

Environmentally Sensitive Site Identification

Explanation of Environmentally Sensitive Sites

using

Standards & Criteria

pages 27-36



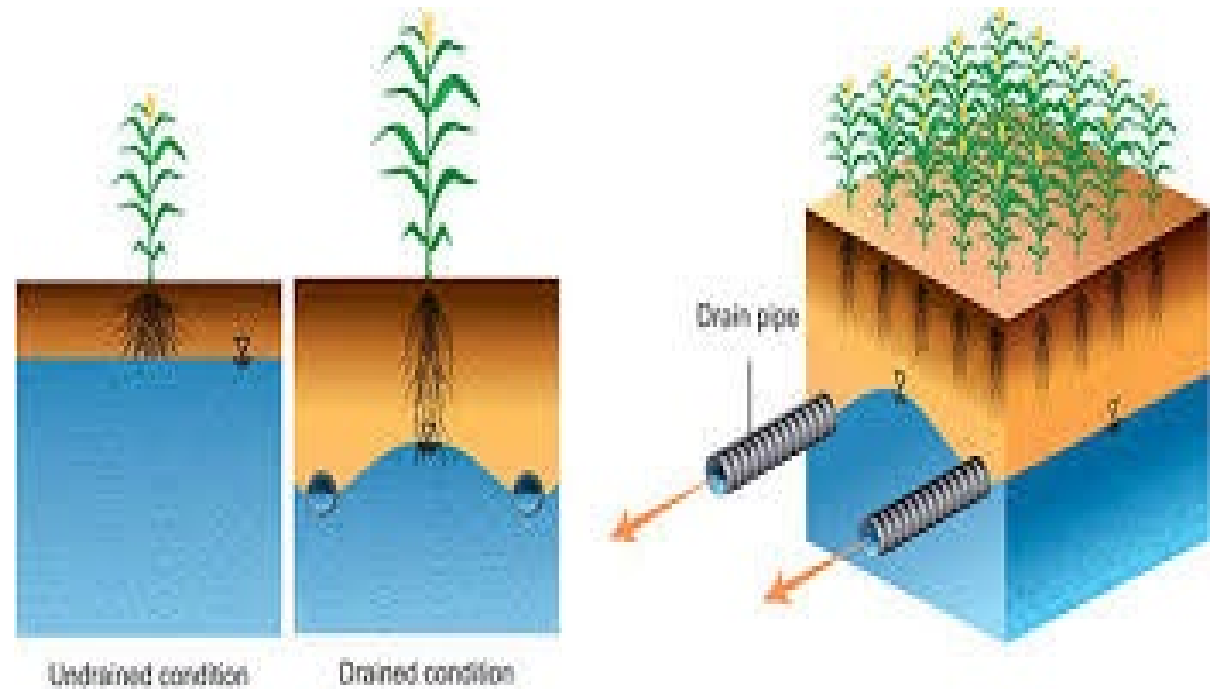
Regulations define "environmentally sensitive site" to mean any field which contain sinkholes; or where at **least 33%** of the area in a specific field contains one or any combination of the following features:

