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CLASSIFICATION AND CORRELATION OF THE SOILS OF

430-15-5

FILE COPY

RUSH COUNTY INDIANA

JUNE 1983

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

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Midwest National Technical Center
Lincoln, Nebraska 68501

Classification and Correlation
of the Soils of
Rush County, Indiana

This correlation was completed by Gerald J. Post by mail and phone with the Indiana State Office Soils Staff during the period of December 1981 to February 1982 and May-June 1982. Material available and used in making this correlation was the field correlation, draft of the manuscript, correlation samples, laboratory data, and the field sheets. Gerald J. Post participated in the comprehensive field review the week of September 9, 1980.

Headnote for Detailed Soil Survey Legend:
Map symbols consist of a combination of letters or of letters and a number. 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 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 or miscellaneous areas. A final number of 2 indicates that the soil is eroded and 3 that is is severely eroded.

First Amendment to

Classification and Correlation
of the Soils of
Rush County, Indiana

This amendment is based on a telephone call from Leon B. Davis to Rodney F. Harner on July 12, 1983.

Page 2 -- The "Approved Map Unit Name" of CeB2 should be Celina silt loam, 2 to 6 percent slopes, eroded

Page 5 -- In the paragraph under the heading of "Inside Front Cover" the first sentence should be as follows:

This survey was made cooperatively by the Soil Conservation Service, Purdue University Agricultural Experiment Station, and the Indiana Department of Natural Resources, Soil and Water Conservation Committee.

Page 12 -- In the classification of Stonelick add a comma after (calcareous).

In the classification of Westland correct "Argaquolls" to "Argiaquolls".

Field Symbols	Field Map Unit Name	Publication Symbol	Approved Map Unit Name
CeB2	Celina silt loam, 2 to 6 percent slopes, eroded	CeB2	Celina silt loam, 2 to 6 slopes, eroded
CrA, CsA	Crosby silt loam, 0 to 3 percent slopes	CrA	Crosby silt loam, 0 to 3 percent slopes
Tr	Cyclone silty clay loam	Cy	Cyclone silty clay loam
FoB2	Eldean loam, 2 to 6 percent slopes, eroded	EdB2	Eldean loam, 2 to 6 percent slopes, eroded
FxC3, FoC2	Eldean clay loam, 6 to 12 percent slopes, severely eroded	ElC3	Eldean clay loam, 6 to 12 percent slopes, severely eroded
FxD3, FoD2	Eldean clay loam, 12 to 18 percent slopes, severely eroded	ElD3	Eldean clay loam, 12 to 18 percent slopes, severely eroded
FnA	Fincastle silt loam, 0 to 2 percent slopes	FnA	Fincastle silt loam, 0 to 2 percent slopes
Ge, Ee	Genesee loam, gravelly substratum	Ge	Genesee loam, gravelly substratum
MmB2	Miami silt loam, 2 to 6 percent slopes, eroded	MmB2	Miami silt loam, 2 to 6 percent slopes, eroded
MmD2, MmD	Miami silt loam, 12 to 18 percent slopes	MmD	Miami silt loam, 12 to 18 percent slopes
MmE, MmE2	Miami silt loam, 18 to 35 percent slopes	MmE	Miami silt loam, 18 to 35 percent slopes
MoC3, MmC, MmC2	Miami clay loam, 6 to 12 percent slopes, severely eroded	MoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded
MoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded	MoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded
MmA, RdA	Miamian silt loam gravelly substratum, 0 to 2 percent slopes	MrA	Miami silt loam, gravelly substratum, 0 to 2 percent slope
MpB2	Miamian silt loam, 2 to 6 percent slopes, eroded	MpB2	Miamian silt loam, 2 to 6 percent slopes, eroded

