

## Minnesota Phosphorus Index Data Collection Sheet

**Part 1: Name.** County \_\_\_\_\_ Farm name \_\_\_\_\_ Field name \_\_\_\_\_

**Part 2: Field characteristics.**

**2A. Sediment traps**

- Impoundment with runoff storage
- Water and sediment control basin
- Buffers or filter strip
- Terraces

**2B. Depressions and Inlets.**

- Depressions without inlets
- Depressions with standard surface tile inlets
- Depressions with gravel/rock or buffered inlets

Percent of field area contributing runoff to depressions: \_\_\_\_\_ %

**2C. General tillage orientation:**

- Up/down slope
- Across the slope (or nearly flat land)

**2D. Distance from field edge to surface water:** \_\_\_\_\_ ft

**2E. Is artificial, subsurface drainage present?**

- Yes
- No

**Part 3: Critical slope.**

Slope segment	Gradient (%)	Length (ft)	Soil series name (or texture and hydrologic group)
1			
2			
3			
4			

**Part 4: Soil tests.**

Sampling date	Phosphorus (ppm)	Olsen, Bray, or Mehlich?	%OM

**Part 5: Management.**

**5A. Crop rotation**

Year of rotation (use as many columns as needed)

	1st	2nd	3rd	4th
Manure P Date of appl.: Manure appl rate: P test of manure: Method of appl./incorp:				
Fertilizer P Date of appl.: Amount: Method of appl./incorp:				
Previous fall tillage <i>None, Ridge, Lt Disk, Hvy Disk, Chisel, Strip, MB</i>				
Fall anhyd. ammoni <i>Yes or No</i>				
Spring tillage <i>None, Strip, Ridge, Disk, fcult, Chisel, MB</i>				
<b>Crop and yield</b>				
Residue after plant <i>&lt;5%, 5-20%, &gt;20%</i>				

**5B. Alternative management practices:**

Instructions  
**Minnesota Phosphorus Index**  
Data Collection Sheet

By completing this form, you will have all the information needed to run the Minnesota Phosphorus Index.

**Part 1: Name.** Identify the field to be evaluated.

**Part 2: Field characteristics.**

**2A. Sediment traps.** Check the appropriate boxes if any of these structures intercept runoff from the field.

**2B. Depressions.** Check one of these boxes if the field has natural depressions, such as are found in the Prairie Pothole region of Minnesota.

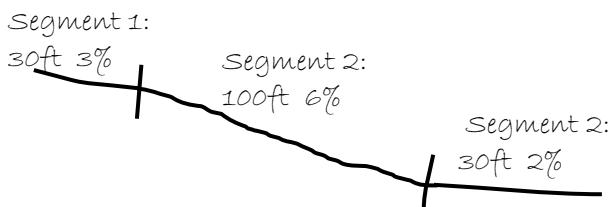
**2C. General tillage orientation.** Indicate the direction of the last field operation before winter.

**2D. Distance to water.** Indicate the distance from the edge of the field to the nearest surface water, which may be a drainage ditch, stream, wetland, or lake.

**2E. Drainage.** Note whether the field has subsurface tile drainage.

**Part 3: Critical slope.**

This information will be used for the RUSLE2 sediment delivery calculation. Identify the critical slope within the field that is most likely to lose phosphorus. This may be the steepest portion of the field or the slope closest to surface water. Define the slope as beginning where upland water flow originates and ending at the edge of the field. Note that the slope may have multiple segments of different gradients, and it may be longer than the simple slope that would be used to estimate soil loss. Here is an example of a slope with three segments:



If you don't know the name of the soil series, note three characteristics: the **soil texture** (coarse or fine), whether it is **calcareous** (pH>7.3), and the **Soil Hydrologic Group**: A, B, C, or D. (A=very high infiltration and low runoff, D=very low infiltration and high runoff).

**Part 4: Soil tests.**

Only one test is needed –the most recent test within 3 years. If you provide multiple tests for a single year, the program will average them.

**Part 5: Management.**

**5A.** Fill in one column of the table for each crop year of the rotation. The crop year begins after harvest in the fall. Select from the choices in italics.

For crop, indicate a typical yield.

For manure and fertilizer application methods, select from the following:

- St pt — Broadcast and incorporated within a week with a straight point chisel plow
- Twist — Broadcast and incorporated within a week with a twisted point chisel plow
- Sweep — Broadcast and incorporated within a week with a chisel plow with sweeps
- Disk-S — Broadcast and incorporated within a week with a small disk
- Disk-L — Broadcast and incorporated within a week with a large disk
- MB — Broadcast and incorporated within a week with a moldboard plow
- Inj — Injected
- Uninc — Broadcast and unincorporated

For residue, indicate the % residue cover after planting.

**5B. Alternative management systems:** The Minnesota P Index allows you to easily make changes to a management system and compare results to see if the risk of P loss goes up or down significantly. In this space, note any changes that should be examined, such as alternative tillage practices, crop rotations, or manure applications.