Nutrient Management Training and Certification Regulations 4VAC50-85

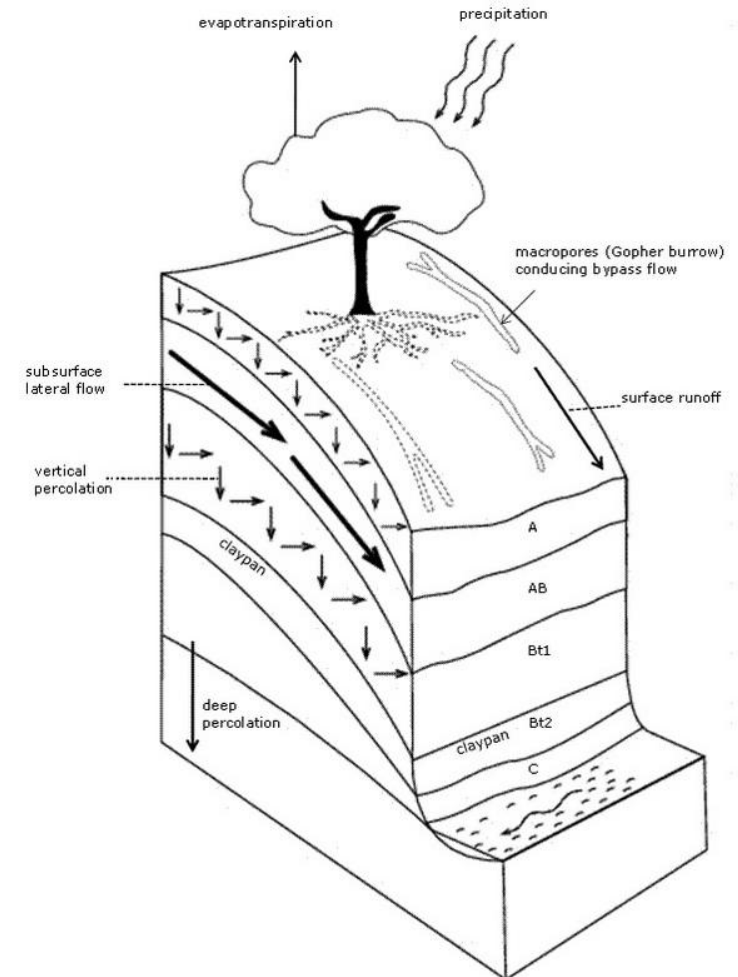
1. Soils with high potential for leaching based on soil texture or excessive drainage;
2. Shallow soils less than 41 inches deep likely to be located over fractured or limestone bedrock;



3. Subsurface tile drains;



4. Soils with high potential for subsurface lateral flow based on soil texture and poor drainage;



5. Floodplains as identified by soils prone to frequent flooding in county soil surveys; or

10B2, 10C2, 10D2, 10E2 Buckhead		None		>6.0			20-40	Hard
11A, 11B, 12B Buckhead	C	Medic		1.5-3.0	Perched	Dec-Apr	>60	
11C Buchanan	C	None		0.5-3.0	Perched	Nov-Mar	>60	
20B2, 20C2, 21B3, 21C3, 21D3, 21E3 Chilhowie	C	None		>6.0			20-40	Hard
122B2, 122C2, 122D2, 122E3 Chilhowie	C	None		>6.0			20-40	Hard
14002, 14003, 14004, 14005, 14103, 14104, 14105, 14202, 14203, 14204, 1430, 1431, 1432, 1433, 14402, 14403, 14404 Frederick	B	None		>6.0			>60	
530, 530 Jefferson	B	None		4.0-6.0	Apparent	Feb-Apr	>60	
775, 77D, 78C, 78E Sherando	B	None		>6.0			>60	
79B, 80B Timberville	D	Frequent	Very brk	Apr-Oct	>6.0		>60	

6. Lands with slopes greater than 15%.

Table 1-3 Standards and Criteria

Slope Classes	% Slope Coastal Plain	% Slope Piedmont, Mountain	% Yield Reductions Row Crops and Hay	
			Conv Till	No Till
A	0-2	0-2	-	-
B	2-6	2-7	-	-
C	6-10	7-15	6	0
D	10-15	15-25	20	10
E	15-25	25-45	too steep for tillage	
F	25+	45+	too steep for tillage	

- Table 1-4 in VA Standards and Criteria
- Page 28
- Lists the environmental sensitivity rating and category for each soil in VA
- Contains environmental risk ratings for Virginia Soils based on
 - Leaching
 - Drainage
 - Soil Depth

Table 1-4
Nitrogen Loss Risk and Environmental Sensitivity Ratings for Virginia Soils & Soil Series Associated With Environmentally Sensitive Sites

Soil Series	Environmental Sensitivity	Category
Abell	L	
Ackwater	L	
Acredale	L	
Aden	L	
Airmont	L	
Alaga	H	Leaching
Alamance	H	Leaching
Alanthus	M	Leaching
Albano	L	
Albemarle	M	Leaching
Alderflats	L	
Aldino	L	
Allegheny	H	Shallow
Alonemill	H	Leaching
Alonzville	M	Leaching
Altavista	L	
Altavista variant	L	
Alticrest	H	Shallow

Soil Series	Environmental Sensitivity	Category
Bailegap	M	Leaching
Balsam	H	Shallow
Bama	M	Leaching
Banister	L	
Barclay	M	Leaching
Batteau	L	
Beckham	L	
Bedington	M	Leaching
Beech	L	
Beech Grove	H	Shallow
Belhaven	H	Drainage
Bellspur	M	Leaching
Beltsville	L	
Belvoir	L	
Benthole	H	Leaching
Bentley	L	
Berks	H	Shallow
Berks variant	H	Shallow
Bermudian	M	Leaching

- Determine the percentage of field area for soils listed as H (high) for Environmentally Sensitivity Rating in Table 1-4 plus any fields that meet criteria on:
 - Tile drains (ask producer),
 - Soils prone to frequent flooding (Soil Survey- soil & water features)
 - Land with slopes greater than 15%.

