2017 Iowa FFA Soil Judging CDE Exam

- 1. Landscape positions vary in soil composition and makeup. What landscape position would be characterized by having strata and lenses of different textures in the profile:
 - a. Upland
 - b. Footslope
 - c. Terrace
 - d. Bottomland
 - e. All landscapes have this characteristic in common
- 2. Slope is an important characteristic in regards to the inherent potential of land. Slopes can be gentle to steep, short or long, and smooth or variable. All of these characteristics influence:
 - a. Soil development
 - b. Erosion
 - c. Land use
 - d. Runoff
 - e. All of the above
- 3. The upper part of the soil usually contains the:
 - a. The most plant roots
 - b. Lightest color
 - c. Accumulation of organic matter
 - d. Both A & C are the correct answer
 - e. A, B, and C are all correct
- 4. In comparison to the overlying horizon, if present, an E horizon is usually:
 - a. Darker in color
 - b. Higher in organic matter
 - c. Higher in clay content
 - d. All of the above
 - e. None of the above
- 5. A soil with 6 inches of A horizon with an accompanying 3 inches of E horizon directly below it would be classified as:
 - a. Thick
 - b. Moderately thick
 - c. Moderately thin
 - d. Thin
 - e. An A/E complex
- 6. The proportions of sand, silt, and clay in soil determines its:
 - a. Aggregates
 - b. Structure
 - c. Crystallization
 - d. Texture
 - e. None of the above

 7. When compared to the A horizon, typically the B horizon's texture has a: a. Higher proportion of clay b. Higher proportion of silt c. Higher proportion of sand d. Higher proportion of organic matter e. Lesser proportion of water
 8. Uniform brown or dark brown or strong brown colors of the B Horizon indicate: a. Well aerated conditions b. Poor natural drainage c. Poor root penetration d. Highly fertile soils e. High clay content
 9. Spots of one or more contrasting colors on a background of another color are called: a. Potholes b. Ribbons c. Knead d. Mottles e. None of the above
 10. The properties of tend to be strongly expressed compared to the amount present: a. Grains b. Sand c. Silt d. Clay e. Aggregates
 11. A soil with a profile depth of 47 inches would be classified as: a. Very deep b. Deep c. Moderately deep d. Shallow e. Very shallow
 12. In regard to soil parent material, alluvium is: a. Ground up material left by glaciers b. Materials moved down steep slopes by gravity c. Sediments deposited by running water d. Organic materials that accumulated in bogs e. None of the above
 13. What is the native vegetation of an area that has both grass and trees? a. Forest b. Prairie c. Transition d. Marsh e. Wetland

 14. A tract of land was judged as having 6 percent slope. The tract of land is also harvested corn silage where little residue is present. The surface drainage class is most likely: a. Rapid b. Medium c. Slow d. Ponded e. It does not matter, residues are not measured until after planting
 15. The amount of water held and the rate the water moves in the soil profile is called: a. External drainage b. Redox rate impact c. Internal drainage d. Erosion retention e. None of the above
 16. A very slow rate of erosion under natural conditions is called: a. Authentic erosion b. Rill erosion c. Accelerated erosion d. Geological erosion e. None of the above
 17. Water evaporating from wet soils leaves behind enough to cause a condition known as calcareous soils. a. Calcium carbonate b. Calcium phosphate c. Sodium chloride d. Hydrochloric acid residue e. None of the above
 18. Calcareous soils: a. Lower the soil pH b. Raise the soil pH c. Limits the availability of Phosphorus d. Both B & C e. None of the above
 19. A limitation due to rock or rock fragments is serious when such particles contain percent by volume. a. 2 b. 5 c. 10 d. 15 e. None of the above

