

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:

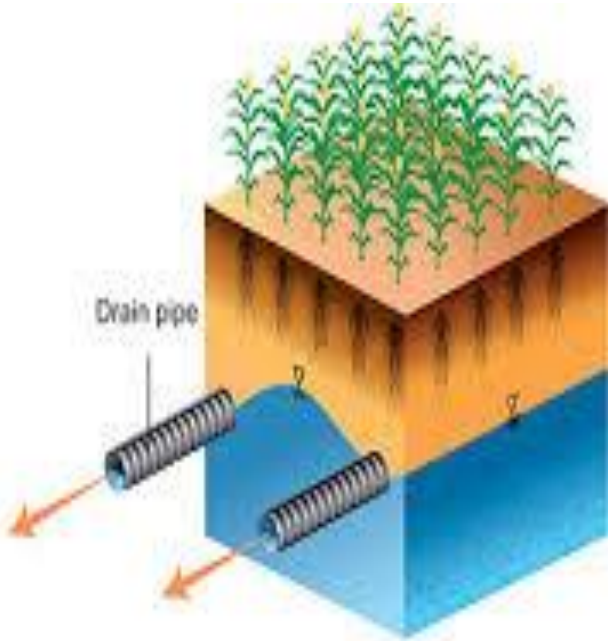
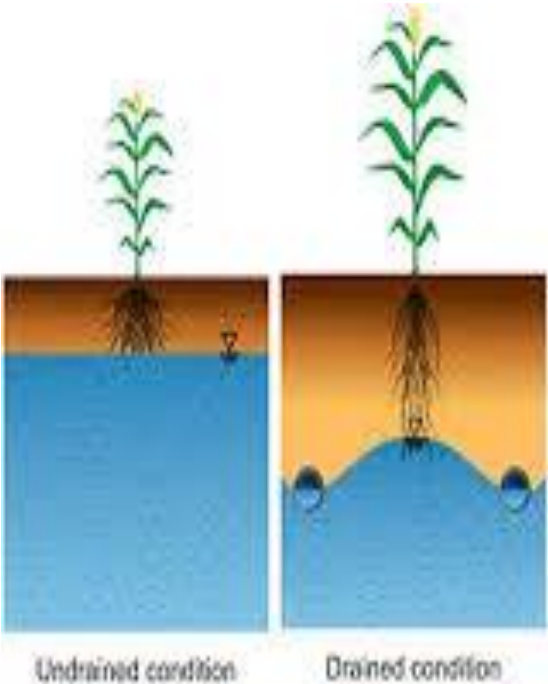
Nutrient Management Training and
Certification Regulations 4VAC50-85

1. Soils with high potential for leaching based on soil texture or excessive drainage;

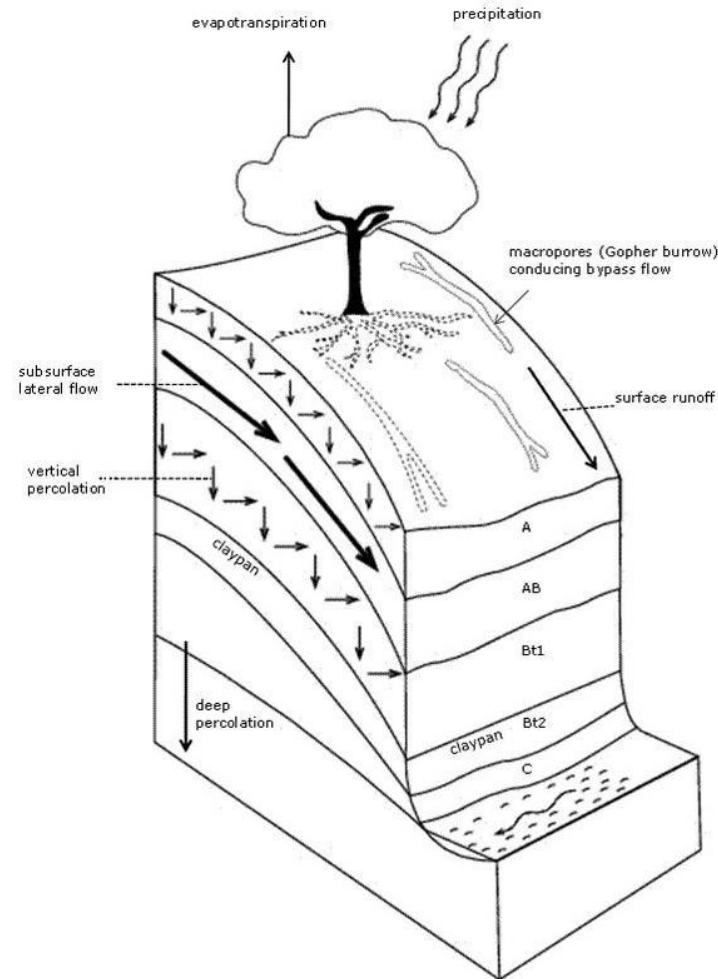
2. Shallow soils less than 41 inches deep likely to be located over fractured or limestone bedrock;



