CLASSIFICATION AND CORRELATION

OF

THE SOILS OF

LAWRENCE COUNTY
INDIANA

APRIL 1982

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U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MIDWEST TECHNICAL SERVICE 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 Lawrence County, Indiana

This correlation was prepared by Robert I. Turner in consultation with Jerry A. Thomas, party leader, SCS, and David Van Houten, field specialist, Soils, SCS, during the week of September 21-25, 1981. The final correlation is based on the first draft of sections of the manuscript, field correlation, field sheets, correlation samples, some laboratory data, and interpretative information available with the standard series descriptions for the soils used in this soil survey area. Robert I. Turner participated in the comprehensive field review on November 17-20, 1980. A draft of the final correlation was reviewed by the SCS and the cooperating agencies in Indiana before it was approved and distributed.

Headnote for Detailed Soil Survey Legend:
The first capital letter is the initial one of the soil name. The lowercase letter that follows separates mapping units having names that begin with the same letter except that it does not separate sloping and eroded phases. The second capital letter indicates the class of slope. Symbols without a slope letter are those with a slope range of 0 to 2 percent or from map units for which slope was not a part of the name. The final number of 2 or 3 in the symbol indicates that the soil is eroded or severely eroded, respectively.

Field Symbols	Field Map Unit Name		Publ. Symbol	Approved Map Unit Name
Su	Abscota fine sand, frequently flooded	)	Ab	Abscota sand, frequently flooded
PrD (PrD2, PrE, PrE2, BmE, OsE)	Alvin loamy sand, 12 to 22 percent slopes	)	AnD	Alvin sandy loam, 12 to 22 percent slopes
Ba (BaA, DuA)	Bartle silt loam	)	Ba	Bartle silt loam, rarely flooded
BdB2 (BdA, BdC2, BdB)	Bedford silt loam, 2 to 6 percent slopes, eroded	)	BdB2	Bedford silt loam, 2 to 6 percent slopes, eroded
PrC (PrB2, PrC2)	Bloomfield loamy sand, 2 to 12 percent slopes	)	BmC	Bloomfield loamy sand, 3 to 10 percent slopes
Bo	Bonnie silt loam, frequently flooded	)	Bo	Bonnie silt loam, frequently flooded
Bu	Burnside silt loam, occasionally flooded	)	Bu	Burnside silt loam, frequently flooded
CcC2 (CcB2)	Caneyville silt loam, 6 to 12 percent slopes, eroded	)	CcC2	Caneyville silt loam, 6 to 12 percent slopes, eroded
CcD2 (CcD, CaD, HaD2)	Caneyville silt loam, 12 to 18 percent slopes, eroded	)	CcD2	Caneyville silt loam, 12 to 20 percent slopes, eroded
CcE2 (FrE2, FrE3)	Caneyville silt loam, 18 to 25 percent slopes, eroded	)		
CoF	Caneyville-Gilpin-rock outcrop complex, 25 to 75 percent slopes	)	CfF	Caneyville-Gilpin-Rock outcrop complex, 25 to 75 percent slopes
Cg	Chagrin loam, frequently flooded	)	Cg	Chagrin loam, frequently flooded
Bw	Pope silt loam, rarely flooded	)		
CrB2	Crider silt loam, 2 to 6 percent slopes, eroded	)	CrB	Crider silt loam, 2 to 6 percent slopes
CrC2	Crider silt loam, 6 to 12 percent slopes, eroded	)	CrC2	Crider silt loam, 6 to 12 percent slopes, eroded