 20. Land with a deep, somewhat poorly drained, medium textured soil with a 0-2 percent slope would be classified as: a. Class I b. Class Iw c. Class IIw d. Class IIe e. None of the above
 21. According to your soil judging manual, there are eight different land classes used to classify land. Of these eight classes, how many classes cannot have row crops grown regularly on them based on the steepness of the hill and subsequent erosion potential? a. 1 b. 2 c. 3 d. 4 e. 5
 22. Land capability subclasses are used to denote the type of hazard or limitation restricting the use of soils grouped in land classes: a. 1-4 since these are row-cropped b. 1-8 since all soil is important to preserve c. 5-8 since these soils are at the greatest risk d. 1-7 because 8 is not suited for agriculture e. 2-8 are the only ones
 23. Soil can be rated in one of four classes based on its potential for intensive row cropping: high, medium, low and unsuited. What range of slope below can be considered as high potential for intensive row cropping? a. 0-5 percent b. 0-9 percent c. 0-14 percent d. 0-18 percent e. None of the above
 24. An earthen embankment that diverts runoff water from a specific place is a a. Diversion b. Filter strip c. Grass and sediment control basin d. Terrace e. None of the above
 25. If a soil is well aerated and has low water holding capacity: a. Subsurface drainage is needed if the soil is high in organic matter b. Subsurface drainage is needed if the soil is calcareous c. Subsurface drainage is needed if the soil is also uniform brown d. Subsurface drainage is needed if the soil is low in clay content e. Subsurface drainage is not needed

- 26. The best intermittent drainageway would be what?
 - a. Cover crop
 - b. Grass waterway
 - c. Filter strip
 - d. Buffer strip
 - e. None of the above
- 27. Tillage and row crops oriented across slopes are called:
 - a. Strip cropping
 - b. Contouring
 - c. Terracing
 - d. Buffer strips
 - e. None of the above
- 28. A system of growing row crops and meadow crops in alternating sections on the contour, during the same growing season, on the same tract of land, is referred to as:
 - a. Strip cropping
 - b. Contouring
 - c. Terracing
 - d. Tiling
 - e. All of the above are true
- 29. Terracing is the practice of constructing ridges and channels across the slope to intercept runoff water. The type and kind of terrace that is constructed on land depends of which of the following:
 - a. Slope of the land
 - b. Erosion class of the land
 - c. Internal drainage
 - d. All of the above
 - e. None of the above
- 30. On slopes up to 5%, the single most effective and least costly system to reduce soil erosion is/are:
 - a. Grass waterway
 - b. Contouring
 - c. Strip cropping
 - d. Conservation tillage
 - e. Tiling
- 31. In evaluating building sites for houses with basements, bedrock is a limitation when soft bedrock is found:
 - a. Less than three feet
 - b. Less than five feet
 - c. Less than six feet
 - d. Soft bedrock is always a problem regardless of depth
 - e. Soft bedrock is never a problem regardless of depth

- 32. A soil contains over 12 inches of black A horizon, underlain by gray colors with red redox features. What could be expected?
 - a. Oxygen is always present in the top 12 inches
 - b. This soil has a high seasonal water table
 - c. The black A material has accumulated from elsewhere
 - d. Depth to bedrock is at least 6 feet
 - e. None of the above
- 33. Which landscape position could pose a limitation for houses with basements due to flooding?
 - a. Upland
 - b. Footslope
 - c. Terrace
 - d. Bottomland
 - e. None of the above
- 34. Shrink-swell of the soil relates to:
 - a. The external drainage of the soil
 - b. The expansion of the soil when it dries
 - c. The percent of volume change during wetting and drying
 - d. A factor that needs to be considered with a septic tank absorption field
 - e. Both c and d are correct
- 35. In evaluating sites for conventional septic tank absorption fields, bedrock is a limitation when bedrock is found:
 - a. Only within the first three feet of a soil profile
 - b. Only within the first five feet of a soil profile
 - c. Only within the first six feet of a soil profile
 - d. Bedrock is always a problem
 - e. Bedrock is never a problem
- 36. Soils best suited for adequate treatment of effluent in an absorption field are those that occur in which landscape position?
 - a. Upland
 - b. Footslope
 - c. Intermittent drainageway
 - d. Bottomland
 - e. None of the above
- 37. Evidence of water table is a limitation for conventional septic tank absorption fields if:
 - a. No redox features within the first 72 inches of the soil profile
 - b. No redox features within the first 40 inches of the soil profile
 - c. No redox features within the first 20 inches of the soil profile, but redox features found between 20 and 40 inches of the soil profile
 - d. Redox features found within the first 40 inches of the soil profile
 - e. C and D above are the best choices