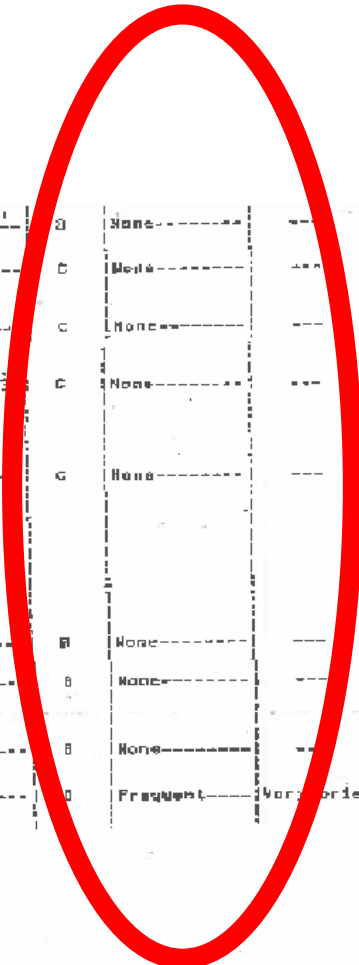
3. Subsurface tile drains;



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



1082, 1082, 1092, 1082 Buckwood	D	None	---	---	36.0	---	---	20-40	Ripr
11A, 11B, 12B Duchess	C	Moist	---	---	1.5-3.0	Perched	Dec-Apr	>60	---
113C Buchanan	C	None	---	---	0.9-3.0	Perched	Nov-Mar	>60	---
2082, 2082, 2183, 2103, 2103, 2153 Chilhowie	C	None	---	---	>6.0	---	---	20-40	Hard
12282, 12282, 12202, 12203, 12385 Chilhowie	G	None	---	---	>6.0	---	---	20-40	Hard
14002, 14002, 14002, 14002, 14123, 14103, 14163, 14282, 14202, 14202, 14282, 1438 1430, 1438, 14402, 14402, 14402, 14482 Frederick	B	None	---	---	36.0	---	---	>60	---
530, 530 Jefferson	B	None	---	---	4.0-6.0	Apparent	Feb-Apr	>60	---
770, 770, 780, 780 Sherada	B	None	---	---	>6.0	---	---	>60	---
798, 808 Timberville	D	Frequent	Nov-D	Apr-D	>6.0	---	---	>60	---

6. Lands with slopes greater than 15%.

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 1-3 ST&C

Standards & Criteria – Table 1-4

Starts on Page 28 – Lists the environmental sensitivity rating and category for each soil in Virginia

- 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

2. Field Adjustment According to Slope.

Slope Classes	% Slope Coastal Plain	% Slope Piedmont, Mountain Regions	% Yield Reduction Row Crops and Hay***		% Increase in Acres/Animal Unit**
			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	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.