Field Symbols	Field Map Unit Name	Publ. Symbol	Approved Map Unit Name
CrD2	Crider silt loam, 12 to 18 percent slopes, eroded	CrD2	Crider silt loam, 12 to 18 percent slopes, eroded
HcD2	Crider-Caneyville silt loams, 12 to 18 percent slopes, eroded	CsD2	Crider-Caneyville silt loams, 12 to 18 percent slopes, eroded
CbD2 (Cb)	Crider-Frederick silt loams, karst, 6 to 25 percent slopes, eroded	CwD2	Crider-Frederick silt loams, karst, 6 to 20 percent slopes, eroded
Ud	Dumps-Pits-Udorthents, loamy complex	Dp	Dumps-Pits-Udorthents complex
EbC2 (ZnC2, ZaC2)	Ebal silt loam, 6 to 12 percent slopes, eroded	EbC2	Ebal silt loam, 6 to 12 percent slopes, eroded
EbD (EbD2, EbE)	Ebal-Wellston silt loams, 12 to 24 percent slopes	EdD	Ebal-Wellston silt loams, 12 to 24 percent slopes
EkB2 (EkA, EkC2)	Elkinsville Variant loam, 2 to 6 percent slopes, eroded	EkB2	Elkinsville Variant loam, 2 to 6 percent slopes, eroded
FrC2 (FrB2, HaC2)	Frederick silt loam, 6 to 12 percent slopes, eroded	FrC2	Frederick silt loam, 6 to 12 percent slopes, eroded
FrD (FrD2)	Frederick silt loam, 12 to 18 percent slopes	FrD	Frederick silt loam, 12 to 18 percent slopes
FtD3 (CrC3, FrC3, FrD3, FtC3)	Frederick silty clay loam, gullied, 10 to 18 percent slopes	FtD3	Frederick silty clay loam, gullied, 10 to 18 percent slopes
CtC2	Frederick-Crider silt loams, karst, 2 to 12 percent slopes, eroded	FwC2	Frederick-Crider silt loams, karst, 2 to 12 percent slopes, eroded
WmC (WmC2)	Gilpin-Crider silt loams, 6 to 20 percent slopes	GrC	Gilpin-Crider silt loams, 6 to 20 percent slopes
BgF (EbF)	Gilpin-Weikert-Wellston complex, 18 to 50 percent slopes	GwF	Gilpin-Weikert-Wellston complex, 18 to 50 percent slopes

Field Symbols	Field Map Unit Name	Publ. Symbol	Approved Map Unit Name
Ho (Hd, Cx) Cu	Haymond silt loam, frequently flooded Cuba silt loam, frequently flooded	Ho	Haymond silt loam, frequently flooded
HrA (HrB2)	Henshaw silt loam, 0 to 3 percent slopes, rarely flooded	HrA	Henshaw silt loam, rarely flooded, 1 to 3 percent slopes
ZeA (JoA, JoB, Jt, OcA, OcB, Pg, ZeB)	Hoosierville silt loam	Hs	Hoosierville silt loam
TlA TlB2	Tilsit silt loam, 0 to 2 percent slopes Tilsit silt loam, 2 to 6 slopes, eroded	HxB2	Hosmer silt loam, 1 to 6 percent slopes, eroded
MdB2 (MdC2)	Markland silt loam, 2 to 6 percent slopes, eroded	MdB2	Markland silty clay loam, 2 to 6 percent slopes, eroded
MhA (McA, Zp, Zs)	McGary silt loam, 0 to 2 percent slopes, frequently flooded	MhA	McGary silty clay loam, frequently flooded, 0 to 2 percent slopes
LaA (IvA, LaB2)	Muren silt loam, 0 to 3 percent slopes	MuA	Muren silt loam, 1 to 3 percent slopes
Nl	Newark silt loam, frequently flooded	Ne	Newark silt loam, frequently flooded
No	Nolin silt loam, frequently flooded	No	Nolin silt loam, frequently flooded
PeB2 (OtB2, PeA)	Pekin silt loam, 2 to 6 percent slopes, eroded	PeB	Pekin silt loam, 2 to 6 percent slopes
PeC2 (OtC2, PeC)	Pekin silt loam, 6 to 12 slopes, eroded	PeC2	Pekin silt loam, 6 to 12 percent slopes, eroded
Ph	Petrolia silty clay loam, frequently flooded	Ph	Petrolia silty clay loam, frequently flooded
MeB (MeA, MeB2, MeC)	Martinsville-Alvin complex, 2 to 6 percent slopes	PnB	Princeton-Alvin complex, 2 to 6 percent slopes

