



Servi-Tech Laboratories


1602 Park West Dr. • PO Box 169 • Hastings, NE 68902
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Lab No.: 1953 **LABORATORY ANALYSIS REPORT** Report Date: 02/22/2012 03:37 pm

Send To: 38118	C J KRANTZ ORGANICS TIM KRANTZ 8960 LAPP RD CLARENCE CENTER, NY 14032	 Theresa Smith Senior Analyst
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Results For: Sample ID: Date Received:	C J KRANTZ TOPSOIL, INC COMPOST 02/21/2012	Invoice No: 953262
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		Analysis (as rec'd)	Total content, lbs per ton (as rec'd)	Estimated available first year*, lbs per ton (as rec'd)
NUTRIENTS				
<u>Nitrogen</u>				
Total Nitrogen	%	0.846	16.9	6.9
Organic Nitrogen	%	0.827	16.5	6.5
Ammonium Nitrogen	%	0.013	0.3	0.3
Nitrate Nitrogen	%	0.006	0.1	0.1
<u>Major and Secondary Nutrients</u>				
Phosphorus	%	0.172		
Phosphorus as P2O5	%	0.394	7.9	7.1
Potassium	%	0.340		
Potassium as K2O	%	0.408	8.2	8.2
Sulfur	%	0.138	2.8	1.1
Calcium	%	2.42	48.4	48.4
Magnesium	%	0.372		
Magnesium as MgO	%	0.620	12.4	12.4
Sodium	%	0.018	0.4	0.4
<u>Micronutrients</u>				
Zinc	mg/kg	89	0.2	0.1
Iron	mg/kg	4890	9.8	4.9
Manganese	mg/kg	176	0.4	0.2
Copper	mg/kg	26	<0.1	<0.1
Boron	mg/kg	21	<0.1	<0.1

OTHER PROPERTIES				
Moisture	%	51.4		
Solids	%	48.6	972	
Organic Matter	%	20.2	404	
Ash	%	28.4	568	
C:N Ratio	ratio	13.8		
Electrical Conductivity	mmho/cm	1.49		
pH	units	7.80		

* Assumes 39% of organic nitrogen available during first crop year after application. Assumes 100% of ammonium and nitrate nitrogen available, but should be adjusted for potential field losses at application site.



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Nitrogen Based Application Rate*

Material applied during: Warm, Wet Weather	Desired plant available nitrogen rate (first year after application) as pounds N per acre									
	50	100	150	200	250	50	100	150	200	250
Application Method:	tons solid waste per acre					gallons liquid waste per acre				
Injected	7.3	14.6	21.9	29.2	36.5	1,600	3,200	4,900	6,500	8,100
Sprinkled	7.3	14.7	22.0	29.3	36.7	1,600	3,300	4,900	6,500	8,200
Broadcast and incorporated										
1 day later	7.3	14.6	22.0	29.3	36.6	1,600	3,300	4,900	6,500	8,100
4 days later	7.4	14.8	22.1	29.5	36.9	1,600	3,300	4,900	6,600	8,200
7 or more days later	7.4	14.9	22.3	29.7	37.2	1,700	3,300	5,000	6,600	8,300

Material applied during: Warm, Dry Weather	Desired plant available nitrogen rate (first year after application) as pounds N per acre									
	50	100	150	200	250	50	100	150	200	250
Application Method:	tons solid waste per acre					gallons liquid waste per acre				
Injected	7.3	14.6	21.9	29.2	36.5	1,600	3,200	4,900	6,500	8,100
Sprinkled	7.4	14.8	22.2	29.6	37.0	1,600	3,300	4,900	6,600	8,200
Broadcast and incorporated										
1 day later	7.4	14.9	22.3	29.7	37.2	1,700	3,300	5,000	6,600	8,300
4 days later	7.5	15.0	22.5	30.0	37.5	1,700	3,300	5,000	6,700	8,300
7 or more days later	7.6	15.1	22.7	30.2	37.8	1,700	3,400	5,000	6,700	8,400

