Field Prescription Application Rates

Field ID:	NW11-07-06EPM	
Land Area Available (ha):		28
2016 Crop	Soybeans	
2016 Target Yield:	35 bu/ac	
	lb/ac	kg/ha
Target Nitrogen recommended :	50	56
Fertilizer Phosphate (P2O5) Recommended:	35	39.2
1 x P2O5 Crop Removal @ target Yield:	30	33.6
2 x P2O5 Crop Removal @ target Yield:	60	67.2

Plant Available Nutrients Soil Test Data			
Sample Depth	0-15 cm	15-60 cm	Total Available
Units	mg kg^{-1}		kg ha-1
Available Nitrate-N	17.5	7.9	82
Available Phosphate-P	13.4		27
Available Potassium	208		416
Available Sulfate-S	111	517	3,324

Steinbach Biosolids Characteristics and Analysis

Parameter Name	**Parameter Description**	**Unit**	**Biosolid Analysis (Cell 2)**
Estimated Biosolid Volume (+ 10% safety volume)	In-field	m^3	878
Specific Gravity	As Received	kg L^{-1}	1.03
Estimated Biosolids		tonnes	904
Dry tonnes biosolids available (=wet tonnes x %solids)	Dried Basis	tonnes	77
Moisture	As Received	**%**	89.80
Total Solids	As Received	**%**	8.80
Total Volatile Solids	Dry Basis	%	30
Organic Matter	Dry Basis	%	17.00
Mineral Content	Dry Basis	%	83.00
Total Organic Carbon	Dry Basis	%	2.00
C:N Ratio	Dry Basis	x:1	17.24
C:P Ratio	Dry Basis	x:1	4.34
N:P Ratio	Dry Basis	x:1	0.25
pH	Saturated Paste		6.87
Total Kjeldahl N	% Dried Basis	%	0.12
Total Kjeldahl N	Dried Basis	mg kg^{-1}	1,160
Total Kjeldahl N	Dried Basis	kg $Tonne^{-1}$	1.16
Ammonium - N	Dried Basis	mg kg^{-1}	397.00
Ammonium - N	Dried Basis	kg $Tonne^{-1}$	0.3970
Available Nitrate	Dried Basis	mg kg^{-1}	-
Available Nitrate-N	Dried Basis	mg kg^{-1}	-
Available Nitrate-N		kg $Tonne^{-1}$	-
Total Phosphorous	Dried Basis	mg kg^{-1}	4,610

Amount of Biosolids Nutrient Available to Crop

Organic N (=TKN-ammonium N)	Dried Basis	mg kg^{-1}	763.00
Organic N	Dried Basis	kg $Tonne^{-1}$	0.76
Method of Application:			Injections
Anticipated Weather			Cool/dry
Anticipated Volatilization (%)	incorp within 1 days		15
Available Organic N	Dried Basis	kg $Tonne^{-1}$	0.19
Ammonium nitrogen available	Dried Basis	kg $Tonne^{-2}$	0.34
Total available nitrogen (Year 1) (@25%)	Dried Basis	kg $Tonne^{-1}$	0.53
Mineralization N Year 2 (@12%)	Dried Basis	kg $Tonne^{-1}$	0.09
Mineralization N Year 3 (@6%)	Dried Basis	kg $Tonne^{-1}$	0.05
Phosphorus	Dried Basis	kg $Tonne^{-1}$	4.61
$P_2O_{5\ equivalent}$	Dried Basis	kg $Tonne^{-1}$	10.60
Total Available P2O5	Dried Basis	kg $Tonne^{-1}$	5.30

Application Rate based on Nitrogen			
Nitrogen Based Application Rate	Dried Basis	tonnes ha^{-1}	106.02
Amount of Available P2O5 applied	Dried Basis	kg ha^{-1}	562.07
P2O5 Application check		%	1,433.85
Application Rate based on Phosphorous (1xCR)			
Total Phosphorus Based Application Rate	Dried Basis	tonnes ha^{-1}	6.34
Amount of Nitrogen applied	Dried Basis	kg ha^{-1}	3.35
Additional Nitrogen required		kg ha^{-1}	52.65
Application Rate based on Phosphorous (2xCR)			
Total Phosphorus Based Application Rate	Dried Basis	tonnes ha^{-1}	**12.68**
Amount of Nitrogen applied	Dried Basis	kg ha^{-1}	6.70
Additional Nitrogen required		kg ha^{-1}	49.30

Selected Application rate based on:		**2xCR**	**P2O5**
Selected Application rate based on P2O5	Dried Basis	tonnes ha^{-1}	**12.68**
		tons ac^{-1}	**5.70**
	Wet	tonnes ha^{-1}	144.04
		tons ac^{-1}	64.82