Soil Series	Environmental Sensitivity	Category
Freemanville	L	
French	L	
Fresh water swamp	H	Drainage
Fripp	H	Leaching
Funkstown	L	
Gaila	M	Leaching
Gainesboro	H	Shallow
Galestown	H	Leaching

Table 1-3 -Utilizing Erosion/Slope Information

<u>Slope Classes</u>	<u>% Slope Coastal Plain</u>	<u>% Slope Piedmont, Mountain Regions</u>	<u>% Yield Reduction Row Crops and Hay***</u>		<u>% Increase in Acres/Animal Unit**</u>
			<u>Conv.till*</u>	<u>No till*</u>	
A	0-2	0-2	-	-	-
B	2-6	2-7	-	-	-
C	6-10	7-15	6	0	-
D	10-15	15-25	20	10	25
E	15-25	25-45	too steep for tillage		50
F	25+	45+	too steep for tillage		50

Soil	Symbol
Bookwood	10B2
Buchanan	11A
Chilhowie	21D3
Jefferson	53C
Sherando	77D
Timberville	79B

Table 1-3 -Utilizing Erosion/Slope Information

1. Yield Adjustment According to Erosion:

<u>Erosion Classes</u>	<u>% Yield Reduction</u>
slight and moderate (1 and 2)	0
severe (3)	25

Soil	Symbol
Bookwood	10B2
Buchanan	11A
Chilhowie	21D3
Jefferson	53C
Sherando	77D
Timberville	79B

Soils listed as moderate risk are not defined as environmentally sensitive, but should be treated with similar caution when making nitrogen recommendations.



Primary reasons for the environmental sensitivity rating for each soil listed as high or moderate risk:

Leaching – Soils with potential for leaching based on soil texture or excessive drainage

Shallow – Shallow soils less than 41 inches deep likely to be located over fractured or limestone bedrock.

Drainage – Soils with high potential for subsurface lateral flow based on soil texture and poor drainage.

Table 1-4

Soil Series	Environmental Sensitivity	Category
Bailegap	M	Leaching
Balsam	H	Shallow
Bama	M	Leaching
Banister	L	
Barclay	M	Leaching
Batteau	L	
Beckham	L	
Bedington	M	Leaching
Beech	L	
Beech Grove	H	Shallow
Belhaven	H	Drainage
Bellspur	M	Leaching
Beltsville	L	
Belvoir	L	
Benthole	H	Leaching
Bentlev	I	

Nutrient Management Training and Certification Regulations

4VAC50-85

“Environmentally sensitive site” means any field which is particularly susceptible to nutrient loss to groundwater or surface water since it contains or drains to areas which contain sinkholes, or where at least **33%** of the area in a specific field contains one or any combination of the following features:

Using Standards & Criteria, & County Soil Survey categorize these Augusta County soils

Soil	Symbol	Non-Environmentally Sensitive	Environmentally Sensitive	Environmental Feature
Bookwood	10B2			
Buchanan	11A			
Chilhowie	21D3			
Jefferson	53C			
Sherando	77D			
Timberville	79B			

Are the Following Fields Environmentally Sensitive?

Field 1: 20% Buchanan
 30% Sherando
 50% Jefferson

Brumbaugh	L	
Brushy	H	Shallow
Buchanan	L	
Buckhall	L	
Cherry	L	
Sherando	H	Leaching
Shenandoah	L	
Ledburg	L	
Jefferson	M	Leaching
Jefferson	H	Leaching

TABLE 15.--SOIL AND WATER FEATURES

[Absence of an entry in this table does not mean the feature is not a concern. See the Glossary for descriptions of symbols and such terms as "para.," "brief," and "perched." The symbol < means less than; > means greater than.]

