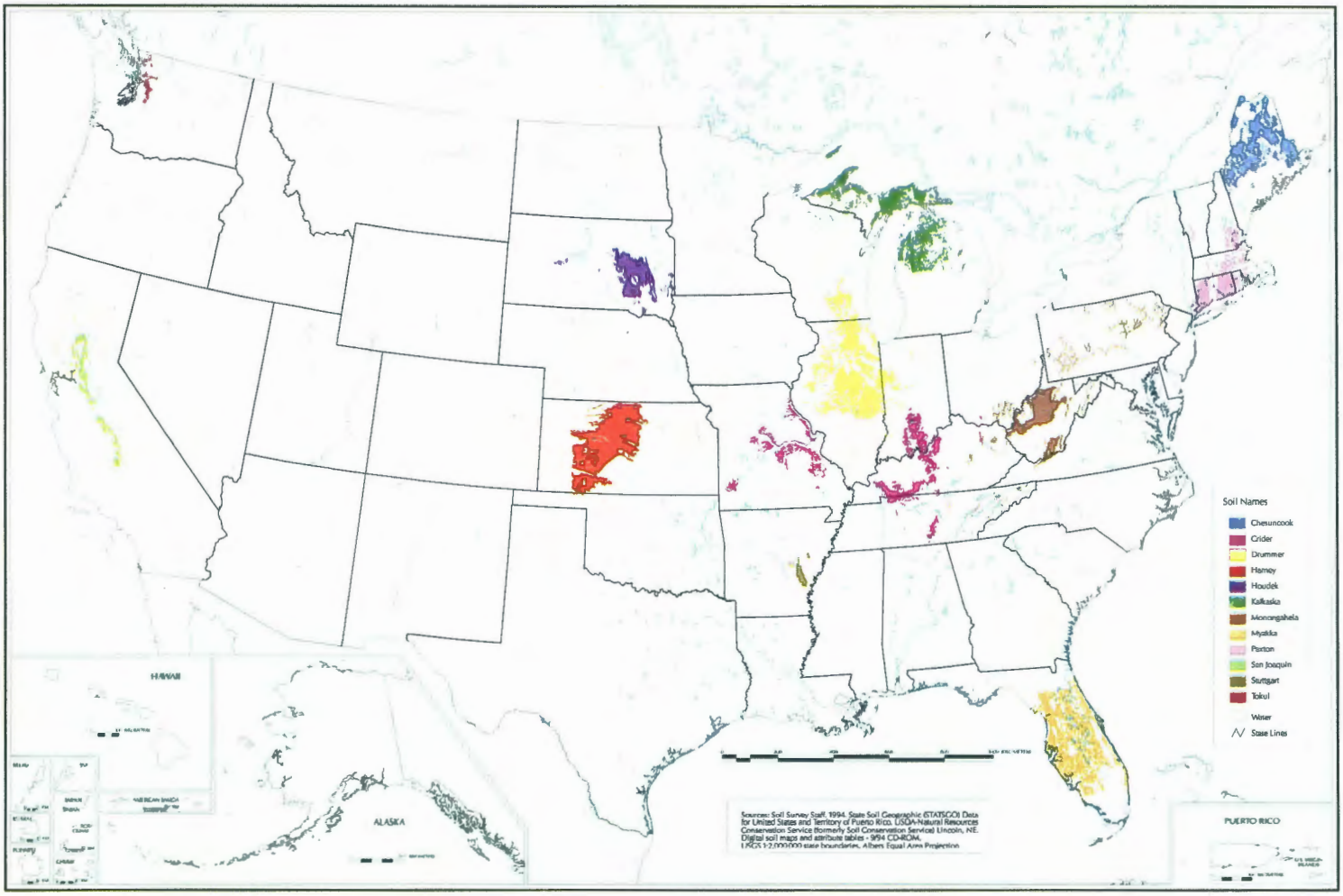
USDA NRCS

United States Department of Agriculture
Natural Resources Conservation Service

2000 State Soil Planning Guide



2000

USDA Celebrating the Millennium

What is a *State Soil?*

A state soil is represented by a soil series that has special significance to a particular state. Each state in the U.S. has selected a state soil, 15 of which have been legislatively established. These "Official State Soils" share the same level of distinction as official state flowers and birds. Also, representative soils have been selected for Guam, Puerto Rico, and the Virgin Islands.