Material applied during: Cool, Wet Weather	Desired plant available nitrogen rate (first year after application) as pounds N per acre									
	50	100	150	200	250	50	100	150	200	250
Application Method:	tons solid waste per acre					gallons liquid waste per acre				
Injected	7.3	14.6	21.9	29.2	36.5	1,600	3,200	4,900	6,500	8,100
Sprinkled	7.3	14.6	21.8	29.1	36.4	1,600	3,200	4,900	6,500	8,100
Broadcast and incorporated										
1 day later	7.3	14.5	21.8	29.1	36.3	1,600	3,200	4,800	6,500	8,100
4 days later	7.3	14.6	21.9	29.2	36.5	1,600	3,200	4,900	6,500	8,100
7 or more days later	7.3	14.6	22.0	29.3	36.6	1,600	3,300	4,900	6,500	8,100

Select the table with weather conditions closest to those at waste application time. Select the application method and the desired plant available nitrogen rate. Find the waste application rate as either "tons solid waste per acre" or "gallons liquid waste per acre". Assumes density of 9 pounds per gallon.

A portion of the ammonia-nitrogen found in waste materials may be lost by volatilization during and after application. Volatilization losses increase with time, higher temperature, wind, and low humidity. Losses increase with longer delays between surface application (broadcast) and soil incorporation. First-year nitrogen availability based on C:N ratio. Reference: Agricultural Waste Management Field Handbook, Part 651, USDA-Soil Conservation Service, Chap. 11: "Waste Utilization", 1992 and Vigil & Kissel, Soil Sci. Soc. Amer. Proc. 55:757-761, 1991.

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Phosphorus Based Application Rate

Target phosphorus rate, based on est. available P as pounds P ₂ O ₅ per acre	Recomended application rate		Other available nutrients applied at this application rate*						
			K ₂ O	S	Zn	Fe	Mn	Cu	B
	tons/acre	gal/acre	pounds per acre						
10	1.4	310	12	2	0.1	6.9	0.2	0.0	
20	2.8	630	23	3	0.3	13.8	0.5	0.1	
30	4.2	940	35	5	0.4	20.7	0.7	0.1	
40	5.6	1,250	46	6	0.5	27.6	1.0	0.1	
50	7.1	1,570	58	8	0.6	34.5	1.2	0.2	
60	8.5	1,880	69	9	0.8	41.4	1.5	0.2	
70	9.9	2,190	81	11	0.9	48.3	1.7	0.3	
80	11.3	2,510	92	12	1.0	55.2	2.0	0.3	
90	12.7	2,820	104	14	1.1	62.1	2.2	0.3	
100	14.1	3,130	115	15	1.3	69.0	2.5	0.4	

* The amount of plant available nitrogen depends on the application method and the weather conditions during application. To determine the amount of plant available nitrogen, select the target phosphorus rate and identify the recommended waste application rate. Choose the proper weather condition table on the "Nitrogen Based Application" page and the proper line for application method. Identify the closest waste application rate on this line. The plant available nitrogen rate will be found directly above.



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Salinity Based Application Rate

Precipitation plus irrigation, inches per year	Soil texture					
	Fine			Coarse		
	Fine	Medium	Coarse	Fine	Medium	Coarse
	Maximum recommended annual application rate: tons solid waste per acre			gallons liquid waste per acre		
14	4.7	5.3	7.2	1,000	1,200	1,600
16	5.3	6.1	8.3	1,200	1,400	1,800
18	6.0	6.9	9.3	1,300	1,500	2,100
20	6.7	7.6	10.3	1,500	1,700	2,300
22	7.3	8.4	11.3	1,600	1,900	2,500
24	8.0	9.1	12.4	1,800	2,000	2,800
26	8.7	9.9	13.4	1,900	2,200	3,000
28	9.3	10.7	14.4	2,100	2,400	3,200
30	10.0	11.4	15.5	2,200	2,500	3,400
32	10.7	12.2	16.5	2,400	2,700	3,700
34	11.3	13.0	17.5	2,500	2,900	3,900
36	12.0	13.7	18.6	2,700	3,000	4,100
38	12.7	14.5	19.6	2,800	3,200	4,400
40	13.3	15.2	20.6	3,000	3,400	4,600

The maximum rates are recommended to prevent buildup of the dissolved salts in soils and keep the soil ECe at or below 4 mmho/cm. Determine the average annual precipitation plus irrigation in inches. Identify the soil texture of the field receiving manure. Determine the maximum annual manure application rate in "tons per acre" or "gallons per acre".

Reference: Guidelines for Applying Beef Feedlot Manure to Fields, Pub. C-502, Kansas State Univ., 1974.