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CLASSIFICATION AND CORRELATION

OF

THE SOILS OF

RANDOLPH COUNTY INDIANA

MAY 1984

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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 68508-3866

Classification and Correlation of the Soils of Randolph County, Indiana

The Randolph County final correlation was made by Louie L. Buller at MNTC in Lincoln, Nebraska, during the period of January to July 1982. The Indiana State Soils Staff participated through telephone conversations and letters. Material available and used in making the final correlation was the field correlation, draft copy of the manuscript, laboratory data, field sheets, field notes, correlation samples, and transects from the "Stoniness Study in Randolph County."

Headnote for the Detailed Soil Survey Legend:
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 lower case 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 or miscellaneous areas. A final number of 2 indicates that the soil is moderately eroded and a number 3 indicates that the soil is severely eroded.

Field Symbols	Field Map Unit Name	Pub. Symbol	Approved Map Unit Name
An Ar	Allison Variant silty clay loam, frequently flooded	An	Allison Variant silty clay, ~~loam,~~ frequently flooded
BlA	Blount silt loam, 0 to 1 percent slopes	BlA	Blount silt loam, 0 to 1 percent slopes
Ca Hw Hu	Carlisle muck, undrained	Ca	Carlisle muck, undrained
CeB ClB WuB CmB	Celina silt loam, 1 to 4 percent slopes	CeB	Celina silt loam, ~~stony subsoil,~~ 1 to 4 percent slopes
CKB Celina silt loam, stony subsoil, 1 to 4 percent slopes		CKB	Celina silt loam, stony subsoil, 1 to 4 percent slopes
FcA CrA CsA	Fincastle-Crosby silt loams, 0 to 1 percent slopes	~~CkA~~ FcA	Fincastle-Crosby silt loam, 0 to 1 percent slopes
FkB	Fincastle-Crosby silt loams, stony subsoil, 1 to 3 percent slopes	CnB	Crosby silt loam, stony subsoil, 1 to 3 percent slopes
Ee	Eel silt loam, frequently flooded	Ee	Eel silt loam, frequently flooded
EnA NeA NeB2	Eldean Variant loam, 0 to 2 percent slopes	EnA	Eldean Variant loam, 0 to 2 percent slopes
OcA FoA	Ockley loam, 0 to 2 percent slopes	FoA	Fox loam, 0 to 2 percent slopes
FoB	Fox loam, 2 to 6 percent slopes	FoB	Fox loam, 2 to 6 percent slopes
FxC3 FoC3 FoC CcC	Fox clay loam, 6 to 12 percent slopes, severely eroded	FxC3	Fox clay loam, 6 to 12 percent slopes, severely eroded
GnB2 BmB	Glynwood silt loam, 1 to 4 percent slopes, eroded	GnB2	Glynwood silt loam, 1 to 4 percent slopes, eroded
LnB2 StB2	Lewisburg silt loam, 2 to 6 percent slopes, eroded	LnB2	Losantville silt loam, 2 to 6 percent slopes, eroded

Field Symbols	Field Map Unit Name	Pub. Symbol	Approved Map Unit Name
LnE HeE	Lewisburg loam, 18 to 25 percent slopes	LnE	Losantville loam, 18 to 25 percent slopes
LoC3 SuC3 HeC3	Lewisburg clay loam, 6 to 12 percent slopes, eroded	LoC3	Losantville clay loam, 6 to 12 percent slopes, severely eroded
LoD3 SuD3 HeD	Lewisburg clay loam, 12 to 18 percent slopes, severely eroded	LoD3	Losantville clay loam, 12 to 18 percent slopes, severely eroded
LsB2	Lewisburg silt loam, stony subsoil, 2 to 6 percent slopes, eroded	LsB2	Losantville silt loam, stony subsoil, 2 to 6 percent slopes, eroded
LtC3	Lewisburg clay loam, stony subsoil, 6 to 12 percent slopes, severely eroded	LtC3	Losantville clay loam, stony subsoil, 6 to 12 percent slopes, severely eroded
LtD3	Lewisburg clay loam, stony subsoil, 12 to 18 percent slopes, severely eroded	LtD3	Losantville clay loam, stony subsoil, 12 to 18 percent slopes, severely eroded
Lw Pb Pa	Linwood muck, undrained	Lw	Linwood muck, undrained
MoA MmA	Miami silt loam, gravelly substratum, 0 to 2 percent slopes	MoA	Miami silt loam, gravelly substratum, 0 to 2 percent slopes
MoB2 MmB2	Miami silt loam, substratum, 2 to 6 percent slopes, eroded	MoB2	Miami silt loam, gravelly substratum, 2 to 6 percent slopes, eroded
MuB MuB2 MxB2	Morley silt loam, 3 to 6 percent slopes	MuB	Morley silt loam, 3 to 6 percent slopes
MyC3 HnC3 SwC3 SwD3 MyD3	Morley clay loam, 6 to 12 percent slopes, severely eroded	MyC3	Morley clay loam, 6 to 12 percent slopes, severely eroded
Pn	Patton silty clay loam	Pn	Patton silty clay loam