- 38. Soils are not suited for a source of topsoil when the texture of the topsoil is:
 - a. Coarse
 - b. Moderately Coarse
 - c. Moderately Fine
 - d. Fine
 - e. All of the above
- 39. Soils generally suited for a source of topsoil?
 - a. Generally have more than 40 inches of total soil profile depth
 - b. Have textures that are in the medium category
 - c. Have a dark or black A horizon color
 - d. All the above
 - e. None of the above
- 40. Soils that are generally not suited for a source of topsoil due to evidence of water table are:
 - a. Very poorly drained
 - b. Poorly drained
 - c. Well drained
 - d. Both A & B
 - e. None of the above

Answer Key

- 1. D
- 2. E
- 3. D
- E 4.
- В 5.
- D 6.
- 7. Α
- 8. A
- D or E 9.
- 10. D
- 11. В
- 12. C
- 13. C
- В 14.
- 15. C
- 16. D
- 17. A
- 18. D
- 19. D
- 20. Α 21. E
- 22. E
- 23. A
- 24. Α
- 25. E
- 26. В
- 27. В
- 28. A
- 29. A
- 30. D
- 31. Α
- 32. В
- 33. D C C
- 34.
- 35.
- 36. Α
- 37. E
- E 38.
- 39. D
- D 40.

See Soil Judging in lowa, PM 1106, for interpretation of this form. Mark only one box per question.

Part I. Surface Features (2 points)

Landscap	1. Landscape Position	Upland Intermittent drainageways Footslope Terrace Bottomland	× 0000
2. Slope		Nearly level, 0-2% Gently sloping, 2-5% Moderately sloping, 5-9% Strongly sloping, 9-14% Steep, greater than 14%	X

Part II. Soil Features—The Profile (17 points)

Moderately dark Light
Yes No
Thick, more than 12' Moderately thick, 7-12' Moderately thin, 3-7' Thin, less than 3'
Coarse Moderately coarse Medium Moderately fine Fine
Yes
Uniform brown or dark brown or strong brown. Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features. Grayish brown or olive gray, no redox features Grayish brown or olive gray, with gray or rust redox features.
Gray with redox features Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores Black. May contain few rust redox None of the above

Part II Total

Soil Site No.

Contestant Name Official

School Name

Part II. (continued)

Contestant No.

10. Texture of B Horizon	Coarse	no
(or C Horizon if B is	Moderately coarse	٥.
absent or buried A	Medium	0
if 24" overwash)	Moderately fine	
	Fine	9
11. Soil Depth	Deep, more than 40"	8
	Moderately deep, 30-40"	۵.
	Moderately shallow, 20-30"	0
	Shallow, less than 20"	P
12. Soil Parent Material	Glacial drift or local sediments from	
	glacial drift	7
	Loess	-
	Alluvium or colluvium	1
	Residuum	
	Peat or organic	0
13. Native Vegetation	Forest	re
	Transition	م
	Prairie	0
	Marsh	
14. Surface Drainage	Rapid	60
	Medium	9
	Slow	ü
	Ponded	P
15. Internal Drainage	Excessively drained	ю
	Well drained	_
	Somewhat poorly drained	3
	Poorly drained	0
	Very poorly drained	Φ
16. Erosion Class	Overwash	(0)
	Uneroded or slightly eroded	
	Moderately eroded	ပ
	Severely eroded	P
	Gullied land	00
17. Calcareous Surface Soil	Yes	9
	No	\
18. Calcareous B Horizon	Yes	ro
(or C Horizon if B is absent)	No	9
19. Stoniness or Rockiness	Yes	103
	No	^ q

Class	tations mitations		D
Class	mitations	Q	×
Class	and limitations	S	
Class	SIE IIIIII ACIONS	P	
Class	above	a)	Т
	pue	- C	Т
	for cultivation	1	Т
ability	ed for agric.	a c	T
	cultural	-	T
	ароуе	0	×
		œ	
w wetness s soil		q	$\mathbf{\nabla}$
s soil		٥	
1 1 1		P	
c cilmate		Φ	Г
23. Productivity Potential High		8	X
Medium		q	
Low		0	
Unsuited		D	

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes No	e q
25. Subsurface drainage	Yes No	. ×
26. Grass waterway	Yes No	00
27. Contouring	Yes No	a 9
28. Strip cropping	Yes No	(a = 2)
29. Terracing	Yes No	a D
30. Conservation tillage	Yes No	X e

Extension and Outreach

Part IV Total

Prepared by Gerald A. Miller, extension agronomist.

