

SnapPlus

Wisconsin's Nutrient Management Software

Basic Concepts

Critical and Predominant Soils

When working with SnapPlus to create a nutrient management plan, you are required to choose both a critical and a predominant soil for each field on your farm. Both are needed to do calculations in SnapPlus.

How does SnapPlus use the **critical soil**?

The critical soil is used for the conservation portion of the nutrient management plan, including calculation of the soil loss for the field, as well as the phosphorus index.

When entered into SnapPlus for a field, the critical soil is used in the Revised Universal Soil Loss Equation, Version 2 (RUSLE2). The calculation provides an estimated soil loss for a particular field based on various attributes of the critical soil chosen—slope, length of slope, tillage practices, rotation, and others. Each soil is assigned a tolerable soil loss (“T”). Those operating the land are expected to farm cropland in a manner to meet “T”, in order to avoid degradation of the soil over time. “T” can range from 2 tons to 5 tons per acre per year; it varies from soil to soil.

How to choose the **critical soil**?

The critical soil is defined as the most erodible soil (typically the steepest soil) that covers at least 10% of the field.

To determine the most erodible soil, use the soil map and locate the soil with the steepest slope. Each soil type will have a letter abbreviation to identify the slope of that soil; the higher the letter at the end of the symbol, the steeper the slope and typically the most erodible. For example, DgD2 is a Dodgeville silt loam (Dg) with a slope (D) ranging from 12-18%. In the example, DgD2 is the critical soil for the field.

Letters represent slope ranges as follows: A = <2%, B = 2-6%, C = 6-12%, D = 12-18%, E = >18%. If there is no capital letter at the end of the symbol, the slope is 0.

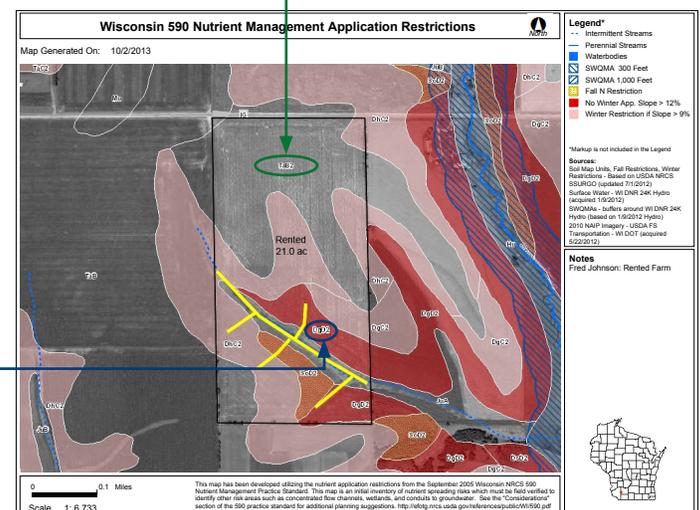
How does SnapPlus use the **predominant soil**?

The predominant soil is used to determine the field's nitrogen recommendations based on the soil's yield potential.

If a high yield potential soil is the predominant soil in a field, the maximum nitrogen recommendation for the chosen crop will be provided. Any field with a medium yield potential or sandy soil as the predominant soil will have a lower nitrogen recommendation when compared to the high yield potential soil.

How to choose the **predominant soil**?

The predominant soil is defined as the soil that makes up the largest portion of the field. Use the soil map to determine which soil makes up the majority of the field. In the example below, Tab2 is the predominant soil for the field.



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