Field Symbols	Field Map Unit Name	Publication Symbol	Approved Map Unit Name
MpC, MpC2	Miamian silt loam, 6 12 percent slopes	MpC	Miamian silt loam, 6 to 12 percent slopes
MpD, MpD2	Miamian silt loam, 12 to 18 percent slopes	MpD	Miamian silt loam, 12 to 18 percent slopes
MpE, MpE2, HeF	Miamian silt loam, 18 to 35 percent slopes	MpE	Miamian silt loam, 18 to 35 percent slopes
MqC3	Miamian clay loam, 6 to 12 percent slopes, severely eroded	MuC3	Miamian clay loam, 6 to 12 percent slopes, severely eroded
MqD3	Miamian clay loam, 12 to 18 percent, severely eroded	MuD3	Miamian clay loam, 12 to 18 percent slopes, severely eroded
Ms	Millsdale silty clay loam	Mx	Millsdale silty clay loam
MtB, MtA, MtB2, MtC2	Milton silt loam, 0 to 3 percent slopes	MzA	Milton silt loam, 0 to 3 percent slopes
OcA	Ockley silt loam, 0 to 2 percent slopes	OcA	Ockley silt loam, 0 to 2 percent slopes
OcB2	Ockley silt loam, 2 to 6 percent slopes, eroded	OcB2	Ockley silt loam, 2 to 6 percent slopes, eroded
Pn	Patton silty clay loam	Pn	Patton silty clay loam
Px	Pits, quarry	Px	Pits, quarry
RuB, RuB2	Russell silt loam, 2 6 percent slopes	RuB	Russell silt loam, 2 to 6 percent slopes
Sh	Shoals silt loam, frequently flooded	Sh	Shoals silt loam, frequently flooded
Sm	Sleeth silt loam	Sm	Sleeth silt loam
So	Sloan silty clay loam frequently flooded	So	Sloan silt loam, frequently flooded
St, La	Landes sandy loam, gravelly substratum	St	Stonelick sandy loam, frequently flooded

Field Symbols	Field Map Unit Name	Publication Symbol	Approved Map Unit Name
Br	Treaty silt clay loam	Tr	Treaty silty clay loam
Ws	Westland silty clay loam	Ws	Westland clay loam
WwB2	Williamstown silt loam, 2 to 6 percent slopes, eroded	WwB2	Williamstown silt loam, 2 to 6 percent slopes, eroded
XeB, XeA, XeB2	Xenia silt loam, 1 to 4 percent slopes	XeB	Xenia silt loam, 1 to 4 percent slopes

Series Established by This Correlation:

None

Series Dropped or Made Inactive:

None

Certification Statement:
The state soil scientist has certified that the mapping is complete and that the detailed maps and the general soil map are adequately joined to the surrounding completed surveys. In some instances, the series used in the adjoining survey areas were not used in Rush County. In these instances, the join was made with a similar soil.

The representative pedons are located in a mapped area of the named soil. All interpretations are coordinated.

Verification of Exact Cooperator Names:
Front cover:

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

Inside Front Cover:
This survey was made cooperatively by the Soil Conservation Serivce, Purdue University Agricultural Experiment Station, and the Soil and Water Conservation Committee, Indiana Department of Natural Resources. It is part of the technical assistance furnished to the Rush County Soil and Water Conservation District. Financial assistance was made available by the Indiana Department of Natural Resources and by the County Commissioners and approved by the County Council.

Disposition of Field Sheets:
The original field sheets for Rush County will be kept at the Indiana State Office where they will later by compiled and finished.

Prior Soil Survey Publications:
The first soil survey of Rush County was published in 1930 (185). This survey updates the first survey and provides additional information and larger maps that show the soils in greater detail.

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. A line has been drafted on an overlay of those atlas sheets in which the separation is made between thin and thick loess-capped soils. Cartographic instructions along with the overlay has been placed in the envelope of all atlas sheets involved.