Soil name and map symbol	Hydrog. class.	Frequency	Duration	Months	High water table			Depth	Hardness	Potential frost action	Risk of corrosion	
					Kind	Months	Depth				Uncoated steel	Concrete
10B2, 10C2, 10D2, 10E2 Bookwood	B	None			>6.0			20-40	Rippable	Moderate	Moderate	Moderate
1A, 1B, 12B Buchanan	C	None			1.5-3.0	Perched	Dec-Apr	>60		High	High	High
13C Buchanan	C	None			0.5-3.0	Perched	Nov-Mar	>60		Moderate	High	High
20B2, 20C2, 21B3, 21C3, 21D3, 21E3 Chilhowie	C	None			>6.0			20-40	Hard	Moderate	High	Low
22B2, 22C2, 22D2, 22E2, 22F2, 22G2 Chilhowie	C	None			>6.0			20-40	Hard	Moderate	High	Low
1A02, 1A0C2, 1A0D2, 1A0E2, 1A1A3, 1A1C3, 1A1D3, 1A2B2, 1A2C2, 1A2D2, 1A2E2, 1A3C, 1A3D, 1A3E, 1A4B2, 1A4C2, 1A4D2, 1A4E2 Frederick	B	None			>6.0			>60		Moderate	Moderate	High
53C, 53D Jefferson	B	None			4.0-6.0	Apparent	Feb-Apr	>60			Moderate	High
77C, 77D, 78C, 78E Sherando	B	None			>6.0			>60		Low	Low	High
79B, 80B Timberville	B	Frequent	Very brief	Apr-Oct	>6.0			>60		Moderate	Low	High

No it is not Environmentally Sensitive.

Are the Following Fields Environmentally Sensitive?

Field 2:

50% Chilhowie

50% Jefferson

Field 3:

60% Buchanan

30% Sherando

10% Timberville

Environmentally Sensitive Site/ Nitrogen Timing Exercise



Nutrient Application Timing



VA NM Regulations.

4VAC50-85-140. Required nutrient management plan procedures

Section A. Nutrient Applications

Subsection 4. Nutrient Application Timing

For ALL nutrient Sources – Inorganic (fertilizer) & Organic!



Recommend land applying materials containing Nitrogen only where crop is actively growing

OR

Where a crop will be established within 30 days of planned nutrient application

4.a. To reduce the potential for nutrient leaching or runoff....shall recommend applications of nitrogen-containing materials only to sites where an actively growing crop is in place at the time of application or where a timely planted crop will be established within 30 days of the planned nutrient application.

Organic nutrient exceptions



4.b. Organic nutrient source applications may be applied at differing times than specified in subdivision 4 a of this subsection **in order to manage storage constraints in accordance with the following conditions**

Organic manure sites that are not environmentally sensitive



60

Days

4.b.(1).Applications of organic nutrient sources shall be within 60 days of planting a spring seeded crop to sites that are not environmentally sensitive sites as identified

Organic manure sites that are not environmentally sensitive **AND** meet the following criteria



4.b.(2).(a-c).

- Not Environmentally Sensitive Site
- Slopes of < 7%
- AT LEAST 60% crop residue
- Implementing a soil conservation plan
- Are one of the following organic source
 - Semi-Solid Beef
 - Semi-Solid Dairy w/ organic bedding
 - Dewatered anaerobically digested sewage sludge
 - Dewatered lime stabilized sewage sludge