Field Symbols	Field Map Unit Name	Pub. Symbol	Approved Map Unit Name
Pw	Pewamo silty clay loam	Pw	Pewamo silty clay loam
Ms			
Le			
Bn			
Rc			
		MB	~~Milford clay loam~~
Mt	Milford clay loam		
Rn			
Wt			
Ws			
Px	Pewamo silt loam, overwash	~~Px~~	~~Pewamo~~ silt loam, overwash
La			
Mr			
Sa	Saranac silty clay, frequently flooded	Sa	Saranac silty clay, frequently flooded
Pt			
Sm	Sleeth loam	Sm	Sleeth loam
So	Sloan silt loam, frequently flooded	So	Sloan silt loam, frequently flooded
Sh			
Tr	Treaty silt loam	Tr	Treaty silt loam
Ts	Treaty silt loam, stony subsoil	Ts	Treaty silt loam, stony subsoil
Py	Pits	Ud	Udorthent, loamy
OuB			
Ou			
Wa	Wallkill silt loam, undrained	Wa	Wallkill silt loam, undrained
Wo	Westland clay loam, limestone substratum	Wo	Westland clay loam, limestone substratum

Series Established by This Correlation:

None

Series Dropped or Made Inactive:

None

Certification Statement:
The state soil scientist certifies:

1. The mapping is completed.

2. The general soil map and the detailed maps are joined with adjacent completed survey areas.

3. The interpretations are coordinated.

4. The typical pedons are in soil areas using the map unit name and legal description are correct.

Verification of Exact Cooperator Names:
For the 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

The cooperators to be listed on the inside of the front cover are:

"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. It is part of the technical assistance furnished to the Randolph County Soil and Water Conservation District. Financial assistance was made available by the Randolph County Board of County Commissioners."

Disposition of Original Atlas Field Sheets:
The original atlas field sheets for Randolph County will be retained by the Indiana State Office, and will be used in the map compilation and finishing procedures.

Prior Soil Survey Publications:
The first soil survey of Randolph County was made in 1931 (ref. citation). This survey updates the first survey and provides additional information and larger maps that show the soil in greater detail.

Soil Survey of Randolph County, Indiana. Buckhannan, W. H., Waggoner, M. E., Barnes, F. E. and Boatman, W. J. B., U.S. Bureau or Chemistry and Soils, USDA, in cooperation with the Purdue University Agricultural Experiment Station, 36 pp., Illus., 1931, published 1931.

Instructions for Map Finishing:
The conventional and special symbols used in this survey are listed on the attached SCS-37A. These are the only symbols that will be shown on the published maps. The maps will be finished using the "Guide for Soil Map Finishing," July 1976.

SCS-SOILS,37A
3-75

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

Soil Survey Area: Randolph County
State: Indiana

Date: 10/81

DESCRIPTION	SYMBOL
CULTURAL FEATURES	
BOUNDARIES	
National, state, or province	
County or parish	
Minor civil division	
Reservation (national forest or park, state forest or park, and large airport)	
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	
County, farm or ranch	
Trail	
ROAD EMBLEMS & DESIGNATIONS	
Federal	287
State	52
Other	398
RAILROAD	
DAMS	
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, double line	
Perennial, single line	
Intermittent	
Drainage end	
Canals or ditches	
Double - line (label)	CANAL
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	CeA FoB2
SHORT STEEP SLOPE	