Field Symbols	Field Map Unit Name	Publ. Symbol	Approved Map Unit Name
St (Ss)	Stendal silt loam, silty clay substratum, frequently flooded	St	Stendal silt loam, clayey substratum, frequently flooded
TyB (OsA, OsB, OsB2, OsC, OsC2, TyA)	Tyner-Alvin loamy sands, 0 to 8 percent slopes	TyB	Tyner-Alvin loamy sands, 2 to 7 percent slopes
Ua	Udorthents, loamy	Ua	Udorthents, loamy
BhF	Weikert-Berks-Gilpin complex, 25 to 75 percent slopes	WbF	Weikert-Berks-Gilpin complex, 25 to 75 percent slopes
WeC2 (GlC2, GpC2)	Wellston silt loam, 6 to 12 percent slopes, eroded	WeC2	Wellston silt loam, 6 to 12 percent slopes, eroded
WeD2 (EkD2)	Wellston silt loam, 12 to 18 percent slopes, eroded	WeD2	Wellston silt loam, 12 to 18 percent slopes, eroded
WnD3 (GlC3, GlD3, GpC3, GpD3, WeD3)	Wellston silt loam, gullied, 10 to 18 percent slopes	WfD3	Wellston silt loam, gullied, 10 to 18 percent slopes
WgD2	Wellston-Gilpin silt loams, 12 to 18 percent slopes, eroded	WgD2	Wellston-Gilpin silt loams, 12 to 18 percent slopes, eroded
Wr (Wa) Sf	Wilbur silt loam, frequently flooded Steff silt loam, frequently flooded	Wr	Wilbur silt loam, frequently flooded

Series Established by This Correlation:

None

Series Dropped or Made Inactive:

None

Certification Statement:
The state soil scientist has certified that the field mapping is completed, and that both the detailed maps and the general soil maps are joined throughout the survey area and with the adjoining soil surveys. The state soil scientist further indicates that the typical pedons are located in representative areas and the legal description is correct and, furthermore, that the interpretations have been coordinated with the joining survey areas and are in accord with the information on the SCS-SOILS-5 forms.

The soil survey of Lawrence County, Indiana, joins the modern published soil survey of Monroe County, Indiana; the recently correlated soil survey of Orange County, Indiana; and the project soil surveys of Martin, Jackson, Green, and Washington Counties, Indiana. In Green and Washington Counties, detailed soil maps have not been prepared along the border to date. A more detailed explanation of all discrepancies in the join of the detailed soil map and the general soil map with these soil surveys is on file in the MTSC, Soils Staff office and at the Indiana State Office.

The lines on the general soil maps join, although some names differ because of different proportions of components in map units, recognition of new series previously not separated in some of the older surveys, and differences in composition and definition of soils within different survey areas.

Most lines on the detailed soil maps join and similar series join, although some areas have different names. These differences are the result of knowledge learned through further study of the soils, defining series so they fit in "Soil Taxonomy," recognition of new series not previously separated in soil surveys, and the inclusion of small amounts of some soils with soils in one survey area which were separated in other survey areas because of larger extent. In addition, a few individual delineations were too small on one side of the join line to show separately at the scale of map being made and are considered as contrasting inclusions in delineations representing soils of larger extent.

Verification of Exact Cooperator Names:
The state soil scientist has certified that the following statements for the front cover and in the third paragraph of the box inside the front cover read as follows for this soil survey:

A. Outside front cover and credit line on the general soil map:

Unites States Department of Agriculture
Soil Conservation Service
in cooperation with
Purdue University
Agriculture Experiment Station
and
Indiana Department of Natural Resources
Soil and Water Conservation Committee

B. Inside front cover:

This survey was made cooperatively by the Soil Conservation Service, Purdue University Agricultural Experiment Station, and Indiana Department of Natural Resources, Soil and Water Conservation Committee. It is part of the technical assistance furnished to the Lawrence County Soil and Water Conservation District. Financial assistance was made available by the Soil and Water Conservation Committee, Lawrence County Commissioners, and the Indiana Department of Natural Resources.

Disposition of Field Sheets:
The original field sheets for Lawrence County will be kept at the district office in Lawrence County where they will be later compiled and finished. The halftone positive mylars are considered as the original field sheets. Copies have been made for use by the field office and for fire protection.

Prior Soil Survey Publications:
A reference to the 1922 Lawrence County soil survey should be in the introduction of this publication. The prior published survey will be a literature citation. For example, "The first soil survey of Lawrence County was completed in 1922 and published in 1928 (ref. citation). 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 of the following conventional and special symbols legend are those that will be used in map finishing.

