Ohio Environmental Protection Agency
Division of Surface Water

Biosolids Agronomic Rate Calculation Worksheet

General Information

Ohio EPA #	YOU2	
Field ID #	YOU2	
Generator Name	City of Sidney WWTP	

Biosolids Data and Beneficial Use Methods

Ammonia Nitrogen	12000.00	mg/kg
Total Kjeldahl Nitrogen	41500.00	mg/kg
Total Phosphorus	27100.00	mg/kg
Organic Nitrogen	59.00	lbs/ton
Available Nitrogen	41.70	lbs/ton
Phosphate (P_2O_5)	124.12	lbs/ton
Will Immediate Incorporation / Injection be performed?	No	

Beneficial Use Site Information

Soil Phosphorus	19.00	ppm	Mehlich 3		
	16.72	ppm			
Please note that the agronomic rates and phosphorus index have been calculated within the *Calculated Agronomic Rates* section; however, based upon the above provided *Soil Phosphorus* result, you must utilize the most limiting factor or the *Phosphorus Index*:	**The nitrogen agronomic rate, a phosphate beneficial use rate of <250 lbs/acre, a phosphate beneficial use rate of 256-500 lbs/acre if injected/incorporated within 24 hours of beneficial use or if there is >50% ground cover, or the Phosphorus Index.**				
County	Shelby				
Soil Type	Crosby silt loam, 0 to 2 percent slopes				
Hydrologic Soil Group	C				
Year 1	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)	Corn (Grain)				
Expected Crop Yield(s)(bu/acre or tons/acre)	200				
Year 2	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)	Soybean				
Expected Crop Yield(s)(bu/acre or tons/acre)	60				
Year 3	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)	Corn (Grain)				
Expected Crop Yield(s)(bu/acre or tons/acre)	200				
Year 4	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)	Soybean				
Expected Crop Yield(s)(bu/acre or tons/acre)	60				
Year 5	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)					
Expected Crop Yield(s)(bu/acre or tons/acre)					
Crop Nitrogen Requirements (Year 1)	200	lbs/acre			
Existing Available Nitrogen	30	lbs/acre			
Non-Biosolids Nitrogen Application	45	lbs/acre			
Phosphate (P_2O_5) Fertilizer Application	0	lbs/acre			
Non-Biosolids Organic Phosphate (P_2O_5) Application	0	lbs/acre			
Biosolids Phosphate (P_2O_5) Beneficial Use	246.87	lbs/acre			
Total Organic Phosphate (P_2O_5) Fertilizer Application	246.87	lbs/acre			

Phosphorus Index

		Subvalue
Soil Loss	5 tons/acre/year	5
Connectivity to "waters of the State"	Concentrated flow does not leave the beneficial use site and is adjacent to an intermittent or perenial stream.	4
Runoff Class - Slope Range	1-3%	4
Soil Phosphorus		1.17
Application - Phosphate (P_2O_5) Fertilizer		0
Method - Phosphate (P_2O_5) Fertilizer	None applied.	0
Application - Organic Phosphate (P_2O_5) Fertilizer		14.81
Method - Organic Phosphate (P_2O_5) Fertilizer	Incorporation in ≤ one week or applied on 50% to 80% cover.	1
Does runoff flow through a filter strip designed per USDA Ohio-NRCS Field Office Technical Guide Standard 393?	No	0
Total Phosphorus Index		**29.98**

Calculated Agronomic Rates

Nitrogen Agronomic Rate	1.99	dry tons/acre
i. Calculated Agronomic Rate	3.00	dry tons/acre
Single Year Phosphate Agronomic Rate	0.64	dry tons/acre
Multi-Year Phosphate Agronomic Rate	2.06	dry tons/acre
Phosphorus Index	Medium potential for phosphorus runoff. Use the Nitrogen Agronomic Rate.	

Beneficial Use Site Records

Quantity of Biosolids Beneficially Used	98.66	dry tons			
Phosphate (P_2O_5) Beneficially Used Per Acre	246.88	lbs/acre			
Acreage	49.6				
Date Biosolids Delivered to Beneficial Use Site	10/15/2020				
Dates of Beneficial Use	10/15/2020	to	10/17/2020		
Total Days Biosolids Stored at Beneficial Use Site	0.00	Days			
Date Signage Posted at Beneficial Use Site	9/28/2020		☐ Yes	Is a permanent sign posted at the beneficial use site?	
Date Signage Removed from Beneficial Use Site	11/17/2020		☑ No		