Areas with similar soils are grouped and labeled as soil series because their similar origins, chemical, and physical properties cause the soils to "behave" similarly for land use purposes. A soil series name generally is derived from a town or landmark in or near the area where the series was first recognized.

A soil series is a naturally occurring entity on the landscape. Therefore, a given series does not necessarily occur within the confines of only one state. For instance, 7 of the 12 state soils featured in this year's planner range beyond the respective states in which they are honored.

Each series consists of soils having major horizons that are similar in color, texture, structure, reaction, mineral and chemical composition, and arrangement in the soil profile. A soil profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface downward to unconsolidated material. Most soils have three major horizons, called the surface horizon, the subsoil, and the substratum.

The surface layer has the maximum accumulation of organic matter and is the horizon of maximum leaching of clay minerals and of iron and aluminum oxides. Some soils have a subsurface layer below the surface layer.

The subsoil, which underlies the surface layer or subsurface layer, is the horizon of maximum accumulation of clay minerals, iron and aluminum oxides, and other compounds. These compounds may have been leached from the surface layer and redeposited in the subsoil, or may have formed in place. Most likely, they occur as a result of a combination of both of these processes. The subsoil commonly has blocky or prismatic structure and generally is firmer and lighter in color than the surface layer.

The substratum is below the surface layer and subsoil. It consists of material that has been somewhat modified by weathering but is relatively unchanged by soil-forming processes.

Introduction

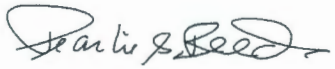
In a very real sense, a soil is a *natural body.* A soil is composed of mineral solids, liquids, gases, and decomposed organic material and is home to myriad living organisms. Similar to living things, the chemical, physical, and biological soil environment "reacts" to management stimuli. If a soil is egregiously mismanaged, the delicate balance of the soil system is altered, perhaps irreversibly and to the detriment of humankind. If a soil is nurtured, conserved, and given the respect it deserves, it responds in kind with bountiful sustenance for generations hence. The combination of properties that distinguish any given soil places restrictions on its optimal use and influences the kind and amount of plants and animals that it supports.

Because soil is a natural body, there is an incentive to distinguish a "state soil" just as we have our state flowers and birds. Professional soil societies in every state and U.S. territory have selected a representative soil. At present, the selection process has advanced through 15 state legislatures to officially designate a state soil. I commend those states for their resolve in staying the course to legislative establishment. Each of these states has a unique account of how it established a state soil.

I appeal to the remaining state professional soil science societies and their supporters to continue to carry the torch of state soil establishment. Visit with those that have succeeded. Whether or not you are triumphant in your first attempt is not important. I guarantee the journey itself will foster improved soil awareness and understanding and build new and innovative partnerships along the way. And this, colleagues, is why we embarked on the journey in the first place. It's a win-win proposition.

This year's planner showcases a few of our state soils, most of which are legislatively established. Enjoy this year's planner, and good luck in your endeavors!

To learn more about soil, contact your local Natural Resources Conservation Office. It's listed in the telephone book under U.S. Government, Department of Agriculture. Or visit our Website at: http://www.nrcs.usda.gov



Pearlie S. Reed
Chief
Natural Resources Conservation Service

The Soil Science Society of America (SSSA) is pleased to participate in the publication of the 2000 Cooperative Soil Survey planner. It is appropriate that the new millennium planner feature soils that have been officially designated State Soils by State Legislatures. Without question, soil is one of the greatest natural resources of each of our 50 States. In the 21st century, preservation and protection of soils will be vital to the sustainability and enhancement of humankind, agriculture, and the environment. The SSSA is committed to advancing the discipline and practice of soil science to the public and policy makers, serving its membership and disseminating first-rate research and educational materials on soil science that will benefit humankind.