SCS-SOILS-37A
3-75

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

Soil Survey Area: Lawrence County
State: Indiana

Date: 7/81

DESCRIPTION	SYMBOL

CULTURAL FEATURES

BOUNDARIES

- 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

- Divided (median shown if scale permits)
- County, farm or ranch

ROAD EMBLEMS & DESIGNATIONS

- Federal — 287
- State — 52

RAILROAD

DAMS

- Large (to scale)
- Medium or small — w

PITS

- Mine or quarry

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

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SOIL SYMBOLS — CeA FoB2

RECOMMENDED AD HOC SOIL SYMBOLS

- Sanitary landfill up to 10 acres in size — ¤

PRIME FARMLAND MAP UNITS

Publication Symbol	Approved Mapping Unit Name
Ba	Bartle silt loam, rarely flooded (where drained)
BdB2	Bedford silt loam, 2 to 6 percent slopes, eroded
CrB2	Crider silt loam, 2 to 6 percent slopes, eroded
EkB2	Elkinsville Variant loam, 2 to 6 percent slopes, eroded
HrA	Henshaw silt loam, rarely flooded, 1 to 3 percent slopes
Hs	Hoosierville silt loam (where drained)
HxA	Hosmer silt loam, 0 to 2 percent slopes
HxB2	Hosmer silt loam, 2 to 6 percent slopes, eroded
MdB2	Markland silty clay loam, 2 to 6 percent slopes, eroded
MhA	McGary silty clay loam, frequently flooded, 0 to 2 percent slopes (where drained and protected from flooding)
MuA	Muren silt loam, 1 to 3 percent slopes
PeB	Pekin silt loam, 2 to 6 percent slopes

Approved: April 8, 1982

Gerald J. Post (Acting)

MAURICE STOUT, JR.
Head, Soils Staff
Midwest NTC

CONVERSION LEGEND RELATING FIELD MAP
SYMBOLS TO PUBLICATION SYMBOLS

Field Symbols	Publication Symbols	Field Symbols	Publication Symbols	Field Symbols	Publication Symbols
Ba	Ba	EbF	GwF	MdB2	MdB2
BaA	Ba	EkA	EkB2	MdC2	MdB2
BdA	BdB2	EkB2	EkB2	MeA	PnB
BdB	BdB2	EkC2	EkB2	MeB	PnB
BdB2	BdB2	EkD2	WeD2	MeB2	PnB
BdC2	BdB2	FrB2	FrC2	MeC	PnB
BgF	GwF	FrC2	FrC2	MhA	MhA
BhF	WbF	FrC3	FtD3	Nl	Ne
BmE	AnD	FrD	FrD	No	No
Bo	Bo	FrD2	FrD	OcA	Hs
Bu	Bu	FrD3	FtD3	OcB	Hs
Bw	Cg	FrE2	CcD2	OsA	TyB
CaD	CcD2	FrE3	CcD2	OsB	TyB
Cb	CwD2	FtC3	FtD3	OsB2	TyB
CbD2	CwD2	FtD3	FtD3	OsC	TyB
		GlC2	WeC2	OsC2	TyB
CcB2	CcC2	GlC3	WfD3	OsE	AnD
CcC2	CcC2	GlD3	WfD3	OtB2	PeB
CcD	CcD2	GpC2	WeC2	OtC2	PeC2
CcD2	CcD2	GpC3	WfD3	PeA	PeB
CcE2	CcD2	GpD3	WfD3	PeB2	PeB
Cg	Cg	HaC2	FrC2	PeC	PeC2
CoF	CfF	HaD2	CcD2	PeC2	PeC2
CrB2	CrB	HcD2	CsD2	Pg	Hs
CrC2	CrC2	Hd	Ho	Ph	Ph
CrC3	FtD3	Ho	Ho	PrB2	BmC
CrD2	CrD2	HrA	HrA	PrC	BmC
CtC2	FwC2	HrB2	HrA	PrC2	BmC
Cu	Ho	IvA	MuA	PrD	AnD
Cx	Ho	JoA	Hs	PrD2	AnD
DuA	Ba	JoB	Hs	PrE	AnD
EbC2	EbC2	Jt	Hs	PrE2	AnD
EbD	EdD	LaA	MuA	Sf	Wr
EbD2	EdD	LaB2	MuA	Ss	St
EbE	EdD	McA	MhA	St	St