Scoring Summary

Part V Total

e o

Part Part II Part III Part IV Part V

Total Score

PM 1107 Revised June 2013 Electronic version June 2013



end justice for all Agriculture (USDA) prohibits discrimination in all its programs and actorities on the basis of race, color, national origin, aga, disability, and where applicable, sex, market status, religion, sexualsonismation, genetic information political prohibits discrimination of program information of program information (Brisille, large struct, religion, sexualsonismation, with a genetic interpretation of discrimination of program information (Brisille, large struct, religion, sexualsonismation, with a genetic and discrimination, write to USDA, 2008 (Washington, DC 2025-280), to real EQD-755-5272 (veince) or 2027-202-5202 (TDD). USDA is an equal opportunity provider and employer, issued in hurtherance and factorish work. Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Cathean A. Kress, direction.



Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

Yes

31. Bedrock

S

Yes

32. Evidence of water table

2

Yes No Yes

34. Shrink-swell

33. Flooding

X

e 9

X

e q

X X

e o

Limitations for conventional septic tank absorption fields

Yes Yes

e o

е **О**

e o

е д

Yes

37. Evidence of water table

36. Flooding

35. Bedrock

Source of topsoil 38. Texture group

S

e o

Not Suitable

Suitable

Not Suitable

Suitable

39. Thickness of A horizon

Not Suitable

40. Evidence of water table

e o

See Soil Judging in lowa, PM 1106, for interpretation of this form. Mark only one box per question.

Part I. Surface Features (2 points)

	Intermittent drainageways Footslope Terrace	g C C C
Close	Potential of the second of the	υ
z. Slope	ivearly level, U-2%	œ
	Gently sloping, 2-5%	X
	Moderately sloping, 5-9%	3
	Strongly sloping, 9-14%	P
	Steep, greater than 14%	œ.

Part I Total	X	×	X	×	X	×	
	ு மடி	0.0	G C C C C	в С С С В	e 2	a 00 ba	
	Dark Moderately dark Light Verv linht	Yes No	Thick, more than 12" Moderately thick, 7-12" Moderately thin, 3-7" Thin, less than 3"	Coarse Moderately coarse Medium Moderately fine Fine	Yes	Uniform brown or dark brown or strong brown Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features Grayish brown or olive gray, no redox features Grayish brown or olive gray, myth gray or rust redox features None of the above	Gray with redox features Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores Black. May contain few rust redox None of the showe
Part II. Soil Features—The Profile (17 points)	Moist Color of A1 or Ap	E Horizon Present	Thickness of A Horizon or A+E Horizons	Texture of A Horizon	B Horizon Present	Moist Color of B Horizon (or C Horizon if B is absent)	Moist color of B Horizon (or C Horizon if B is absent)
Pa'	ri	4	ci.	ý.	7.	∞	gri

2	-	V	
		No.	
		Soil Site	

Contestant Name Offici A

School Name

Part II. (continued)

Contestant No.

П	12	X		×				>	<							X			X				X						X				X		X	7	J
10.	۵	0 0	40	co.	p	ပ	P		8	q	o	P	e		٥	O	P	co	q	ပ	P	G	9	o	P	æ	00	0	0	D	0	60	٩		q	0.4	-
Coarse	Woderately coarse	Medium Moderately fine	Fine	Deep, more than 40"	Moderately deep, 30-40"	Moderately shallow, 20-30"	Shallow, less than 20"	Glacial drift or local sediments from	glacial drift	Loess	Alluvium or colluvium	Residuum	Peat or organic	Forest	Transition	Prairie	Marsh	Rapid	Medium	Slow	Ponded	Excessively drained	Well drained	Somewhat poorly drained	Poorly drained	Very poorly drained	Overwash	Uneroded or slightly eroded	Moderately eroded	Severely eroded	Gullied land	Yes	No	Yes	No	Yes	
10. Texture of B Horizon	absent or buriod A	if 24" overwash)		11. Soil Depth				12. Soil Parent Material						13. Native Vegetation				14. Surface Drainage				15. Internal Drainage					16. Erosion Class	· Y				17. Calcareous Surface Soil		18. Calcareous B Horizon	(or C Horizon if B is absent)	19. Stoniness or Rockiness	

