

STATE OFFICE COPY

CLASSIFICATION AND CORRELATION
OF
THE SOILS OF

STARKE COUNTY
INDIANA

JULY 1980



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 68501

Classification and Correlation
of the Soils of
Starke County, Indiana

A correlation conference was held at the MTSC in Lincoln, Nebraska, the week of September 24, 1979. Participants in this conference were J. R. Barnes, party leader; Jerry D. Larson, state soil specialist; and G. J. Post, soil correlator. The draft copy of the manuscript, county laboratory data, field sheets, correlation samples, and field notes were available and used to prepare this correlation. G. J. Post participated in the comprehensive field review the week of October 16-20, 1978.

Map symbols consist of a combination of letters. 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 slope phases. The second capital letter indicates the class of slope. Symbols without a slope letter are for nearly level soils or miscellaneous areas.

SOIL CORRELATION OF
STARKE COUNTY, INDIANA
SEPTEMBER 1979

*Symbols & names
check for tables*

Field symbols	Field mapping unit name	Publi- cation symbol	Approved mapping unit name
AI	Adrian muck, drained	AI ✓	Adrian muck, drained ✓
AF	Adrian muck, frequently flooded	AF	Adrian muck, frequently flooded
AN	Alganssee fine sandy loam, occasionally flooded	AN	Alganssee fine sandy loam, occasionally flooded
AS	Alganssee Variant sand, occasionally flooded	AS	Alganssee Variant sand, occasionally flooded
BA	Brens sand, 0 to 3 percent slopes	BA	Brens sand, 0 to 3 percent slopes
CB	Chelsea sand, 0 to 3 percent slopes	CB	Coloma sand, 0 to 3 percent slopes
CO	Cohoctah fine sandy loam, sandy substratum, frequently flooded	CO	Craigville fine sandy loam, frequently flooded
CP	Cohoctah Variant fine sandy loam, rarely flooded	CP	Craigville Variant fine sandy loam, rarely flooded
CR	Crosier fine sandy loam, 0 to 3 percent slopes	CR	Crosier fine sandy loam, 0 to 3 percent slopes
ED	Edwards muck, drained	ED	Edwards muck, drained
GF, 70	Gilford fine sandy loam	GF	Gilford sandy loam
HO	Houghton muck, drained	HO	Houghton muck, drained
MA	Markton sand, 0 to 3 percent slopes	MA	Markton sand, 0 to 3 percent slopes
ME	Yankee loamy sand	ME	Yankee sand

STARKE COUNTY, INDIANA --Continued

Field symbols	Field mapping unit name	Publication symbol	Approved mapping unit name
Ma	Maumee mucky loamy sand	Mh	Maumee mucky sand
Mv	Maumee Variant loamy sand	Mn	Maumee Variant loamy sand
MKB	Meter loamy sand, 1 to 4 percent slopes	MpB	Meter loamy sand, 1 to 4 percent slopes
Mr, YrA	Morocco loamy sand	Mr	Morocco loamy sand
Na	Napoleon muck, undrained	Na	Napoleon muck, undrained
NF	Newton loamy sand	NF	Newton loamy sand
OrB	Orms sand, 1 to 4 percent slopes	OrB	Orms sand, 1 to 4 percent slopes
OvA	Orms Variant sand, 0 to 2 percent slopes	OvA	Orms Variant-Morocco loamy sands, 0 to 2 percent slopes
PIA	Plainfield sand, 0 to 3 percent slopes	PIA	Plainfield sand, 0 to 1 percent slopes
PIB	Plainfield sand, 3 to 8 percent slopes	PIB	Plainfield sand, 1 to 3 percent slopes
PIC	Plainfield sand, 8 to 15 percent slopes	PIC	Plainfield sand, 5 to 15 percent slopes
PtA	Plainfield sand, wet substratum, 0 to 3 percent slopes	PtA	Plainfield sand, wet substratum, 0 to 3 percent slopes
PvB	Plainfield Variant sand, 1 to 8 percent slopes	PvE	Plainfield sand, loamy substratum, 1 to 8 percent slopes
Rr	Glenora loamy sand, occasionally flooded	Rx	Prochaska loamy sand, occasionally flooded
St, StA	Shoals Variant loam, rarely flooded	Sh	Shoals Variant loam, rarely flooded