Field Symbols	Publication Symbols	Field Symbols	Publication Symbols	Field Symbols	Publication Symbols
Su	Ab	WeD2	WeD2	ZnC2	EbC2
TlA	HxB2	WeD3	WfD3	Zp	MhA
TlB2	HxB2	WgD2	WgD2	Zs	MhA
TyA	TyB	WmC	GrC		
TyB	TyB	WmC2	GrC		
Ua	Ua	WnD3	WfD3		
Ud	Dp	Wr	Wr		
		ZaC2	EbC2		
Wa	Wr	ZeA	Hs		
WeC2	WeC2	ZeB	Hs		

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

Data for Which Forms SCS-SOILS-8 Have Been Prepared

Sampled As	Sample No.	Publication* Map Symbol	Approved Classification
Abscota	S79IN93-7-(1-5)1/	Ab	Abscota
Alvin	S80IN93-12-(1-7)2/	AnD	Alvin**
Bartle	S80IN93-2-(1-6)1/	Ba	Bartle***
Berks	S78IN93-17-(1-6)1/	WbF	Berks
Caneyville	S78IN93-19-(1-5)1/	CcD	Caneyville
Ebal	S80IN93-5-(1-8)1/	EdD	Ebal
Frederick	S80IN93-6-(1-6)1/	FrD	Frederick
Gilpin	S79IN93-3-(1-5)1/	GrC	Gilpin
Haymond	S80IN93-7-(1-5)1/	Ho	Haymond
Markland	S80IN93-8-(1-9)1/	MdB2	Markland
Tilsit taxadjunct	S78IN93-14-(1-8)1/	HxB2	Hosmer
Tyner	S80IN93-10-(1-8)1/	TyB	Tyner

Other Supporting Data

Sampled As	Sample No.	Publication Map Symbol	Publication Name
Alvin	S80IN93-11-(1-9)1/	TyB	Alvin taxadjunct
Bedford	S78IN93-7-(1-6)1/	BdB2	Bedford taxadjunct
Bloomfield	S80IN93-13-(1-11)2/	BmC	Bloomfield taxadjunct
Bonnie	S80IN93-1-(1-5)1/	Bo	Bonnie taxadjunct
Cuba	S80IN93-4-(1-4)1/	Ho	Haymond taxadjunct
Elkinsville Var.	S78IN93-10-(1-7)1/	EkB2	Elkinsville Variant
Henshaw taxadjunct	S79IN93-1-(1-10)1/	HrA	Henshaw inclusion
McGary	S80IN93-9-(1-6)1/	MhA	McGary taxadjunct
Muren	S78IN93-15-(1-6)1/	MuA	Muren taxadjunct
Pekin	S78IN93-8-(1-9)1/	PeB2	Pekin taxadjunct
Stendal Variant	S78IN93-18-(1-6)1/	St	Stendal clayey substratum taxadjunct

* Sample taken from a mapped area represented by this publication symbol.

** Slightly less clay than defined for series but considered within range of laboratory error.

***Base saturation at critical depth slightly lower than defined for the series and the Alfisol order of "Soil Taxonomy" but is considered within the range of laboratory error.

1/ Laboratory Analysis by Purdue University.

2/ Laboratory Analysis by NSSL.

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

by
David G. Van Houten and Robert I. Turner

ALVIN SERIES

Alvin soils have slightly less clay than required for the definition of the Alvin series. In addition, these soils are only slightly acid in the most acid horizon as compared to the Alvin series, which is medium acid or strongly acid in the most acid horizons. Some consideration was given to using the Lamont series, which has a similar clay content to the unit represented here. However, the Lamont series typically has a thinner B2t horizon and is in an area with slightly less yearly rainfall than is typical for this area; and for those reasons, we continued to use the Alvin series. We have not called it a taxadjunct in this area. Included with the Alvin soils are some areas which contain loamy sand surface horizons, some of which are as thick as 20 inches or more. Most of these areas are in delineations of the TyB map unit, and they are considered taxadjuncts to the Alvin series.

ABSCOTA SERIES

Abscota soils have lighter colored surfaces than are typical for the Abscota series. We have not identified the soils as taxadjuncts on the basis of this feature.

