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**CLASSIFICATION AND CORRELATION
OF
THE SOILS OF**

**CASS COUNTY
INDIANA**

NOVEMBER 1979



**U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MIDWEST TECHNICAL SERVICE CENTER
LINCOLN, NEBRASKA**

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Midwest Technical Service Center
Lincoln, Nebraska 68508

Classification and Correlation
of the Soils of
Cass County, Indiana

The final correlation conference for Cass County, Indiana, was held April 2-5, 1979. Those participating in the correlation were: DeWayne Williams, Soil Correlator, Soil Conservation Service, Indianapolis, Indiana; and Steve R. Base, Soil Correlator, Soil Conservation Service, Lincoln, Nebraska. Walter Douglas, Party Leader, Soil Conservation Service, Fort Wayne, Indiana, was unable to attend because of an airline strike; however, he was able to participate through telephone communication. The data reviewed consisted of the initial draft of the manuscript, field notes, laboratory data, field sheets, soil correlation samples, field correlation, and the SCS-SOILS-6 forms. Steve R. Base also participated in the comprehensive field review which was held October 31-November 4, 1977.

Map symbols consist of a combination of letters or of letters and numbers. The first capital letter is the initial one of the map unit name. The lowercase letter that follows separates map units having names that begin with the same letter, except that it does not separate sloping or eroded phases. The second capital letter indicates the class of slope. Symbols without a slope letter are for nearly level soils. A final number of 2 indicates that the soil is moderately eroded and 3 that it is severely eroded.

<u>Field Symbols</u>	<u>Field Mapping Unit Name</u>		<u>Pub. Symbol</u>	<u>Approved Mapping Unit Name</u>
Ad, Ed, Pa	Adrian Variant muck	)	Ad	Ackerman muck, drained
AlC, AlB, AlB2, AlC2	Bloomfield Variant loamy fine sand, 4-12% slopes	)	BmC	Bloomfield loamy fine sand, 4 to 12 percent slopes
BnA	Blount silt loam, 0-3% slopes	)	BnA	Blount silt loam, 0 to 3 percent slopes
ChC, ChA, ChB, ChB2, ChC2, SpB2, SpC2	Chelsea loamy fine sand, 4-12% slopes	)	ChC	Chelsea loamy fine sand, 4 to 12 percent slopes
CpA, Au, CpB	Crosier loam, 0-3% slopes	)	CpA	Crosier loam, 0 to 3 percent slopes
Ra	Ragsdale silt loam, loamy substratum	)	Cy	Cyclone silt loam
FcA, Fc, ReA	Fincastle silt loam, 0-3% slopes	)	FcA	Fincastle silt loam, 0 to 3 percent slopes
Ge, Ee	Gessie Variant silt loam	)	Ge	Gessie Variant silt loam, occasionally flooded
Gf	Gilford sandy loam		Gf	Gilford sandy loam
Wn, Wh, Wo	Westland silty clay loam	)	Gg	Gilford loam, gravelly substratum
MrB, MrB2	Morley silt loam, 2-6% slopes	)	GwB	Glynwood silt loam, 2 to 6 percent slopes
HeE, HeG	Hennepin loam, 25-60% slopes	)	HeE	Hennepin loam, 25 to 60 percent slopes
Hh, Wa	Houghton muck		Hh	Houghton muck, drained
FoB, FoA, FoB2	Fox silt loam, 2-6% slopes	)	KoB	Kosciusko silt loam, 2 to 6 percent slopes