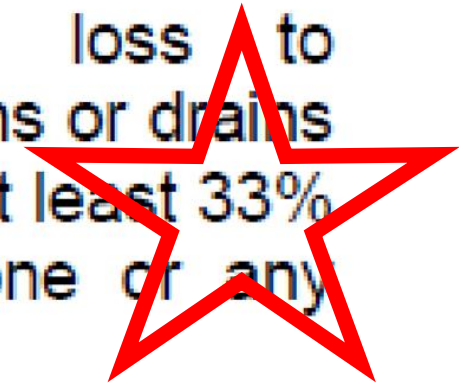
Drainage – Soils with high potential for subsurface lateral flow based on soil texture and poor drainage.

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

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"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	

Sherando	H	Leaching
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Jefferson	M	Leaching
Jefferson	H	Leaching

TABLE 15.--SOIL AND WATER FEATURES

[Absence of an entry indicates 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	Hydrogic soil symbol	Frequency	Flooding		High water table		Sesquioxides		Potential frost action	Risk of corrosion	
			Duration	Months	Depth	Kind	Months	Depth		Hardness	Uncoated steel
10B2, 10C2, 10D2, 10E2 Bookwood		None			>6.0			20-40	Rippable	Moderate	Moderate
11A, 11B, 12B Buchanan		None			1.5-3.0	Perched	Dec-Apr	>60		High	High
113C Buchanan		None			0.5-3.0	Perched	Nov-Mar	>60		Moderate	High
20B2, 20C2, 21B3, 21C3, 21D3, 21E3 Chilhowie		None			>6.0			20-40	Hard	Moderate	High
22B2, 22C2, 22D2, 22E2, 22F2 Chilhowie		None			>6.0			20-40	Hard	Moderate	High
14B2, 14C2, 14D2, 14E2, 14F2, 14G2, 14H2, 14I2, 14J2, 14K2, 14L2, 14M2, 14N2, 14O2, 14P2, 14Q2, 14R2, 14S2, 14T2, 14U2, 14V2, 14W2, 14X2, 14Y2, 14Z2 Frederick		None			>6.0			>60		Moderate	Moderate
53C, 53D Jefferson		None			4.0-6.0	Apparent	Feb-Apr	>60			Moderate
77C, 77D, 78C, 78E Sherando		None			>6.0			>60		Low	Low
79B, 80B Timberville		Frequent	Very brief	Apr-Oct	>6.0			>60		Moderate	Low

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



Nutrient Management Training and Certification Regulations
(4 VAC50-85-140.A4) (page12)



4. Nutrient application timing.

a. Timing recommendations for nutrient sources containing nitrogen shall be as close to plant nutrient uptake periods as reasonably possible. A certified nutrient management planner shall utilize procedures contained in Virginia Nutrient Management Standards and Criteria, revised July 2014, to determine the timing of nutrient applications. To reduce the potential for nutrient leaching or runoff, a certified nutrient management planner 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, except as specified in subdivisions 4 b through e of this subsection. If such nutrient applications are made to fall-seeded crops such as small grain, the crop planted shall be capable of germination and significant growth before the onset of winter so the crop is able to take up the available applied nitrogen.

- 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

All nutrient Sources – Inorganic (fertilizer) & Organic!

Organic nutrient exceptions

(4 VAC50-85-140.A4)



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:



Days

(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 in 4VAC50-85-10 or the Virginia Nutrient Management Standards and Criteria, revised July 2014, except as specified in subdivision 4 b (2) of this subsection. Such nutrient applications shall not exceed allowable application rates of the spring seeded crop;

- Sites that are not environmentally sensitive



(2) Applications shall be within 90 days of planting a spring seeded crop to sites that meet all of the following requirements:

(a) Are not environmentally sensitive sites as identified in 4VAC50-85-10 or the Virginia Nutrient Management Standards and Criteria, revised July 2014;

- Not Environmentally Sensitive Site

(b) Have slopes of less than 7.0% throughout the application area unless: (i) at least 60% uniformly distributed crop residue cover exists following application or (ii) the application and any associated tillage is in conformance with an existing and implemented soil conservation plan meeting NRCS requirements for the site; and