BEDFORD SERIES

These soils have a higher base saturation than defined for the Bedford series and are considered taxadjuncts for this reason. The Nicholson series was considered. It was not used because it is typically formed in ordovician limestone that develops into a less permeable substratum with less hazard of seepage in pond reservoir areas. These soils would classify as fine-silty, mixed, mesic Typic Fragiudalfs.

BARTLE SERIES

Bartle soils have slightly thicker sola than defined for the Bartle series. They are in the most acid part of the range for the Bartle series and are borderline to Fragiaquults in terms of base saturation.

BERKS SERIES

Berks soils contain slightly more silt than is typical for the Berks series. In addition, they contain slightly fewer coarse fragments in the A horizon and the upper part of the B horizon than is typical for the series. They have the minimal clay content in the B horizon allowed in the range of the Berks series.

BLOOMFIELD SERIES

These soils contain slightly less clay than is required for the series and are therefore considered taxadjuncts to the Bloomfield series. The Spinks series was considered; however, the total cumulative thickness of lamellae (Bt) exceeds that normal for the Spinks series. These soils would classify as sandy, mixed, mesic Psammentic Hapludalfs.

BONNIE SERIES
These soils are considered taxadjuncts to the Bonnie series because they contain less clay in the 10- to 40-inch control section than is required for the series. They classify as coarse-silty, mixed, acid, mesic Typic Fluvaquents.

CANEYVILLE SERIES
The E slope unit was so similar to the D slope unit in use and management that the two map units were combined.

CHAGRIN SERIES
Chagrin soils are taxadjuncts to the Chagrin series as they contain less clay in the control section than defined for the Chagrin series. They would classify in the coarse-loamy, particle size family in soil taxonomy. These soils apparently are within the general range of the Tioga series, but we have not named them Tioga because they are considered slightly less acid and slightly higher in base saturation than typical for the Tioga series. In addition, they have fewer coarse fragments in the control section and underlying material than is considered normal for the Tioga series, are slightly higher in clay content than the central concept for the Tioga series, and are fairly well separated geographically from the area where most of the Tioga series is described. While none of these items is clearly outside the range allowed in the present definition of the Tioga series, we have accepted the request that Tioga not be used for this mapping unit at the present time. These soils tend to have darker color, when moist, in the A horizon and upper part of the B horizon than modal for the series. However, the dry colors are quite light. Because of small acreage and only slight differences, the unit previously named Pope was included with the Chagrin mapping units.

CRIDER SERIES
Crider soils in the Crider-Frederick complex, Frederick-Crider complex, and Gilpin-Crider complex tend to have more chert in the substratum than typical for the Crider series.

ELKINSVILLE VARIANT
Elkinsville Variant soils are coarse-loamy rather than fine-silty as Elkinsville is. The Chavies series was considered; however, the 2C horizon is higher in clay than is allowed in the Chavies series. The higher clay content in the substratum results in slightly less hazard of cutbanks caving in shallow excavations. The need for this variant apart from the Chavies series has not been clearly established.

GILPIN SERIES
These soils are in the least acid part of the range for the Gilpin series. They also contain more silt and less sand and coarse fragments than typical for Gilpin.

HAYMOND SERIES
A moderate acreage previously named Cuba contained less clay than defined for the Cuba series and is being included with the Haymond series.

HENSHAW SERIES
Henshaw soils have slightly thinner sola and are slightly shallower to free carbonates than is defined for the Henshaw series. However, we have not called then taxadjuncts on this account.

HOOSIERVILLE SERIES
These soils have browner matrix colors in the lower part of the argillic horizon below depths of 30 inches than defined for the Hoosierville series, and they have redder hue in the C horizon than allowed in the Hoosierville series.

HOSMER SERIES
These soils contain slightly more fine and very fine sand in the lower part of the fragipan below depths of 40 inches than is typical for the Hosmer series. The C horizon below depths of 60 inches seems to have more clay than is typical for the Hosmer series. There is some question whether Hosmer series meets the definition of a fragipan; but for the moment, they are classified as such. Due to small size of delineations, small total acreage, and lack of significant differences for use and management, the A and B slope units were combined. Hosmer soils are in the most acid part of the range for the Hosmer series.

MCGARY SERIES
McGary soils have thicker solums, are leached deeper of free carbonates, and are more acid in the upper part of the B horizon than defined for the McGary series. In addition, they have higher chroma in the uppermost part of the B horizon and less clay than defined for McGary series. For these reasons, these soils are considered taxadjuncts to the McGary series.