<u>Field Symbols</u>	<u>Field Mapping Unit Name</u>		<u>Pub. Symbol</u>	<u>Approved Mapping Unit Name</u>
FsC3	Fox clay loam, 6-12% slopes, severely eroded	)	KsC3	Kosciusko sandy clay loam, 6 to 12 percent slopes, severely eroded
Gn, Nf	Maumee Variant loamy fine sand	)	Ma	Maumee loamy fine sand
MkC, MkA, MkB, MkB2, MkC2	Metea loamy fine sand, 3-10% slopes	)	MkC	Metea loamy fine sand, 3 to 10 percent slopes
MnB	Miami silt loam, 2-6% slopes	)	MnB2	Miami silt loam, 2 to 6 percent slopes, eroded
MnC2, MnC	Miami silt loam, 6-12% slopes, eroded	)	MnC2	Miami silt loam, 6 to 12 percent slopes, eroded
MnD2	Miami silt loam, 12-18% slopes, eroded	)	MnD2	Miami silt loam, 12 to 18 percent slopes, eroded
MoC3, MoD3	Miami clay loam, 6-14% slopes, severely eroded	)	MoC3	Miami clay loam, 6 to 14 percent slopes, severely eroded
Ms, RdA	Millsdale silty clay loam	)	Ms	Millsdale silty clay loam
MpC3, MpC2 <i>MpC2</i>	Morley clay loam, 6-12% slopes, severely eroded	)	MxC3	Morley clay loam, 6 to 12 percent slopes, severely eroded
Mz, SeA	Morocco loamy fine sand	)	Mz	Morocco loamy fine sand
MtB, MtA, MtB2	Milton silt loam, 2-6% slopes	)	NeB	NewGlarus silt loam, 2 to 6 percent slopes
MtC, Lm, MtC2, MtE, MtE2, MxE	Milton silt loam, 6-12% slopes	)	NeC	NewGlarus silt loam, 6 to 12 percent slopes
ObA, BmA	Oakville loamy fine sand, 0-3% slopes	)	ObA	Oakville loamy fine sand, 0 to 3 percent slopes

REB

<u>Field Symbols</u>	<u>Field Mapping Unit Name</u>	<u>Pub. Symbol</u>	<u>Approved Mapping Unit Name</u>
OsB, OsA, OsB2, OsC, OsC2	Ormas loamy fine sand, 2-6% slopes	) OsB)))	Ormas loamy fine sand, 2 to 6 percent slopes
Po, Mp	Patton silty clay loam	Po	Patton silty clay loam
Pp, Gp, Bp	Pits, gravel	) Pp)	Pits, gravel
Pq, Qu	Pits, quarries	Ps	Pits, quarries
Rn, Bo	Rensselaer loam, loamy substratum	) Rn)	Rensselaer loam, till substratum
RsB, RsB2, OwB2	Riddles silt loam, 2-6% slopes	) RsB))	Riddles silt loam, 2 to 6 percent slopes
RsC, RsC2	Riddles silt loam, 6-12% slopes	) RsC)	Riddles silt loam, 6 to 12 percent slopes
OaA, MaA	Ockley silt loam, 0-2% slopes	) RtA)	Rush silt loam, 0 to 2 percent slopes
OaB, MaB, MaB2, MaC2, OaB2, OaC2, MaC3	Ockley silt loam, 2-6% slopes	) RtB))))	Rush silt loam, 2 to 6 percent slopes
RuB, RuB2	Russell silt loam, 2-6% slopes	) RuB)	Russell silt loam, 2 to 6 percent slopes
RuC, RuC2	Russell silt loam, 6-12% slopes	) RuC)	Russell silt loam, 6 to 12 percent slopes
Sn, Sh	Sloan silty clay loam	Sh	Shoals silt clay loam, frequently flooded
Sm, Wt	Sleeth silt loam	Sm	Sleeth silt loam
SrA	Starks silt loam, 0-3% slopes	) SrA)	Starks silt loam, 0 to 3 percent slopes

<u>Field Symbols</u>	<u>Field Mapping Unit Name</u>		<u>Pub. Symbol</u>	<u>Approved Mapping Unit Name</u>
St	Stonelick loamy fine sand	)	St	Stonelick loamy fine sand, occasionally flooded
MmB, MmB2, MmC, MmC2	Miami sandy loam, 2-8% slopes	)	WeB	Wawasee sandy loam, 2 to 8 percent slopes
XeA, Xe	Xenia silt loam, 1-3% slopes	)	XeA	Xenia silt loam, 1 to 3 percent slopes

Series established by this correlation:

None

Series dropped or made inactive:

None

Certification Statement:

The state soil scientist has certified that mapping is complete and that both the detailed maps and the general soil map are joined. The state soil scientist further certifies that the interpretations are all joined and that the soil survey area representative pedons are accurately located.

Verification of cooperators names:

The citations, as they will appear on the cover and on the inside of the front cover of the manuscript, are as follows:

United States Department of Agriculture
Soil Conservation Service
in Cooperation with
Purdue University Agricultural Experiment Station
and
Indiana Department of Natural Resources
Soil and Water Conservation Committee

Disposition of Field Sheets:

The original field sheets for Cass County will be kept at the Indiana State Office where they will later be compiled and finished.

