

Field Crop Report



Manure Management: Christine Brown

Manure has become a more valuable commodity over the past few years as more producers appreciate both the nutrients and the organic matter. For many producers, cereals in the rotation are an opportunity to apply manure or other amendments such as biosolids, compost etc; when weather conditions are favourable for minimum compaction, and when there is often more time and equipment available for application. Regardless of time of application, there are a few things to keep in mind that will help maximize the dollars spent.

1. Take a sample of the material being applied. Ideally the sample will be representative; usually as a subsample of samples taken from various loads. The analysis from the lab should include total and ammonium nitrogen (N), phosphorus, potassium and dry matter content. Micro nutrients such as sulphur, magnesium, manganese and zinc may also be of interest. With solid manure, a carbon to nitrogen (C:N) ratio rating will help to determine if additional nitrogen may be required during decomposition of the bedding materials, especially in manure from ruminants and horses.
2. Use the results of the analysis to determine potential commercial fertilizer savings and/or additional commercial fertilizer needs. (see Field Crop News at: <http://bit.ly/1ohceSa>)
3. Liquid cattle manure, applied in the spring ahead of a corn crop provides less nitrogen for the crop during a cool, wet spring than predicted , especially when manure is not applied to that field on a yearly basis.
4. Late summer/early fall applications of bedded solid manure (except mink and poultry) will have higher nitrogen availability for the subsequent corn crop compared to the same manure, applied in the spring.

Late Summer / Fall Opportunities:

Nutrient losses due to leaching from manure, especially liquid manures high in ammonium-N, can be very high when applied in late summer to biologically active soils. The ammonium N converts to nitrate N. The nitrate moves with water through the soil profile. The risk of leaching is highest in sandy, light soils where manure is applied to bare soil with no growing crop. The other risk comes from nutrient runoff, especially phosphorus. Late summer/early fall manure combined with a cover crop will reduce the risk of nutrient loss. Cover crops such as oat or oil seed radish will utilize the nutrients - especially nitrogen - from manure. Manure combined with cover crops often provide a synergy that neither practice on its own can provide. The nutrients feed the microbial populations and increase the soil life in the root zone adding to the plants' root mass.



Oilseed radish-oat mixture slurry-seeded with hog manure after cereal harvest

Common Questions: Manure & Cover Crops

What is slurry-seeding? Slurry seeding refers to mixing cover crop seed into the manure tanker with liquid manure and applying the cover crop with the manure. In-tank agitation improves seed distribution. Toolbars that inject or provide shallow incorporation improve germination. Reduced germination can occur where seeds are sensitive to liquid manure high in ammonium and/or salts.

Will sequestered nitrogen be available to next year's corn crop? Manure nitrogen taken up by non-legume cover crops should not be credited back to next year's corn crop. Nitrogen release of red clover matches corn N needs. Nutrient release from other cover crops help maintain soil microbial populations that improve nutrient cycling and aggregate stability.

Can I apply liquid manure on red clover after wheat harvest? Experience with manure on red clover is limited, however manure applied to alfalfa is become a common practice. Assuming the legumes respond similarly to manure, there may be some damage or delayed growth in wheel tracks where manure is applied. Wheel track damage occurs from any post harvest field traffic. Liquid manures with high ammonium-N can cause white-bleaching on new leaf tissue. Although usually more visual than damaging, high application rates (greater than 75 lbs of N as ammonium) can cause the new growth to be set back.



Legumes regrow from the crown and axil buds



Wheel traffic damage from manure applied to new-seeding alfalfa



In alfalfa where wheel tracks have damaged regrowth, new growth comes from the crown

Weather Summary



Location	July 30 – Aug 5	Temperature (°C)		Rainfall (mm)	Heat Units CHU	Total Since May 1	
		Max	Min			Rain	CHU
Outdoor Farm Show	2014	24.9	12.9	8.0	157.4	272.2	1889.6
	30 Yr. Avg.	26.3	15.2	22.4	180.0	270.1	1995.3
Windsor	2014	26.2	14.7	19.2	175.7	299.0	2237.6
	30 Yr. Avg.	27.4	16.6	17.0	190.4	239.5	2175.4
Trenton	2014	24.3	14.8	13.9	171.2	314.2	2011.8
	30 Yr. Avg.	26.1	15.1	19.2	178.5	247.1	1918.6
Mount Forest	2014	23.9	12.5	10.3	154.6	297.6	1780.9
	30 Yr. Avg.	25.4	14.3	22.5	172.1	267.3	1844.7
London	2014	25.1	13.5	12.8	165.7	277.2	2002.8
	30 Yr. Avg.	26.5	15.4	22.3	181.5	268.6	2017.6
Hamilton	2014	25.6	14.3	4.5	172.2	265.0	1925.6
	30 Yr. Avg.	26.6	15.9	20.8	185.1	250.8	2019.6
Ottawa	2014	25.5	11.8	16.0	155.8	327.0	2052.8
	30 Yr. Avg.	26.4	15.3	26.3	180.5	280.5	2000.7
Elora	2014	24.0	11.6	9.9	149.8	287.4	1767.5
	30 Yr. Avg.	25.9	14.5	22.4	174.8	266.6	1900.1
Peterborough	2014	25.2	11.6	12.6	154.0	306.0	1840.2
	30 Yr. Avg.	25.8	14.7	18.9	175.6	250.7	1889.7

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