STARKE COUNTY, INDIANA --Continued

Field symbols	Field mapping unit name	Publication symbol	Approved mapping unit name
So	Suman silt loam, frequently flooded	So	Suman silt loam, frequently flooded
Es	Edwards Variant muck, drained	To	Toto muck, drained
Ud	Udorthents, sandy skeletal	Ud	Udorthents gravelly sand
Wk	Watseka loamy sand	Wk	Watseka loamy sand
MnB	Wawasee fine sandy loam, 1 to 8 percent slopes	WwB	Wawasee fine sandy loam, 1 to 8 percent slopes

Starke County, Indiana

Series Established by This Correlation:

Craigmile (Starke County, Indiana)
Markton (Starke County, Indiana)
Prochaska (Starke County, Indiana)
Toto (Starke County, Indiana)

Series Dropped or Made Inactive:

None

Certification statement:

Starke County joins Jasper, La Porte, Marshall, Pulaski, and St. Joseph Counties. All of these counties except Jasper have a completed soil survey. The Starke County general soil map as well as the detailed maps have been adequately joined with all these completed surveys.

All typical pedon descriptions are located in a delineation of the named soil.

All field mapping has been completed in this county.

Soil interpretations have been coordinated, and their use in this manuscript is in agreement with the latest information on the SCS-SOILS-5 forms.

Verification of Exact Cooperators Names:

A. Outside 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

B. Inside of front cover:

This survey was made cooperatively by the Soil Conservation Service, 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 Starke County Soil and Water Conservation District. Financial assistance was made available by the Board of County Commissioners of Starke County.

Disposition of Field Sheets:

The original field sheets are retained by the state and will be used in the map compilation and finishing procedures.

Starke County, Indiana

Prior Soil Survey Publication:

A reference to the 1915 Starke County Soil Survey published in 1919 should be in the introduction of this publication. An example of how this might be done is as follows:

The first soil survey of Starke County was made in 1915 (ref. citation). This survey updates the first survey and provides additional information and larger maps that show the soils in greater detail.

Soil Survey of Starke County, Indiana. Grimes, E. J. and Barrett, Wendell, Indiana Department of Geology, and Bushnell, T. M., U.S. Department of Agriculture, Bureau of Soils. 37 pp., illus., 1919.

Instructions for Map Finishing:

The conventional and special symbols noted on the SCS-SOILS-37A are the only special and conventional symbols shown on the maps. These are also the only ones that will be compiled.

Starke County, Indiana

Prime Farmland Units:

The following map units meet the soil requirements for prime farmland:

Co	Craigmile fine sandy loam, frequently flooded (where drained and adequately protected from flooding)
Cp	Craigmile Variant fine sandy loam, rarely flooded (where drained)
CrA	Crosier fine sandy loam, 0 to 3 percent slopes (where drained)
Gf	Gilford sandy loam (where drained)
MdA	Markton sand, 0 to 3 percent slopes
Me	Maumee sand (where drained and subirrigated by controlling the water table)
Mh	Maumee mucky sand (where drained and subirrigated by controlling the water table)
Mn	Maumee Variant loamy sand (where drained and subirrigated by controlling the water table)
MpB	Metea loamy sand, 1 to 4 percent slopes
Nf	Newton loamy sand (where drained and subirrigated by controlling the water table)
Px	Prochaska loamy sand, occasionally flooded (where drained and subirrigated by controlling the water table and adequately protected from flooding)
Sh	Shoals Variant loam, rarely flooded (where drained)
So	Suman silt loam, frequently flooded (where drained and adequately protected from flooding)
WwB	Wawasee fine sandy loam, 1 to 8 percent slopes