Prior Soil Survey Publications:

There is a prior soil survey publication issued April 1955 of the Soil Survey of Cass County, Indiana. This survey contains a less detailed map. The current survey updates this prior survey and provides additional interpretative information.

Instructions for Map Compilation and Map Finishing:

The symbols on the following conventional and special symbols legend are those that will be used in map finishing with the exception of the symbols for land grant boundaries, depressional area, and muck. These three symbols are dropped.

Conversion Legend Relating
Field Symbols to the Publication Symbols

Field Symbol	Publication Symbol	Field Symbol	Publication Symbol
Ad	Ad	MaB2	RtB
AlB	BmC	MaC2	RtB
AlB2	BmC	MaC3	RtB
AlC	BmC	MkA	MkC
AlC2	BmC	MkB	MkC
Au	CpA	MkB2	MkC
BmA	ObA	MkC	MkC
BnA	BnA	MkC2	MkC
Bo	Rn	MmB	WeB
Bp	Pp	MmB2	WeB
ChA	ChC	MmC	WeB
ChB	ChC	MmC2	WeB
ChB2	ChC	MnB	MnB2
ChC	ChC	MnC	MnC2
ChC2	ChC	MnC2	MnC2
CpA	CpA	MnD2	MnD2
CpB	CpA	MoC3	MoC3
Ed	Ad	MoD3	MoC3
Ee	Ge	Mp	Po
Fc	FcA	MpC2	MxC3
FcA	FcA	MpC3	MxC3
FoA	KoB	MrB	GwB
FoB	KoB	MrB2	GwB
FoB2	KoB	Ms	Ms
FsC3	KsC3	MtA	NeB
Ge	Ge	MtB	NeB
Gf	Gf	MtB2	NeB
Gn	Ma	MtC	NeC
Gp	Pp	MtC2	NeC
HeE	HeE	MtE	NeC
HeG	HeE	MtE2	NeC
Hh	Hh	MxE	NeC
Lm	NeC	Mz	Mz
MaA	RtA	Nf	Ma
MaB	RtB	OaA	RtA
		OaB	RtB

Field Symbol	Publication Symbol	Field Symbol	Publication Symbol
OaB2	RtB	Wh	Gg
OaC2	RtB	Wn	Gg
ObA	ObA	Wo	Gg
OsA	OsB	Wt	Sm
OsB	OsB	Xe	XeA
OsB2	OsB	XeA	XeA
OsC	OsB		
OsC2	OsB		
OwB2	RsB		
Pa	Ad		
Po	Po		
Pp	Pp		
Pq	Ps		
Qu	Ps		
Ra	Cy		
RdA	Ms		
ReA	FcA		
Rn	Rn		
RsB	RsB		
RsB2	RsB		
RsC	RsC		
RsC2	RsC		
RuB	RuB		
RuB2	RuB		
RuC	RuC		
RuC2	RuC		
SeA	Mz		
Sh	Sh		
Sm	Sm		
Sn	Sh		
SpB2	ChC		
SpC2	ChC		
SrA	SrA		
St	St		
Wa	Hh		

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

Laboratory Data - Purdue University*

<u>Sampled As</u>	<u>Sample No.</u>	<u>Publication Map Symbol</u>	<u>Approved Classification</u>
Alvin Variant	S76IN17-1	BmC	Bloomfield taxadjunct
Genesee	S76IN17-4	Ge	Gessie Variant
Westland	S76IN17-12	Gg	Gilford taxadjunct
Fox	S77IN17-1	KoB	Kosciusko taxadjunct
Milton	S74IN17-2	NeB	NewGlarus taxadjunct
Patton	S75IN17-2	Po	Patton
Ragsdale	S75IN17-1	Cy	Cyclone
Riddles	S76IN17-5	RsB	Riddles taxadjunct
Riddles	S78IN17-1	RsB	Riddles
Starks	S74IN17-1	SrA	Starks
Stonelick	S76IN17-3	St	Stonelick

Laboratory Data - NSSL*

<u>Sampled As</u>	<u>Sample No.</u>	<u>Publication Map Symbol</u>	<u>Approved Classification</u>
Not designated	S75IN17-2	Ad	Ackerman

* SCS-SOILS-8 forms have been prepared.