PRIME FARMLAND MAP UNITS

Publication Symbol	Approved Map Unit Name
BlA	Blount silt loam, 0 to 1 percent slopes (where drained)
CeB	Celina silt loam, 1 to 4 percent slopes
CkAB	Celina ~~Crosby~~ stony subsoil silt loam, 0 to 4 percent slopes ~~(where drained)~~
~~CkB~~ CnB	Crosby stony subsoil silt loam, 1 to 3 percent slopes (where drained)
FoA FcA	Fincastle-Crosby silt loams, 0 to 1 percent slopes (where drained) Fox loam, 0 to 2 percent slopes
FoB	Fox loam, 2 to 6 percent slopes
EnA	Eldean Variant loam, 0 to 2 percent slopes
GnB2	Glynwood silt loam, 1 to 4 percent slopes, eroded
LnB2	Losantville silt loam, 2 to 6 percent slopes, eroded
LsB2	Losantville silt loam, stony subsoil, 2 to 6 percent slopes, eroded
MoA	Miami silt loam, gravelly substratum, 0 to 2 percent slopes
MoB2	Miami silt loam, gravelly substratum, 2 to 6 percent slopes, eroded
MuB	Morley silt loam, 3 to 6 percent slopes
Pn	Patton silty clay loam (where drained)
Pw	Pewamo silty clay loam (where drained)
~~Px~~	~~Pewamo silt loam, overwash (where drained)~~
Sm	Sleeth loam (where drained)
Tr	Treaty silt loam (where drained)
Ts	Treaty silt loam, stony subsoil (where drained)
Wo	Westland clay loam, limestone substratum (where drained)

Sloan silt loam, frequently flooded (where drained and protected from flooding or not frequently flooded during the growing season)

~~Mp Milford clay loam (where drained)~~
~~Mr Milford silt loam overwash (where drained)~~

Approved: May 9, 1984

Gerald L. Post (acting)

RODNEY F. HARNER
Head, Soils staff
Midwest NTC

CONVERSION LEGEND RELATING FIELD SYMBOLS TO PUBLICATION SYMBOLS

Field Symbol	Publication Symbol	Field Symbol	Publication Symbol	Field Symbol	Publication Symbol
An	An	LnB2	LnB2	Pb	Lw
Ar	An	LnE	LnE	Pn	Pn
BlA	BlA	LoC3	LoC3	Pw	Pw
BmB	GnB2	LoD3	LoD3	Pt	Sa
Bn	Pw	LsB2	LsB2	Px	~~Px~~ stet
Ca	Ca	LtC3	LtC3	Py	Ud
CcC	FxC3	LtD3	LtD3	Rc	Pw
CeB	CeB	Lw	Lw	Rn	~~Pw~~ stet
CkB	CkB	MmA	MoA	Sa	Sa
ClB	CeB	MmB2	MoB2	Sh	So
CmB	CeB				
CrA	~~CkA~~ FcA	MoA	MoA	Sm	Sm
CsA	~~CkA~~ FcA	MoB2	MoB2	So	So
Ee	Ee	Ms	Pw	StB2	LnB2
EnA	EnA	Mt	~~Pw~~ stet	SuC3	LoC3
FcA	~~CkA~~ FcA	MuB	MuB	SuD3	LoD3
FkB	~~CkB~~ CnB	MuB2	MuB	SwC3	MyC3
FoA	FoA	MxB2	MuB	SwD3	MyC3
FoB	FoB	MyC3	MyC3	Tr	Tr
FoC	FxC3	MyD3	MyC3	Ts	Ts
FoC3	FxC3	NeA	EnA	Wa	Wa
FxC3	FxC3	NeB2	EnA	Wo	Wo stet
GnB2	GnB2	OcA	FoA	Ws	~~Pw~~
HeC3	LoC3	Ou	Ud	Wt	~~Pw~~ stet
HeD	LoD3	OuB	Ud	WuB	CeB
HeE	LnE	Pa	Lw		
HnC3	MyC3				
Hu	Ca				
Hw	Ca				
La	~~Px~~ stet				
Le	Pw				

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

Analysis by Purdue University of typical pedons with SCS-SOILS-8 forms.