21. Land Capability Class	III. Severe limitations IV. Very severe limitations None of the above V. Noncropland VI. Unsuited for cultivation	0000000
22. Land Capability Subclass	None of the above None e erosion w wetness	X X
23. Productivity Potential	c climate High Medium Low	700000

34. Shrink-swell

33. Flooding

31. Bedrock

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

IOWA STATE UNIVERSITY Extension and Outreach

Prepared by Gerald A. Miller, extension agronomist. PM 1107 Revised June 2013 Electronic version June 2013

and undoe for all the contract of the state of the contract of

Scoring Summary Part III Part IV Part V X Part Part V Total Part Total Score e Q вσ e d e o ь e д e o e o e o œ 🗘 Part V. Suitability of Soils for Nonagricultural Uses (10 points) Limitations for conventional septic tank absorption fields Limitations for building sites for houses with basements Not Suitable Not Suitable Not Suitable Suitable Suitable Suitable Yes No Yes No Yes No Yes Yes Yes Yes S ž 32. Evidence of water table 37. Evidence of water table 40. Evidence of water table 39. Thickness of A horizon Source of topsoil 38. Texture group

36. Flooding

35. Bedrock

Contestant Name OFFice A

3

Soil Site No.

School Name

Part II. (continued)

Contestant No.

See Soil Judging in lowa, PM 1106, for interpretation of this form. Mark only one box per question.

Part I. Surface Features (2 points)

. rainscapa rosition	Upland Intermittent drainageways Footslope	× 0 0 0
	Terrace Bottomland	75 60
Slope	Nearly level, 0-2% Gently sloping, 2-5%	a 2
	Moderately sloping, 5-9% Strongly sloping, 9-14%	000
	Steep, greater than 14%	0
Part II. Soil Features—The Profile (17 points)	ile (17 points)	Part Total
Moist Color of A1 or Ap	Dark Moderately dark	8 4
	Light Very light	000
E Horizon Present	Yes No	, a =
Thickness of A Horizon or A+E Horizons	Thick, more than 12. Moderately thick, 7-12. Moderately thin, 3-7. Thin less than 3-7.	, a.a.o.

(or C Horizon if B is absent or buried A	
absent or buried A	Moderately coarse
	Medium
if 24" overwash)	Moderately fine Fine
11. Soil Depth	Deep, more than 40"
	Moderately deep, 30-40"
	Moderately shallow, 20-30" Shallow, less than 20"
12. Soil Parent Material	Glacial drift or local sediments from
	glacial drift
	Loess
	Alluvium or colluvium
	Residuum
	Peat or organic
13. Native Vegetation	Forest
	Transition
	Prairie
	Marsh
14. Surface Drainage	Rapid
	Medium
	Slow
	Ponded
15. Internal Drainage	Excessively drained
	Well drained
	Somewhat poorly drained
	Poorly drained
	Very poorly drained
16. Erosion Class	Overwash
	Uneroded or slightly eroded
	Moderately eroded
	Severely eroded
	Gullied land
17. Calcareous Surface Soil	Yes
	No
18. Calcareous B Horizon	Yes
(or C Horizon if B is absent)	No
19. Stoniness or Rockiness	Yes
	No

Part II Total

Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores

B Horizon (or C Horizon if B is absent)

Moist color of

6

Gray with redox features

None of the above redox features

Black. May contain few rust redox

None of the above

Includes olive or yellowish or reddish cast or Uniform brown or dark brown or strong brown. Uniform brown or dark brown or strong brown

B Horizon (or C Horizon if B is absent)