Notes to Accompany
Classification and Correlation
of the Soils of
Cass County, Indiana

by
Steve R. Base

BLOOMFIELD SERIES

This soil is a taxadjunct because it contains more sand than is allowed within the range of the series. It is a Psammentic Hapludalf; sandy, mixed, mesic.

GESSIE VARIANT

This soil is a variant of the Gessie series because it is sandy in the lower part of the control section. It is a Typic Udifluent; fine-loamy over sandy or sandy-skeletal, mixed (calcareous), mesic.

GILFORD SERIES

Mapping unit Gg, Gilford loam, gravelly substratum, is a taxadjunct to the Gilford series because it contains more clay than allowed within the series description. It is a Typic Haplaquoll; fine-loamy, mixed, mesic.

GLYNWOOD SERIES

The particle-size control section contains a little less clay than is typical for the series.

KOSCIUSKO SERIES

This soil is a taxadjunct to the Kosciusko series because it contains sandy material within 40 inches of the surface. It is a Typic Hapludalf; fine-loamy over sandy or sandy-skeletal, mixed, mesic.

MAUMEE SERIES

This soil is a taxadjunct to the Maumee series because of its fluventic characteristics. It is a Fluvaquentic Haplaquoll; sandy, mixed, mesic.

NEWGLARUS SERIES

This soil is a little less acid and contains carbonates in the lower part of the solum. It also is in a somewhat higher precipitation zone.

SLEETH SERIES

This soil is a taxadjunct to the Sleeth series because it has a thicker loess mantle than allowed within the series description. It is an Aeric Ochraqulf; fine-silty, mixed, mesic.

CLASSIFICATION OF THE SOILS

<u>Soil Series</u>	<u>Soil Family</u>
Ackerman	Histic Humaquepts; sandy, mixed, mesic
Bloomfield*	Psammentic Hapludalfs; coarse-loamy, mixed, mesic
Blount	Aeric Ochraqualfs; fine, illitic, mesic
Chelsea	Alfic Udipsamments; mixed, mesic
Crosier	Aeric Ochraqualfs; fine-loamy, mixed, mesic
Cyclone	Typic Argiaquolls; fine-silty, mixed, mesic
Fincastle	Aeric Ochraqualfs; fine-silty, mixed, mesic
Gessie Variant	Typic Udifluvents; fine-loamy over sandy or sandy-skeletal, mixed (calcareous), mesic
Gilford	Typic Haplaquolls; coarse-loamy, mixed, mesic
Glynwood	Aquic Hapludalfs; fine, illitic, mesic
Hennepin	Typic Eutrochrepts; fine-loamy, mixed, mesic
Houghton	Typic Medisaprists; euic, mesic
Kosciusko*	Typic Hapludalfs; fine-loamy, mixed, mesic
Maumee*	Typic Haplaquolls; sandy, mixed, mesic
<i>Metea</i>	<i>Aeric Hapludalfs; fine-loamy, mixed, mesic</i>
Miami	Typic Hapludalfs; fine-loamy, mixed, mesic
Millsdale	Typic Argiaquolls; fine, mixed, mesic
Morley	Typic Hapludalfs; fine, illitic, mesic
Morocco	Aquic Udipsamments; mixed, mesic
NewGlarus	Typic Hapludalfs; fine-silty over clayey, mixed, mesic

* Taxadjunct--see Notes to Accompany Classification and Correlation of the Soils of Cass County, Indiana.

<u>Soil Series</u>	<u>Soil Family</u>
Oakville	Typic Udipsamments; mixed, mesic
Ormas	Arenic HapludalFs; loamy, mixed, mesic
Patton	Typic Haplaquolls; fine-silty, mixed, mesic
Rensselaer	Typic Argiaquolls; fine-loamy, mixed, mesic
Riddles	Typic HapludalFs; fine-loamy, mixed, mesic
Rush	Typic HapludalFs; fine-silty, mixed, mesic
Russell	Typic HapludalFs; fine-silty, mixed, mesic
Shoals	Aeric Fluvaquents; fine-loamy, mixed, nonacid, mesic
Sleeth*	Aeric OchraqualFs; fine-loamy, mixed, mesic
Starks	Aeric OchraqualFs; fine-silty, mixed, mesic
Stonelick	Typic Udifluvents; coarse-loamy, mixed (calcareous), mesic
Wawasee	Typic HapludalFs; fine-loamy, mixed, mesic
Xenia	Aquic HapludalFs; fine-silty, mixed, mesic