Sampled as	Pedon Sample No.	Publication Symbol	Approved Series Name or Classification
Armiesburg Variant	S79IN135-22-(1-6)	AN An	Allison Variant
Blount	S80IN135-58-(1-6)	B1A	Blount
Bono	S78IN135-7-(1-6)	Pw	Pewamo Taxajunct--Fine, mixed, mesic Fluvaquentic Haplaquolls
Crosby	S79IN135-24-(1-5)	~~CkA~~ FcA	Crosby
Eel	S78IN135-14-(1-7)	Ee	Eel
Glynwood	S78IN135-17-(1-6)	GnB2	Glynwood Taxadjunct--Fine, illitic, mesic Albaquic Hapludalfs
Miami	S80IN135-63-(1-6)	MoB2	Miami
Morley	S79IN135-35-(1-7)	MuB	Morley
Nineveh	S79IN135-25-(1-6)	EnA	Eldean Variant
Patton	S79IN135-26-(1-8)	Pn	Patton
Petrolia Variant	S78IN135-3-(1-6)	Sa	Saranac
Sleeth	S78IN135-18-(1-7)	Sm	Sleeth
Shoals Variant	S78IN135-1-(1-7)	So	Sloan
Strawn	S79IN135-31-(1-4)	LnB2	Losantville
Williamstown	S79IN135-45-(1-6)	CeB	Celina Taxadjunct--Fine, mixed, mesic Albaquic Hapludalfs

Analysis by Purdue University of other pedons without SCS-SOILS-8 forms.

Sampled as	Pedon Sample No.	Publication Map Symbol	Approved Classification
Blount	S78IN135-21-(1-6)	B1A	Blount
Crosby	S79IN135-13-(1-6)	~~GkA~~ FcA	Fincastle
Fox	S79IN135-43-(1-6)	FxC3	~~Ockley~~ OK
Fox	S80IN135-61-(1-6)	FoB	Fox
Glynwood	S79IN135-39-(1-5)	GnB2	1/ Glynwood Taxadjunct--Fine, illitic, mesic Albaquir Hapludalfs
Hennepin	S79IN135-36-(1-5)	MyC3	Morley
Hennepin	S79IN135-44-(1-4)	LoC3	Strawn
Hennepin	S80IN135-52-(1-4)	LnE	Strawn
Strawn	S80IN135-59-(1-4)	LoC3	Losantville
Strawn	S80IN135-55-(1-4)	LoD3	Losantville
Lenawee	S78IN135-6-(1-7)	Pw	Pewamo Taxadjunct--Fine, mixed, mesic Fluvaquentic Haplaquolls
Miami	S79IN135-33-(1-8)	MoA	Miami
Miami	S79IN135-34-(1-6)	MoB2	Miamian
Morley	S78IN135-20-(1-6)	MyC3	Morley Taxadjunct--Fine, loamy, mixed, mesic Typic Haplaquolls
Pewamo	S78IN135-16-(1-6)	Pw	Pewamo Taxadjunct--Fine-silty, mixed, mesic Fluvaquentic Haplaquolls
Reddick	S79IN135-37-(1-7)	Pw	1/ Pewamo Taxadjunct--Fine, mixed, mesic Typic Haplaquolls
Reddick Variant	S79IN135-38-(1-7)	Pw	Pewamo Taxadjunct--Fine, mixed, mesic Typic Haplaquolls
Strawn	S79IN135-32-(1-5)	LnB2	1/ Losantville

1/ Bulk Density Data by NSSL in addition to the Purdue analysis.

Treaty	S79IN135-27-(1-7)	Tr	Treaty
Westland Variant	S79IN135-40-(1-9)	Pw	Pewamo Taxadjunct--Fine-loamy, mixed, mesic Typic Haplaquolls
Westland Variant	S79IN135-41-(1-9)	~~Pw~~ Stet	1/ ~~Milford~~ Stet ~~Pewamo~~ Taxadjunct
Williamstown	S79IN135-42-(1-6)	CeB	1/ Celina

Analysis by NSSL Bulk Density Data (No Purdue data)

Sampled as	Pedon Sample No.	Publication Map Symbol	Approved Classification
Blount	S79IN135-49-(4,6,7)	BlA	Blount
Crosby actual 24	*S79IN135-48-(3,5)	~~CkA~~ FcA	Crosby
Hennepin	S79IN135-46-(2,4)	LoC3	Lewisburg
Hennepin	S79IN135-51-(3,5)	LoC3	Lewisburg
Morley Variant	S79IN135-50-(3,5)	MuB	Morley
Ockley	S78IN135-10-(1-9)	FoA	Ockley
Sleeth	S79IN135-47-(3,5)	Sm	Sleeth

1/ Bulk Density Data by NSSL in addition to the Purdue analysis.