Moist Color of

∞i

Moderately coarse

6. Texture of A Horizon

Moderately fine Medium Coarse

Fine Yes

7. B Horizon Present

Grayish brown or olive gray, no redox features Grayish brown or olive gray with gray or rust

tints or other redox features

	II. Some limitations	×
	III. Severe limitations	2
	IV. Very severe limitations	P
	None of the above	O)
21. Land Capability Class	V. Noncropland	æ
	VI. Unsuited for cultivation	P
	VII. Restricted for agric.	0
	VIII. Nonagricultural	70
	None of the above	× 0
22. Land Capability	None	æ
Subclass	e erosion	X
	w wetness	O
	s soil	P
	c climate	0
23. Productivity Potential	High	, e
	Medium	٥
	Low	0
	Unsuited	0

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes	
25 Subsurface drainage	No	X q
	No	Х
26. Grass waterway	Yes No	e D
27. Contouring	Yes	× Q
28. Strip cropping	Yes No	a d
29. Terracing	Yes	e d
30. Conservation tillage	Yes No	× 0

IOWA STATE UNIVERSITY Extension and Outreach

Prepared by Gerald A. Miller, extension agronomist. PM 1107 Revised June 2013

Part V

Total Score

Scoring Summary

Part V Total

Part Part II Part III Part IV

× ×

ФФ

X

a a

Not Suitable

Suitable

Not Suitable

Suitable

39. Thickness of A horizon

Not Suitable Suitable

40. Evidence of water table

Electronic version June 2013

and unite (or or ell)

The U.S. Obstance of National Managemen and activities so the beats of state, color, uniforal state, color, uniforal status, deminal status, cerental status, cerental status, refreshed, separate of National Status, cerental status, cerental status, cerental status, cerental status, cerental status, refreshed, separate of National Status, cerental status,

Part IV Total



Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

X

e q

Limitations for conventional septic tank absorption fields

%es № Yes

35. Bedrock

36. Flooding

Yes No

34. Shrink-swell

e o

e o

е д

Ses No

37. Evidence of water table

Source of topsoil 38. Texture group

ž

вQ

×

e o

Yes

32. Evidence of water table

원

%es №

31. Bedrock

Yes

33. Flooding

2

e a

See Soil Judging in Iowa, PM 1106, for interpretation of this form. Mark only one box per question.

Part I. Surface Features (2 points)

Upland Intermittent drainageways Footslope Terrace Bottomland Nearly level, 0-2% Gently sloping, 2-5% Moderately sloping, 9-14% Strongly sloping, 9-14% Steep, greater than 14% Light Very light Very light Woderately thick, 7-12* Moderately thin, 3-7* Thin, less than 3* Coarse Moderately coarse Moderately coarse Moderately coarse Moderately thin, 3-7* Thin, less than 3* Coarse Moderately thin, 3-7* Thin, less than 3* Coarse			2 2 3 2 2 2	0 0
Upland Intermittent Footslope Terrace Bottomland Nearly level Gently slopi Moderately Strongly slo Steep, great Steep, great Light Very light Very light Ves No Thick, more Moderately	Noderately tine Fine Yes	Yes No	Uniform brown or dark brown or strong brown Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features Grayish brown or olive gray, no redox features Grayish brown or olive gray with gray or rust redox features None of the above	Gray with redox features Uniform gray. May have bluish or greenish cast or
1. Landscape Position Upland Intermitter Footslope Evotslope Bottomlan 2. Slope Bottomlan Nearly leve Gently slop Moderatel Strongly slop Moderatel Strongly slop Moderatel Strongly slop Moderatel Light 4. E Horizon Present Nes No	B Horizon Present	B Horizon Present	Moist Color of B Horizon (or C Horizon if B is absent)	Moist color of B Horizon (or C Horizon if B is absent)

Contestant Name Soil Site No.

School Name

Part II. (continued)

Contestant No.