For information about the SSSA, visit our Website (http://www.soils.org www.soils.org) or contact:

Soil Science Society of America
677 South Segoe Road Madison, WI 53711-1086
Telephone: (608) 273-8095

Donald L. Sparks

Donald L. Sparks
President, SSSA

State Soils of the United States

STATE	STATE SOIL	LEGISLATION	CLASSIFICATION
Alabama	Bama	Apr-97	fine-loamy, siliceous, subactive, thermic Typic Paleudults
Alaska	Tanana		coarse-loamy, mixed, superactive, subgelic, Typic Aquiturbels
Arizona	Casa Grande		fine-loamy, mixed, superactive, hyperthermic Typic Natrargids
Arkansas	Stuttgart	Mar-97	fine, smectitic, thermic Albaquultic Hapludalfs
California	San Joaquin	Jul-97	fine, mixed, active, thermic Abruptic Durixeralfs
Colorado	Seitz		clayey-skeletal, smectitic Ustic Glossocryalfs
Connecticut	Windsor		mixed, mesic Typic Udipsamments
Delaware	Greenwich		coarse-loamy, mixed, semiactive, mesic Typic Hapludults
Florida	Myakka	May-89	sandy, siliceous, hyperthermic Aeric Alaquods
Georgia	Tifton		fine-loamy, kaolinitic, thermic Plinthic Kandiudults
Guam	Akina		fine, kaolinitic, isohyperthermic Oxic Haplustults
Hawaii	Hilo		medial over hydrous, ferrihydritic, isohyperthermic Acrudoxic Hapludands
Idaho	Rexburg		coarse-silty, mixed, superactive, frigid Calcic Haploxerolls
Illinois	Drummer		fine-silty, mixed, superactive, mesic Typic Endoaquolls
Indiana	Miami		fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Iowa	Tama		fine-silty, mixed, superactive, mesic Typic Argiudolls
Kansas	Harney	Apr-90	fine, smectitic, mesic Typic Argiustolls
Kentucky	Crider	Apr-90	fine-silty, mixed, active, mesic Typic Paleudalfs
Louisiana	Ruston		fine-loamy, siliceous, semiactive, thermic Typic Paleudults
Maine	Chesuncook	Apr-99	coarse-loamy, mixed, isotic, frigid Aquic Haplorthods
Maryland	Sassafras		fine-loamy, siliceous, semiactive, mesic Typic Hapludults
Massachusetts	Paxton	May-91	coarse-loamy, mixed, active, mesic Oxyaquic Dystrudepts
Michigan	Kalkaska	Dec-90	sandy, mixed, frigid Typic Haplorthods
Minnesota	Lester		fine-loamy, mixed, superactive, mesic Mollic Hapludalfs
Mississippi	Natchez		coarse-silty, mixed, superactive, thermic Typic Eutrudepts
Missouri	Menfro		fine-silty, mixed, superactive, mesic Typic Hapludalfs