- Slopes of < 7%

- @ least 60% crop residue

- Implementing a soil conservation plan

(c) The organic sources being applied are one of the following: semi-solid beef manure, semi-solid dairy manure with sawdust bedding or straw bedding, dewatered anaerobically digested sewage sludge, or dewatered lime stabilized sewage sludge. Such nutrient applications shall not exceed allowable application rates of the spring planted crop;

Organic sources

- Semi-Solid Beef
- Semi-Solid Dairy w/ organic bedding
- Dewatered anaerobically digested sewage sludge
- Dewatered lime stabilized sewage sludge

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.



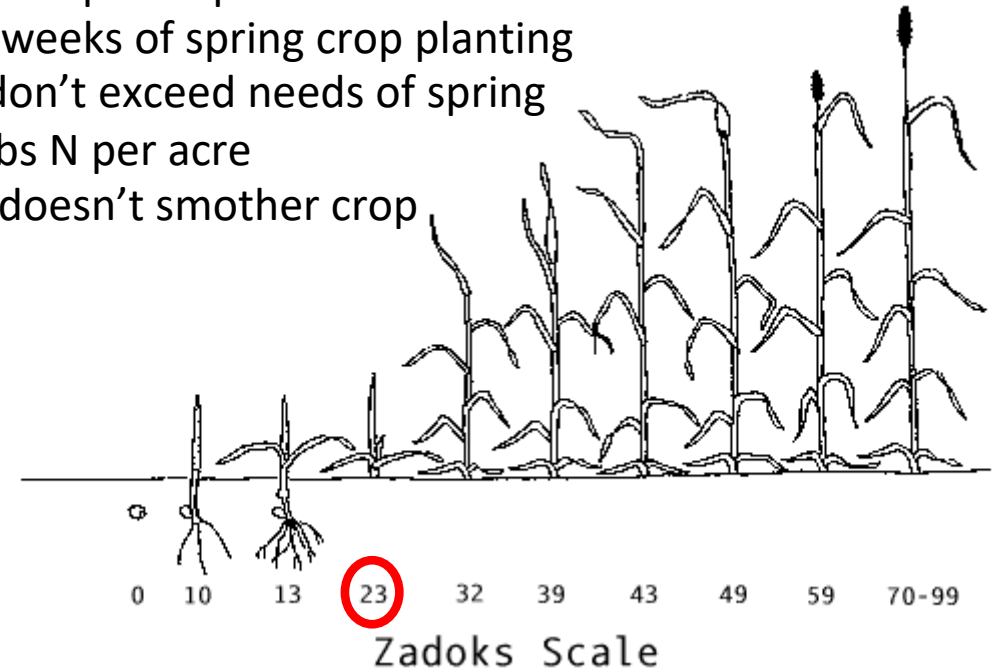
(3) Applications of organic nutrient sources may occur prior to the times specified in subdivisions 4 b (1) and (2) of this subsection on:

(a) Sites that are not environmentally sensitive sites if all of the following requirements are met:

(i) a trap crop exists that has reached a Zadoks growth stage of 23 or greater having a uniform stand throughout the site area of at least 20 plants per square foot; (ii) the trap crop shall be allowed to continue growing on the entire site until within two weeks of the spring crop planting date; (iii) all such nitrogen applications of organic nutrient sources to trap crops shall not exceed the crop nutrient needs of the upcoming spring planted crop subtracting at least 30 pounds per acre of nitrogen to be reserved for use as a banded starter fertilizer at the time of spring planting; and (iv) the rate of organic nutrient source applied does not smother the crop.

(b) Environmentally sensitive sites as identified in 4VAC50-85-10 or the Virginia Nutrient Management Standards and Criteria, revised July 2014, in addition to those criteria outlined in subdivision 4 b (3) (a) of this subsection, such applications to a trap crop must be within 60 days of planting a spring planted crop.

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