SCS-SOILS-37A
3-75

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

Soil Survey Area: Rush County
State: Indiana

Date: 8/81

DESCRIPTION	SYMBOL
CULTURAL FEATURES	
BOUNDARIES	
County or parish	
Minor civil division	
Field sheet matchline & neatline	
AD HOC BOUNDARY (label)	
Small airport, airfield, park, oilfield, cemetery, or flood pool	
STATE COORDINATE TICK 1 890 000 FEET	
LAND DIVISION CORNERS (sections and land grants)	
ROADS	
Divided (median shown if scale permits)	
County, farm or ranch	
ROAD EMBLEMS & DESIGNATIONS	
Interstate	66
Federal	287
State	52
RAILROAD	
DAMS	
Large (to scale)	
Medium or small	w
PITS	
Gravel pit	

DESCRIPTION	SYMBOL
CULTURAL FEATURES (cont.)	
MISCELLANEOUS CULTURAL FEATURES	
Farmstead, house (omit in urban areas)	
Church	
School	
WATER FEATURES	
DRAINAGE	
Perennial, single line	
Intermittent	
Drainage end	
Canals or ditches	
Drainage and/or irrigation	
LAKES, PONDS AND RESERVOIRS	
Perennial	water w
MISCELLANEOUS WATER FEATURES	
Marsh or swamp	

DESCRIPTION	SYMBOL
SPECIAL SYMBOLS FOR SOIL SURVEY	
SOIL DELINEATIONS AND SOIL SYMBOLS	
ESCARPMENTS	
MISCELLANEOUS	
Severely eroded spot	

PRIME FARMLAND MAP UNITS

Publication Symbol	Approved Mapping Unit Name
CeB2	Celina silt loam, 2 to 6 percent slopes, eroded
CrA	Crosby silt loam, 0 to 3 percent slopes (where drained)
Cy	Cyclone silty clay loam (where drained)
EdB2	Eldean loam, 2 to 6 percent slopes, eroded
FnA	Fincastle silt loam, 0 to 2 percent slopes (where drained)
Ge	Genesee loam, gravelly substratum
MmB2	Miami silt loam, 2 to 6 percent slopes, eroded
MpB2	Miamian silt loam, 2 to 6 percent slopes, eroded
MrA	Miami silt loam, gravelly substratum, 0 to 2 percent slopes
Mx	Millsdale silty clay loam (where drained)
MzA	Milton silt loam, 0 to 3 percent slopes
OcA	Ockley silt loam, 0 to 2 percent slopes
OcB2	Ockley silt loam, 2 to 6 percent slopes, eroded
Pn	Patton silty clay loam (where drained)
RuB	Russell silt loam, 2 to 6 percent slopes
Sh	Shoals silt loam, frequently flooded (where drained)
Sm	Sleeth silt loam (where drained)
So	Sloan silt loam, frequently flooded (where drained)
St	Stonelick sandy loam, frequently flooded
Tr	Treaty silty clay loam (where drained)
Ws	Westland clay loam (where drained)
WwB2	Williamstown silt loam, 2 to 6 percent slopes, eroded
XeB	Xenia silt loam, 1 to 4 percent slopes

Approved: June 28, 1983

Rodney F. Harner

RODNEY F. HARNER
Head, Soils Staff
Midwest NTC

CONVERSION LEGEND RELATING FIELD MAP SYMBOLS TO PUBLICATION SYMBOLS

Field Symbol	Publication Symbol
Br	Tr
CeB2	CeB2
CrA	CrA
CsA	CrA
Ee	Ge
FnA	FnA
FoB2	EdB2
FoC2	ElC3
FoD2	ElD3
FxC3	ElC3
FxD3	ElD3
Ge	Ge
HeF	MpE
La	St
MmA	MrA
MmB2	MmB2
MmC	MoC3
MmC2	MoC3
MmD	MmD
MmD2	MmD
MmE	MmE
MmE2	MmE
MoC3	MoC3
MoD3	MoD3
MpB2	MpB2
MpC	MpC
MpC2	MpC
MpD	MpD
MpD2	MpD
MpE	MpE
MpE2	MpE
MqC3	MuC3
MqD3	MuD3
Ms	Mx
MtA	MzA
MtB	MzA
MtB2	MzA
MtC2	MzA
OcA	OcA
OcB2	OcB2
Pn	Pn
Px	Px
RdA	MrA
RuB	RuB
RuB2	RuB
Tr	Cy
Sh	Sh
Sm	Sm
So	So
St	St
Ws	Ws
WwB2	WwB2
XeA	XeB
XeB	XeB
XeB2	XeB