STATE	STATE SOIL	LEGISLATION	CLASSIFICATION
Montana	Scobey		fine, smectitic, frigid Aridic Argiustolls
Nebraska	Holdrege	Jun-79	fine-silty, mixed, superactive, mesic Typic Argiustolls
Nevada	Orovada		coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocambids
New Hampshire	Marlow		coarse-loamy, isotic, frigid Oxyaquic Haplorthods
New Jersey	Downer		coarse-loamy, siliceous, semiactive, mesic Typic Hapludults
New Mexico	Penistaja		fine-loamy, mixed, superactive, mesic Ustic Haplargids
New York	Honeoye		fine-loamy, mixed, mesic Glossoboric Hapludalfs
North Carolina	Cecil		fine, kaolinitic, thermic Typic Kanhapludults
North Dakota	Williams		fine-loamy, mixed, superactive, frigid Typic Argiustolls
Ohio	Miamian		fine, mixed, active, mesic Oxyaquic Hapludalfs
Oklahoma	Port	Apr-87	fine-silty, mixed, superactive, thermic Cumulic Haplustolls
Oregon	Jory		fine, mixed, active, mesic Xeric Palehumults
Pennsylvania	Hazleton		loamy-skeletal, siliceous, subactive, mesic Typic Dystrochrepts
Puerto Rico	Bayamon		very-fine, kaolinitic, isohyperthermic Typic Hapludox
Rhode Island	Narragansett		coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Dystrudepts
South Carolina	Bohicket		fine, mixed, superactive, nonacid, thermic Typic Sulfaquents
South Dakota	Houdek	Feb-90	fine-loamy, mixed, superactive, mesic Typic Argiustolls
Tennessee	Dickson		fine-silty, siliceous, semiactive, thermic Gossic Fragiudults
Texas	Houston Black		fine, smectitic, thermic Udic Haplusterts
U.S.V.I.	Victory		loamy-skeletal, mixed, superactive, isohyperthermic Typic Haplusterts
Utah	Taylorsflat		fine-loamy, mixed, superactive, mesic Xeric Haplocalcids
Vermont	Tunbridge	Mar-85	coarse-loamy, isotic, frigid Typic Haplorthods
Virginia	Pamunkey		fine-loamy, mixed, semiactive, thermic Ultic Hapludalfs
Washington	Tokul		medial, amorphic, mesic Aquic Vitrixerands
West Virginia	Monongahela	Apr-97	fine-loamy, mixed, semiactive, mesic Typic Fragiudults
Wisconsin	Antigo	Sep-83	coarse-loamy over sandy or sandy-skeletal, mixed, superactive, frigid Haplic Glossudalfs
Wyoming	Forkwood		fine-loamy, mixed, active, mesic Ustic Haplargids

Houdek: *South Dakota State Soil*

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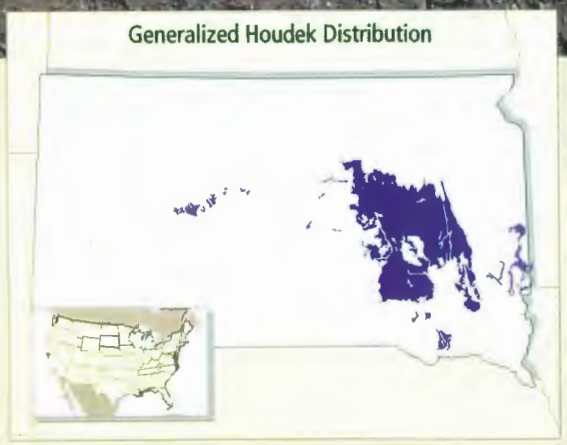
Houdek Soil Profile

Surface layer:	dark grayish brown loam
Subsoil - upper:	dark grayish brown clay loam
- middle:	grayish brown clay loam
- lower:	light olive brown clay loam
Substratum:	light yellowish brown clay loam

Designated by the South Dakota Legislature as the state soil in 1990, the Houdek (pronounced hoo-dek) series is typical of many soils that formed under the influence of prairie grass in South Dakota. They are mapped on about 600,000 acres in the State. Commonly used as cropland or rangeland, these economically important soils also provide wildlife habitat.

The most common crops are small grain, corn, sunflowers, and soybeans. Alfalfa and grass-alfalfa mixtures provide hay and pasture for grazing livestock. Large areas of the soils are used as native range.

Houdek soils formed in glacial till. They have a dark surface layer because of the accumulation of organic matter from decayed plants and animals. The average annual precipitation is about 22 inches, and the average annual air temperature is about 48 degrees F.