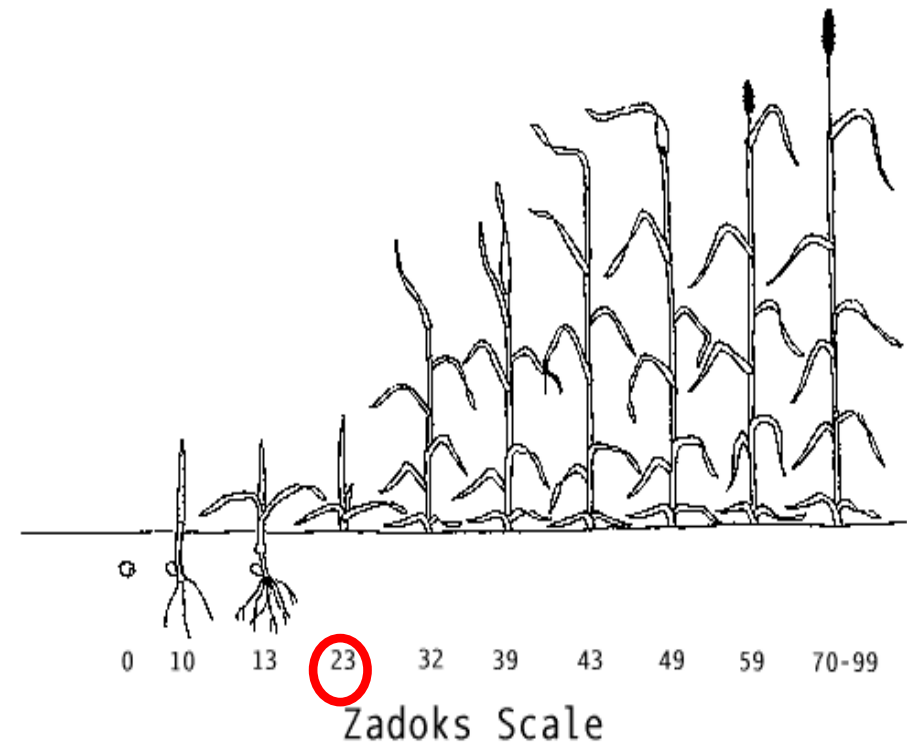
Organic Manure on Trap Crop

"Trap crop" means a timely planted cereal crop for the purposes of capturing residual soil nitrogen and nitrogen that is released during the decomposition of manure or biosolids in order to manage limited manure or sewage sludge storage availability.



4.a.(3). Applications of organic nutrient sources **may occur prior to the times (30, 60, 90 days) specified in subdivision IF**

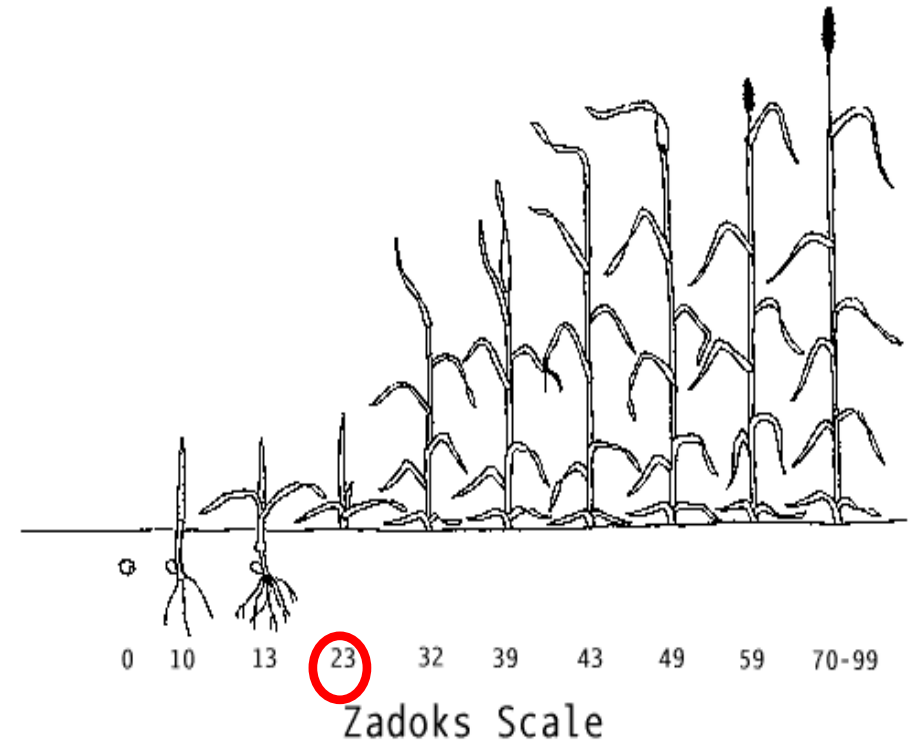
- Trap Crop Reaches Zadoks growth stage 23
- Uniform stand – 20 plants per ft²
- Grows within 2 weeks of spring crop planting
- N applications don't exceed needs of spring crop minus 30 lbs. N per acre
- Organic source doesn't smother crop



Organic manure source application on environmentally sensitive soils!

60

Days



- Organic applications must be within 60 days of planting spring crop.