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

Data for which forms SCS-SOILS-8 have been prepared.

Classification of typical pedons sampled for laboratory analysis by the Purdue Soil Characterization Laboratory.

Sampled As:	Sample No.	Publication Map Symbol	Approved Classification
Crosby	S78IN139-19-(1-6)	CrA	Crosby
Cyclone	S79IN139-17-(1-8)	Cy	Cyclone
Fox	S78IN139-22-(1-5)	EdB2	Eldean
Fincastle	S78IN139-12-(1-7)	FnA	Fincastle
Chagrin	S79IN139-15-(1-7)	Ge	Genesee, gravelly substratum
Miami	S78IN139-8-(1-6)	MmB2	Miami
Miami	S79IN139-12-(1-6)	MpB2	Miamian
Millsdale	S79IN139-8-(1-5)	Mx	Millsdale
Milton	S78IN139-15-(1-5)	MzA	Milton
Ockley	S79IN139-9-(1-7)	OcA	Ockley
Patton	S79IN139-4-(1-6)	Pn	Patton
Russell	S78IN139-3-(1-7)	RuB	Russell
Sleeth	S79IN139-2-(1-7)	Sm	Sleeth taxadjunct
Sloan	S78IN139-25-(1-7)	So	Sloan
Stonelick	S79IN139-6-(1-4)	St	Stonelick taxadjunct
Westland	S79IN139-21-(1-6)	Ws	Westland

Classification of typical pedon sampled for laboratory analysis by the NSSL, Lincoln, Nebraska.

Celina	S78IN139-6-(1-5)	WwB2	Williamstown

Classification of other supporting data from Purdue Soil Characterization Laboratory.

Celina	S80IN139-6-(1-6)	CeB2	Celina (inclusion)
Treaty	S78IN139-4-(1-7)	Cy	Cyclone (inclusion)
Fox	S78IN139-23-(1-5)	ElC3	Eldean (inclusion)
Miami	S80IN139-9-(1-6)	MmB2	Miami
Miami	S68IN70-1-(1-9)	MpB2	Miamian
Miamian	S81IN139-1-(1-6)	MpB2	Miamian
Miami Variant	S79IN139-5-(1-8)	MrA	Miami gravelly substratum
Ockley	S79IN139-7-(1-6)	OcB2	Ockley (inclusion)
Shoals	S79IN139-11-(1-7)	Sh	Shoals
Brookston	S78IN139-18-(1-7)	Tr	Treaty
Westland	S79IN139-3-(1-6)	Ws	Westland
Xenia	S78IN139-17-(1-8)	Xeb	Xenia

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

by
Glenn A. Weesies and Gerald J. Post

CYCLONE SERIES

The reaction of the subsoil is slightly higher than is defined for the series. This difference is not considered serious enough to make this soil a taxadjunct. This soil will be compiled on the finished maps only in the area south and east of the Crawfordsville moraine.

ELDEAN SERIES

The typical pedon for this soil has less than 10 percent coarse fragments in the 5-inch thick 2BC horizon. This difference is not considered significant enough to make this soil a taxadjunct. The percent coarse fragments in the other horizons are within the range of the Eldean series.

FINCASTLE SERIES

The type location for the Fincastle series has been moved to Rush County, with an Initial Review Draft of this series issued in August 1981.