USDA NRCS
atural Resources Conservation Service

January 2000

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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17 January 10-12, 2nd International Conference on Geospatial Information in Argiculture and Forestry: Decision Support, Technology and Applications Lake Buena Vista, FL	18	19	20	21	22
23	24 Martin Luther King, Jr.'s Birthday	25	26	27	28	29
30	31					

January 30–February 3, National Association of Conservation Districts, Colorado Springs, CO

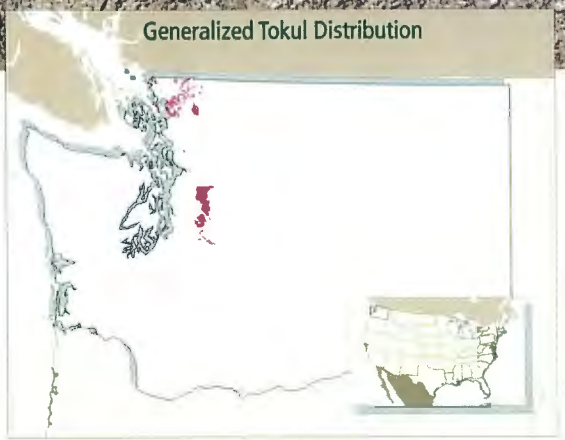
Tokul: *Washington State Soil*

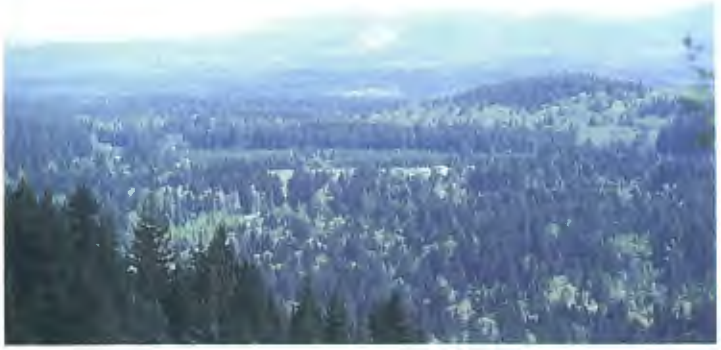
Tokul Soil Profile

Surface layer:	organic material
Subsurface layer:	very dark grayish brown gravelly loam
Subsoil - upper:	dark brown gravelly loam
- lower:	light yellowish brown gravelly loam
Substratum:	light brownish gray and dark gray gravelly sandy loam (very hard, dense glacial till cemented by a combination of iron, aluminum, and organic matter)

The name "Tokul" is derived from a community and creek in King County. Formed in volcanic ash, Tokul soils occur on more than 1 million acres on the western side of the Cascade Mountains. The Washington Society of Professional Soil Scientists and students at Conway Middle School in Mt. Vernon are working with the state legislature to get the Tokul series recognized as the official state soil in the year 2000.

Among the world's most productive soils, these soils support Douglas-fir and other conifers, which are the source of Washington's nickname, "the Evergreen State." The soils also are used for crop production, livestock grazing, recreation, watershed, and urban development. They are limited as homesites. During wet periods, water collects above the dense glacial till, making steep slopes unstable.





USDA NRCS
Natural Resources Conservation Service

February 2000

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6	7	8 January 30—February 3, National Association of Conservation Districts, Colorado Springs, CO	9	10	11	12
13 February 4-8, National Association of Secondary School Principals San Antonio, TX	14	15	16	17	18	19 February 12-18 Society for Range Management Conference Boise, ID
20 February 12-18, Society for Range Management Conference—Boise, IO	21 President's Day	22	23	24 February 17-22, Amercian Association for the Advancement of Science—Annual Meeting and Science Innovation Exposition	25	26
27 February 17-22, Amercian Association for the Advancement of Science—Annual Meeting and Science Innovation Exposition	28 February 28 to March 2 International Society of Technology in Education Orlando, FL	29				