	10 Towture of D Horizon		
re Soil		Coarse	В
al al sabsent)	SI G LIGHT P IS	Woderately coarse	Q
ce Soil	absent or buried A	Medium	٥
ce Soil	if 24" overwash)	Moderately fine Fine	×
ce Soil	11. Soil Depth	Deep, more than 40"	, "
ce Soil		Moderately deep, 30-40"	-
re Soil		Moderately shallow, 20-30	0
ce Soil		Shallow, less than 20"	-
ce Soil izon	12. Soil Parent Material	Glacial drift or local sediments from	
ce Soil		glacial drift / .m)	ь Х
ce Soil		Loess	9
ce Soil		Alluvium or colluvium	X
ce Soil		Residuum	P
ce Soil		Peat or organic	0
ce Soil izon	13. Native Vegetation	Forest	е
ce Soil izon		Transition	٩
ce Soil izon		Prairie	×
ce Soil izon		Marsh	P
ce Soil izon is absent)	14. Surface Drainage	Rapid	co
ce Soil izon is absent)		Medium	٩
ce Soil izon is absent)		Slove	2
ce Soil izon is absent)		Ponded	\ P
urface Soil Horizon if B is absent)	15. Internal Drainage	Excessively drained	(C)
urface Soil Horizon if B is absent)		Well drained	q
urface Soil Horizon if B is absent)		Somewhat poorly drained	×
urface Soil Horizon if B is absent)		Poorly drained	P
urface Soil Horizon if B is absent)		Very poorly drained	w
1	16. Erosion Class	Overwash	co
the supplemental to the su		Uneroded or slightly eroded	×
ant)		Moderately eroded	
tra (tra		Severely eroded	P
ant		Gulfied land	e e
Sent	17. Calcareous Surface Soil	Yes	ro
sent		No	<u>х</u>
	18. Calcareous B Horizon	Yes	В.
1	(or C Horizon IT & IS absent)	No	×

Part II Total

Yes

19. Stoniness or Rockiness

II. Some limitations III. Severe limitations IV. Very severe limitations IV. Very severe limitations None of the above VI. Unsuited for agric. VII. Restricted for agric. VIII. Nonagricultural None of the above Subclass w wetness s soil c climate Calmate Amedium Low	
	q
	O
	P
	¢.
	co.
	ن د
	P
	Ф
	œ
	q
	υ
	P
	æ
Medium Low	9
Low	q
100	3
Otionited	P

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

25. Subsurface drainage Yes No 26. Grass waterway Yes No 27. Contouring Yes	
	× q
	x a
	e a
No	e 0
28. Strip cropping Yes No	,
29. Terracing Yes No	e a
30. Conservation tillage Yes No	æ ∓ X

IOWA STATE UNIVERSITY Extension and Outreach

Prepared by Gerald A. Miller, extension agronomist. PM 1107 Revised June 2013

Part IV Part V

Total Score

PM 1107 Revised June 2013 Electronic version June 2013

and use the control of agriculture (USDA) pointed descrimentation, and the programs and activities on the bases of sect, color, netational longs), age, disability, and where applicable, sex, maintal status, harmful status, parental status, religion, sexanderination, gament intermental periods assistance programs. Persons with disabilities who require a pirrod and sex spirity and where applicable assistance program. Hotel all problemed bases apply to all imparance, because with disabilities who require a pirrod and sex spirity and where a program intermental files its parent auditoriate, and independence Avenue SW. Wisshappon, DE 2025-9810, or call 800-795-2272 lonicel or 202-720-5202 lonicel o

Part IV Total



Part V. Suitability of Soils for Nonagricultural Uses (10 points) Limitations for building sites for houses with basements

31. Bedrock	Yes	æ
	No	y q
32. Evidence of water table	Yes No	× ×
33. Flooding	Yes	o o
	No	×
34. Shrink-swell	Yes	-
	No	q
Limitations for conventional septic tank absorption fields	eptic tank absorption fields	
35. Bedrock	Yes	C
	No	×
36. Flooding	Yes	9
	No	×
37. Evidence of water table	Yes	X
	No	P
Source of topsoil		
38. Texture group	Suitable	С
	Not Suitable	4
39. Thickness of A horizon	Suitable	e
	Not Suitable	9
40. Evidence of water table	Suitable	× ×
	Not Suitable	P
		Part V Total
		Scoring Summary
		Parti
		Part II