>

EMPTY

Rear tractor axle	<input type="text"/>	<input type="text"/>	
Front spreader axle	<input type="text"/>	<input type="text"/>	
Rear spreader axle	<input type="text"/>	<input type="text"/>	empty total lb
	<input type="text"/>	+	<input type="text"/> = <input type="text"/>

full total - empty total ÷ 2000 = tons manure/load

STEP 2. DETERMINE SPREADING RATE

Method 1: Using field records, enter the number of loads applied on a known acreage.

of loads # of acres loads /acre tons manure/load tons / acre

÷ = x =

Method 2: Estimation only. Using a measuring wheel, measure the area covered by a single load.

tons manure/load ft wide ft length tons / acre estimate

x 43,560 ft²/acre ÷ [x] =

STEP 3. DETERMINE MANURE NUTRIENT CREDITS

Enter the available nutrient content of manure

	lb/ton	tons / acre	lb/acre
N	<input type="text"/>	x	<input type="text"/> = <input type="text"/>
P₂O₅	<input type="text"/>	x	<input type="text"/> = <input type="text"/>
K₂O	<input type="text"/>	x	<input type="text"/> = <input type="text"/>

Multiply the nutrient content by the spreading rate to get the pounds per acre of each nutrient.

Estimated Available Manure Nutrient Content for crop use in the first year after spreading solid manure.

(Manure nutrient content can vary greatly, manure analysis is encouraged.)

	N more than 3 days*	N 1 hour to 3 days	N less than 1 hour	P ₂ O ₅	K ₂ O
Animal	-----lb/ton-----				
(>20% dry matter) Dairy	2	3	3	3	6
(11-20% dry matter) Dairy	2	2	3	3	5
Beef	3	4	5	6	10
Swine	7	9	12	10	8
Chicken	24	27	29	35	26

* Time to incorporation