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

Starke County

Date 6/21/79

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
CULTURAL FEATURES		CULTURAL FEATURES (cont.)		SPECIAL SYMBOLS FOR SOIL SURVEY	
BOUNDARIES		MISCELLANEOUS CULTURAL FEATURES		SOIL DELINEATIONS AND SOIL SYMBOLS	
County		Farmstead, house (omit in urban areas)		CeA	
Minor civil division		Church		foBZ	
Reservation (national forest or park, state forest or park, and large airport)		School			
Field sheet matchline & realine					
AD HQC BOUNDARY (label)		WATER FEATURES		SHORT STEEP SLOPE	
Small airport, airfield, park, oilfield, cemetery, or flood pool		DRAINAGE			
STATE COORDINATE TICK (100,000 FEET)		Perennial, double line		MISCELLANEOUS	
LAND DIVISION CORNERS (sections and land grants)		Perennial, single line		Blow-out	
ROADS		Intermittent			
Divided (median shown if scale permits)		Drainage end			
County		Canals or ditches			
ROAD EMBLEMS & DESIGNATIONS		Drainage and/or irrigation			
Federal		LAKES, PONDS AND RESERVOIRS			
State		Perennial			
Other		MISCELLANEOUS WATER FEATURES			
RAILROAD				Sanitary Landfill up to 3 acres in size	
LEVELS					
Without road					
With road					
PITS					
Gravel pit					

Approved: July 1, 1980

Maurice Stout, Jr.

Maurice Stout, Jr.
Head, Soils Staff
Midwest TSC

CONVERSION LEGEND FOR
 STARKE COUNTY, INDIANA
 SEPTEMBER 1979

Field Symbol	Publication						
AI	AI						
AE	AE						
AA	AA						
AS	AS						
BI	CI						
BOA	BOA						
CHB	CHB						
CO	CO						
CRA	CRA						
FI	FI						
FS	FS						
GE	GE						
GR	FX						
HO	HO						
ME	ME						
MY	MY						
NH	NH						
NMB	NMB						
PIA	PIA						
NMB	NMB						
ME	ME						
NFA	NE						
NA	NA						
NE	NE						
ORF	ORB						
OVA	OVA						
PIA	PIA						
PIB	PIB						
PIC	PIC						
PIA	PIA						
PVB	PVB						
SO	SE						
SO	SO						
UI	UI						
WK	WK						
SE	SE						
NFA	SE						

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

Purdue University Soil Characterization Laboratory

<u>Sampled As</u>	<u>Sample No.</u>	<u>Map Symbol</u>	<u>Approved Classification</u>
Chelsea	S76IN149-2-(1-4)	ChB	Coloma
Gilford	S77IN149-1-(1-7)	Gf	Gilford
Whitaker	S77IN149-2-(1-8)	Sh	Shoals Variant
Cohoctah	S77IN149-4-(1-6)	Co	Craigmile
Maumee	S77IN149-5-(1-5)	Mn	Maumee Variant
Metea	S77IN149-8-(1-7)	MpB	Metea
Metea Variant	S77IN149-9-(1-7)	MdA	Markton
Miami	S77IN149-11-(1-4)	WwB	Wawasee
Plainfield Variant	S77IN149-12-(1-8)	PvB	Plainfield
Seafield	S77IN149-13-(1-6)	Cp	Craigmile Variant
Ormas	S77IN149-14-(1-5)	OrB	Ormas
Ormas Variant	S78IN149-1-(1-6)	OvA	Ormas Variant

Starke County, Indiana

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

by
G. J. Post

ADRIAN SERIES

The frequently flooded phase is on the flood plain and is subject to frequent flooding by stream overflow.

ALGANSEE SERIES

These soils have a slightly higher clay content in the A horizon than allowed for in the series. Thus, they are considered to be taxadjuncts to the Algansee series.

ALGANSEE VARIANT

This soil has an overwash deposit of 20-40 inches of sand over a (buried) loamy soil. About 1,100 acres are in this county, and it is unlikely that this soil will be needed again.

BREMS SERIES

This soil lacks gray mottles (chroma of 2 or less) within a depth of 40 inches as defined for the series. However, this soil does have a seasonal water table at a depth of 2 to 4 feet, and it is considered to be a taxadjunct to the Brems series.

COLOMA SERIES

These soils were mapped using the Chelsea series. However, on closer examination they appear to more nearly fit in the Coloma series.

CRAIGMILE SERIES

This series is established by this correlation. There are over 8,000 acres in this county, and it will likely be needed in several other nearby counties. This soil was formerly included with Gilford, Cohoctah, or Fluvaquents mapping units.

CRAIGMILE VARIANT

This soil does not have a mollic epipedon or contrasting texture as defined for the Craigmile series. However, there are only about 1,800 acres in this county, and it will probably not be needed again.