GENESEE SERIES

A gravelly substratum phase is correlated. This soil has a gravelly texture in the typical pedon at a depth of 55 inches.

MIAMI SERIES

This soil except for map unit MrA will be compiled on finished maps only in the area south and east of the Crawfordsville moraine. Map unit MrA has gravelly textures below 40 inches and therefore, is recognized as a gravelly substratum phase.

MIAMIAN SERIES

This soil will be compiled on finished maps only on the Crawfordsville moraine and the area north and west of the moraine.

MILLSDALE SERIES

The upper part of the solum is slightly more alkaline and the substratum has more coarse fragments than is defined for the series. These differences are not considered serious enough to make it a taxadjunct.

MILTON SERIES

The upper part of the solum is slightly more alkaline and has slightly less clay than is defined for the series. These differences are not considered serious enough to make this soil a taxadjunct.

OCKLEY SERIES

The upper part of the subsoil (horizons at 10-18 inches) of the typical pedon is more alkaline than defined for the series. This difference (slightly acid vs. medium acid) is not considered significant enough to make this soil a taxadjunct.

SLEETH SERIES

This soil is a taxadjunct to the series because the silt cap (28 inches) is slightly thicker than defined for the series (less than 20 inches). This pedon therefore classifies in the fine-silty family. The 2BC horizon has less clay (14 percent) than defined for the series (20-35 percent). However, this is a 5-inch transitional horizon that does not affect the classification.

SLOAN SERIES

Particle-size control section of typical pedon has 21.3 percent clay while official series requires 22 to 35 percent. This difference, however, is considered insignificant.

STONELICK SERIES

This soil has a slightly thicker and darker colored surface layer and slightly more gravel and cobbles in the substratum than is defined for the series. Thus, it is considered to be a taxadjunct to the Stonelick series.

TREATY SERIES

This soil will be compiled on finished maps only on the Crawfordsville moraine and the area north and west of the moraine.

XENIA SERIES

The neutral reaction in the subsoil is slightly more alkaline than defined in the range in characteristics of the official series. This difference is not considered serious enough to make this soil a taxadjunct.

CLASSIFICATION OF THE SOILS

Soil Name	Soil Family
Celina	Fine, mixed, mesic Aquic Hapludalfs
Crosby	Fine, mixed, mesic Aeric Ochraqualfs
Cyclone	Fine-silty, mixed, mesic Typic Argiaquolls
Eldean	Fine, mixed, mesic Typic Hapludalfs
Fincastle	Fine-silty, mixed, mesic Aeric Ochraqualfs
Genesee	Fine-loamy, mixed, nonacid, mesic Typic Udifluvents
Miami	Fine-loamy, mixed, mesic Typic Hapludalfs
Miamian	Fine, mixed, mesic Typic Hapludalfs
Millsdale	Fine, mixed, mesic Typic Argiaquolls
Milton	Fine, mixed, mesic Typic Hapludalfs
Ockley	Fine-loamy, mixed, mesic Typic Hapludalfs
Patton	Fine-silty, mixed, mesic Typic Haplaquolls
Russell	Fine-silty, mixed, mesic Typic Hapludalfs
Shoals	Fine-loamy, mixed, nonacid, mesic Aeric Fluvaquents
*Sleeth	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Sloan	Fine-loamy, mixed, mesic Fluvaquentic Haplaquolls
*Stonelick	Coarse-loamy, mixed (calcareous) mesic Typic Udifluvents
Treaty	Fine-silty, mixed, mesic Typic Argiaquolls
Westland	Fine-loamy, mixed, mesic Typic Argaquolls
Williamstown	Fine-loamy, mixed, mesic Aquic Hapludalfs
Xenia	Fine-silty, mixed, mesic Aquic Hapludalfs

*Taxadjunct--see "Notes to Accompany Classification and Correlation of Rush County, Indiana" for details. Classification for taxadjuncts are included in the "Notes" if different than listed on the table.