PHOSPHORUS SITE INDEX FOR LOUISIANA

Producer's Name: **Site Info:**

Part A: Phosphorus loss potential due to site transport characteristics

CHARACTERISTICS	PHOSPHORUS LOSS RATING					FIELD VALUE
Soil Erosion (tons/acre)	2 X (tons soil loss/acre/year from RUSLE2)					
Soil Runoff Class (from Table 1)	very low	low	medium	high	very high	
	0	2	4	6	8	
Subsurface Drainage (from Table 2)	very low	low	medium	high	very high	
	0	2	4	6	8	
Distance from Edge of Field to Surface Water (feet)	> 30 feet permanent vegetated buffer and no P application zone	10-30 feet vegetative buffer and >30 feet no P application zone	10-30 feet and no P vegetated buffer	<10 feet from water and <30 feet no P application zone	<10 feet from water	
	0	2	4	6	8	
Priority of Receiving Water (see Basin Subsegments GIS Layer)	Low			High		
	0			8		
Leaching Index (see Leach GIS Layer)	Rating = 1	Rating = 2		Rating = 3		
	0	1		2		
Total Site Value						0

Part B: Phosphorus loss potential due to management practice

SITE CHARACTERISTICS	PHOSPHORUS LOSS MANAGEMENT					FIELD VALUE
Soil Test P Fertility Index Value	0.1 X PPM (Strong Bray from Mehlich III)					
P Fertilizer Application Rate (lbs. P_2O_5)	0.1 X (lbs. P_2O_5/acre)					
P Fertilizer Application Method	none applied	injected/banned below surface at least 2"	incorporated within 5 days of application	surface applied April-November or incorporated more than 5 days after application	surface applied December-March	
	0	2	4	8	16	
Organic P Application Rate (lbs P_2O_5)	0.1 X (lbs. P_2O_5/acre) manure or compost					
	0.05 X (lbs. P_2O_5/acre) sludge					
Organic P Application Method	none applied	injected/banned below surface at least 2"	incorporated within 5 days of application	surface applied April-November or incorporated more than 5 days after application	surface applied December-March	
	0	2	4	8	16	
Total Management Value						0

P INDEX WORKSHEET

To solve for P loss rating, add all numbers on Part A and all numbers on Part B. Enter these numbers on the worksheet. Multiply Part A X Part B. This is your final P loss rating.

Part A value= | 0 | Part B value= | 0 |

Multiply A X B= | 0 | **= P Loss Rating**

P Loss Rating	Generalized Interpretation of P Loss Rating
<600	**LOW** potential for P movement from this site given current management practices and site characteristics. Low potential of an adverse impact to surface waters from P losses from this site. Nitrogen based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management. Follow Agricultural Waste Land Applications Guidelines.
600-1,200	**MODERATE** potential for P movement from this site given current management practices and site characteristics. Phosphorus-based nutrient applications at crop <u>requirement</u> rates is acceptable. Follow Agricultural Waste Land Applications Guidelines. Soil P levels and P loss potential may increase in the near future due to applications at crop P requirment rates.
1,200-1,800	**HIGH** potential for P movement from this site given current management practices and site characteristics. Phosphorus-based nutrient management planning should be used for this site. Phosphorus applications should be limited to the amount expected to be <u>removed from the field by crop harvest</u>. A phosphorus drawdown strategy must also be implemented. Active remediation techniques should be implemented in an effort to reduce P loss potential from this site.
>1,800	**VERY HIGH** potential for P movement from this site given current management practices and site characteristics. No phosphorus should be applied to this site. Active remediation techniques should be implemented in an effort to reduce P loss potential from this site.

Notes:

Table 1 - The Surface Runoff Class site characteristic determined from the relationship of the saturated hydraulic conductivity class and field slope. Adapted from the soil survey manual (1993) Table 3-10.

Slope Gradient	Saturated Hydraulic Conductivity Class [a, b]					
%	Very High	High	Mod. High	Mod. Low	Low	Very Low
Concave [c]	N	N	N	N	N	N
<1	N	N	N	L	M	H
1-5	N	LV	L	M	H	HV
5-10	LV	L	M	H	HV	HV
10-20	LV	L	M	H	HV	HV
>20	L	M	H	HV	HV	HV

a. Abbreviations: Negligible -N; Very Low -LV; Low –L; Medium –M; High –H; and Very High –HV.
b. Assumes that the lowest value for the soil occurs above ½ m. If the lowest value occurs ½ to 1 m, then reduce runoff by one class (medium to low, for example). If it occurs >1 m, then use the lowest saturated hydraulic conductivity <1m.
c. Areas from which no or very little water escapes by flow over the ground surface.

Saturated hydraulic conductivity classes (µm/s):
Very Low (<0.01 µm/s)   High (10-100 µm/s)
Low (0.01-0.1 µm/s)   Very High (>100 µm/s)
Moderately Low (0.1-1 µm/s)
Moderately High (1-10 µm/s)

Table 2 - Subsurface Drainage Potential							
Depth to Seasonal High Water Table (feet)	Soil Drainage Class						
	very poorly drained	poorly drained	somewhat poorly drained	moderately well drained	well drained soils	somewhat excessively drained	excessively drained
0-1	H	VH	VH	VH	VH	VH	■
1-3	M	M	M	M	H	H	H
3-6	L	L	L	L	M	M	M
>6	■	VL	VL	L	L	L	L
Artificial Subsurface Drainage (any depth)	H	H	H	H	■	■	■

VL = very low   L = low   M = medium   H = high   VH = very high