MARKTON SERIES

This series is established by this correlation. There are about 3,300 acres of this soil in this county, and it will likely be needed again in several nearby counties. These soils were formerly included with the Selfridge series. These soils differ from Selfridge by having less clay in the lower subsoil and in the substratum and thus better permeability.

MAUMEE VARIANT

This soil has a continuous, strongly cemented 3-5 inch thick horizon (bog iron ore) at a depth of about 10-15 inches. Otherwise, it is similar to the Maumee series. About 1,200 acres are in this county, and it is not likely to be needed again.

Starke County, Indiana

METEA SERIES

This soil has a slightly lower pH and thicker solum than allowed for in the series range. Thus, they are considered to be taxadjuncts to the Metea series.

ORMAS VARIANT

This soil is somewhat poorly drained rather than well drained as defined for the series. There are about 1,400 acres in this county, and there likely will be no further need for this soil.

PLAINFIELD SERIES

The wet substratum phase is needed for areas where the water table is at a depth of 4 to 6 feet for a part of the year. The loamy substratum phase is needed for areas where loamy material is at a depth of 40 to 60 inches.

PROCHASKA SERIES

This series is established by this correlation. There are nearly 7,000 acres of this soil in this county, and it will be needed in several nearby counties. It was formerly included with Newton or Maumee mapping units.

SHOALS VARIANT

This soil differs from Shoals by only rarely flooding, and it has a cambic horizon. About 1,500 acres are in this county, and it likely will not be needed again.

TOTO SERIES

This series is established by this correlation. There are over 2,600 acres mapped in this county, and it will likely be needed in several more surveys. These soils were formerly included with Adrian and Edwards mapping units.

UDORTHENTS

These are mostly areas that have had sand or gravel mined from them.

CLASSIFICATION OF THE SOILS

[An asterisk in the first column indicates a taxadjunct to the series. See notes for a description of those characteristics of this taxadjunct that are outside the range of the series]

Soil name	Family or higher taxonomic class
Adrian-----	Sandy or sandy-skeletal, mixed, euic, mesic Terric Medisaprists
*Alganssee-----	Mixed, mesic Aquic Udipsamments
Alganssee Variant.	Sandy over loamy, mixed mesic Aquic Udifluvents
*Erems-----	Mixed, mesic Aquic Udipsamments
Coloma-----	Mixed, mesic Alfic Udipsamments
Craigmile----	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Fluvaquentic Haplaquolls
Craigmile Variant.	Coarse-loamy, mixed, mesic Aeric Haplaquepts
Crosier-----	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Edwards-----	Marly, euic, mesic Limnic Medisaprists
Gilford-----	Coarse-loamy, mixed, mesic Typic Haplaquolls
Houghton-----	Euic, mesic Typic Medisaprists
Markton	Loamy, mixed, mesic Aquic Arenic Hapludalfs
Maumee-----	Sandy, mixed, mesic Typic Haplaquolls
Maumee Variant.	Sandy, mixed, mesic Typic Haplaquolls
*Metea-----	Loamy, mixed, mesic Arenic Hapludalfs
Morocco-----	Mixed, mesic Aquic Udipsamments
Napoleon-----	Dysic, mesic Typic Medihemists
Newton-----	Sandy, mixed, mesic Typic Humaquepts
Ormas-----	Loamy, mixed, mesic Arenic Hapludalfs
Ormas Variant	Loamy, mixed, mesic Aquic Arenic Hapludalfs
Plainfield---	Mixed, mesic Typic Udipsamments
Prochaska.	Sandy, mixed, mesic Fluvaquentic Haplaquolls
Shoals Variant.	Fine-loamy, mixed, mesic Aeric Haplaquepts
Suman-----	Fine-loamy over sandy or sandy-skeletal, mixed, mesic Fluvaquentic Haplaquolls
Toto-----	Coprogenous, euic, mesic Limnic Medisaprists
Udorthents.	Sandy-skeletal, mixed, mesic Typic Udorthents

CLASSIFICATION OF THE SOILS--Continued

Soil name	Family or higher taxonomic class
Watseka-----	Sandy, mixed, mesic Aquic Hapludolls
Wawasee-----	Fine-loamy, mixed, mesic Typic Hapludalfs