MUREN SERIES
Muren soils have a thicker sola than defined for the Muren series, but we have not called them taxadjuncts on that account. However, they are more acid and have lower base saturation than defined for the Muren series and are taxadjuncts on that account. These soils are Udults in terms of base saturation at the critical depth. They would classify as fine-silty, mixed, mesic Aquic Fragiudults.

PEKIN SERIES
These soils are considered taxadjuncts to the series because the solum is thicker, the C horizon is more silty, and the B't and C horizons have redder hue than defined for the Pekin series. In addition, the base saturation is lower than defined for the series, and they would classify as Aquic Fragiudults.

PRINCETON SERIES
A small acreage previously named Martinsville seemed more within the range of Princeton and was so named.

STENDAL SERIES
These soils have a fine textured layer in the lower part of the profile deep enough that it does not affect classification. These soils are considered a clayey substratum phase of the Stendel series. In addition, they are slightly higher in pH than normal for the series and are considered taxadjuncts to the Stendal series for that reason. They would classify as fine-silty, mixed, nonacid, mesic Aeric Fluvaquents.

TYNER SERIES
Tyner soils are less acid than typical for the Tyner series, but we have not called them taxadjuncts on that account.

WELLSTON SERIES

Wellston soils have fewer sandstone fragments in the solum than typical for the Wellston series.

WILBUR SERIES

A small acreage previouly named Steff was judged similar to the Wilbur series and included with it.

CLASSIFICATION OF THE SOILS

Soil Name	Family or Higher Taxonomic Class
Abscota	Mixed, mesic Typic Udipsamments
Alvin	Coarse-loamy, mixed, mesic Typic Hapludalfs
Bartle	Fine-silty, mixed, mesic Aeric Fragiaqualfs
*Bedford	Fine-silty, mixed, mesic Typic Fragiudults
Berks	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
*Bloomfield	Coarse-loamy, mixed, mesic Psammentic Hapludalfs
*Bonnie	Fine-silty, mixed, acid, mesic Typic Fluvaquents
Burnside	Loamy-skeletal, mixed, acid, mesic Typic Udifluvents
Caneyville	Fine, mixed, mesic Typic Hapludalfs
*Chagrin	Fine-loamy, mixed, mesic Dystric Fluventic Eutrochrepts
Crider	Fine-silty, mixed, mesic Typic Paleudalfs
Ebal	Fine, mixed, mesic Ultic Hapludalfs
Elkinsville Variant	Coarse-loamy, mixed, mesic Typic Hapludults
Frederick	Clayey, mixed, mesic Typic Paleudults
Gilpin	Fine-loamy, mixed, mesic Typic Hapludults
Haymond	Coarse-silty, mixed, nonacid, mesic Typic Udifluvents
Henshaw	Fine-silty, mixed, mesic Aquic Hapludalfs
Hoosierville	Fine-silty, mixed, mesic Typic Ochraqualfs
Hosmer	Fine-silty, mixed, mesic Typic Fragiudalfs
Markland	Fine, mixed, mesic Typic Hapludalfs
*McGary	Fine, mixed, mesic Aeric Ochraqualfs
*Muren	Fine-silty, mixed, mesic Aquic Hapludalfs
Newark	Fine-silty, mixed, nonacid, mesic Aeric Fluvaquents

* 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
Nolin	Fine-silty, mixed, mesic Dystric Fluventic Eutrochrepts
*Pekin	Fine-silty, mixed, mesic Aquic Fragiudalfs
Petrolia	Fine-silty, mixed, nonacid, mesic Typic Fluvaquents
Princeton	Fine-loamy, mixed, mesic Typic Hapludalfs
*Stendal	Fine-silty, mixed, acid, mesic Aeric Fluvaquents
Tyner	Mixed, mesic Typic Udipsamments
Udorthents	Loamy, mixed, nonacid, mesic Udorthents
Weikert	Loamy-skeletal, mixed, mesic Lithic Dystrochrepts
Wellston	Fine-silty, mixed, mesic Ultic Hapludalfs
Wilbur	Coarse-silty, mixed, nonacid, mesic Aquic Udifluvents

* 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.