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

by
Louie L. Buller and David G. VanHouten

The soils of Randolph County have higher pH (reaction) and in some instances, thinner sola than is typical for the series used. This is possibly the result of the high lime content in the parent glacial till.

Blount and Morley soils are generally mapped north of the west fork of the White River and the Lewisburg and Miami soils are mapped south of the river.

Along the southern border of Randolph County is part of the a bolder belt that includes the northern part of Wayne County and the northeast corner of Henry County, Indiana, and extends into Ohio. Subsurface drainage, ditching, and tilling is more of a problem in this area than in other areas of Randolph County.

CELINA SERIES
This soil is a taxadjunct because the typical pedon has an abrupt textural change between the E horizon and Bt1 horizon. The taxadjunct classifies as a fine, mixed, mesic Albaquic Hapludalfs.

CROSBY SERIES
The Fincastle series was proposed for correlation in complex with the Crosby series in two mapping units. The two soils are similar except Fincastle is formed in 22 to 40 inches of loess while Crosby is limited to 18 inches or less of loess. Transect 2 from the stoniness study shows cobbles at 10 inches in part of the area identified as Fincastle soils. Cobbles are not compatible with loess, and consequently the mapping units are single named as Crosby.

ELDEAN VARIANT
This soil appears quite similar to the Eldean series except for the mollic epipedon. The soil classifies as a clayey over sandy or sandy-skeletal, mixed, mesic Typic Argiudolls.

FOX SERIES
The Ockley series has been combined with the Fox series. In this survey area the two series are similar in use and management. The depth to sand and gravel in the Fox soils is a few inches less than 40 inches and in the Ockley soils a few inches more than 40 inches.

GLYNWOOD SERIES
This soil is a taxadjunct because the typical pedon has an abrupt textural change between the E horizon and the Bt1 horizon. The taxadjunct classifies as a fine, illitic, mesic Albaquic Hapludalfs.

reconsider a separate Milford series.

PEWAMO SERIES

The Milford mapping units are included or changed to Pewamo. The two soils are similar and in this county, neither the Milford nor Pewamo soils have an argillic horizon. Pewamo soils are mapped in the till uplands but the official series description places them in the Lake Plain or lacustrine positons also. The official Milford series description recognizes only the Lake Plain position.

The two series are combined and the Pw, Pewamo silty clay loam mapping unit description will list clay loam surface textures as a similar inclusion.

The Pewamo series is a taxadjunct because the typical pedon lacks an argillic horizon and has an irregular decrease in organic matter. The taxadjunct classifies as a fine, mixed, mesic Fluvaquentic Haplaquolls.

CLASSIFICATION OF THE SOILS

Soil Name	Family or Higher Taxonomic Class
Allison Variant	Fine-silty, mixed, mesic Cumulic Hapludolls
Blount	Fine,illitic, mesic Aeric Ochraqualfs
Carlisle	Euic, mesic Typic Medisaprists
*Celina	Fine, mixed, mesic Aquic Hapludalfs
Crosby	Fine, mixed, mesic Aeric Ochraqualfs
Eel	Fine-loamy, mixed, nonacid, mesic Aquic Udifluvents
Fincastle Eldean Variant	Fine, mixed, mesic Typic Argiudolls
Fox	Fine-silty, mixed, mesic Aeric Ochraqualfs Fine-loamy over sandy or sandy skeletal, mixed, mesic Typic Hapludalfs
*Glynwood	Fine, illitic, mesic Aquic Hapludalfs
Losantville	Fine, mixed, mesic Typic Hapludalfs
Linwood	Loamy, mixed, euic, mesic Terric Medisaprists
Miami	Fine-loamy, mixed, mesic Typic Hapludalfs
Morley	Fine, illitic, mesic Typic Hapludalfs
Patton	Fine-silty, mixed, mesic Typic Haplaquolls
*Pewamo	Fine, mixed, mesic Typic Argiaquolls
Saranac	Fine, mixed, mesic Fluvaquentic Haplaquolls
Sleeth	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Sloan	Fine-loamy, mixed, mesic Fluvaquentic Haplaquolls
Treaty	Fine-silty, mixed, mesic Typic Argiaquolls
Wallkill	Fine-loamy, mixed, nonacid, mesic Thapto-Histic Fluvaquents
Westland	Fine-loamy, mixed, mesic Typic Argiaquolls

*Taxadjunct--See "Notes to Accompany Classification and Correlation of the Soils of Randolph County, Indiana" for details.