Drummer: *Illinois State Soil*

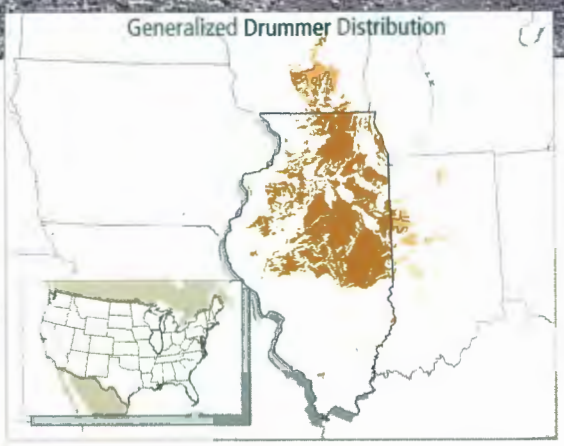
Drummer Soil Profile

Surface layer:	thick, black silty clay loam
Subsurface layer:	very dark gray silty clay loam
Subsoil:	grayish brown and gray silty clay loam
Substratum:	dark gray, mottled loam and sandy loam

Drummer series, named for Drummer Creek in Drummer Township in Ford County, is the most extensive series in Illinois. The Drummer series was established in 1929.

Occurring on more than 1.5 million acres, Drummer soils are typical of the wet, dark, very deep, prairie-derived soils of Illinois. Corn and soybeans are the principal crops. These soils are among the most productive soils in the world.

Drummer soils formed under prairie vegetation, in 40 to 60 inches of loess or other silty material and in the underlying stratified, loamy glacial drift. The average annual precipitation ranges from 32 to 40 inches. The average annual air temperature ranges from 48 to 54 degrees F.



USDA NRCS
Natural Resources Conservation Service

March 2000

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
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			February 28—March 2, International Society of Technology in Education—Orlando, FL		March 3-6, American Association of School Administrators—San Francisco, CA	
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March 3-6, American Association of School Administrators—San Francisco, CA						
12	13	14	15	16	17	18
						March 18-21 American Council on Education, Orlando, Fl *and* National Assn. of Elem School Principals New Orleans, LA
19	20	21	22	23	24	25
March 18-21, American Council on Education, Orlando, FL March 18-21, National Association of Elementary School Principals New Orleans, LA			March 20-23, 10th Annual West Coast Conference on Contaminated Soils and Water, Mission Valley, CA			March 25-27 Association for Supervision and Curriculum Development New Orleans, LA
26	27	28	29	30	31	
March 25-27, Association for Supervision and Curriculum Development—New Orleans, LA						

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FEBRUARY

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APRIL

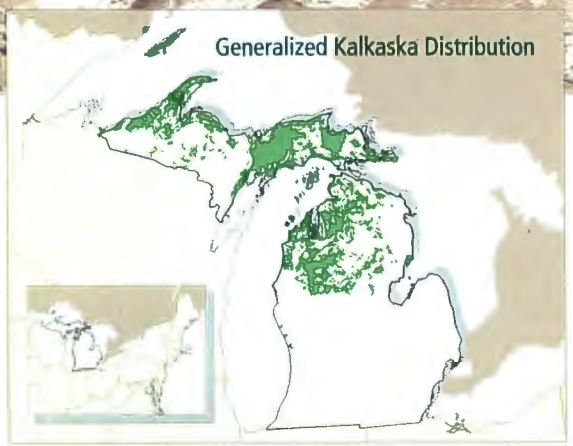
Kalkaska: *Michigan State Soil*

Kalkaska Soil Profile

Surface layer:	black sand
Subsurface layer:	brown sand
Subsoil - upper:	dark reddish brown sand
- lower:	strong brown and yellowish brown sand with columns of weakly cemented, dark reddish brown ortstein (3 to 5 inches wide) comprising 7 to 11 percent of the horizon
Substratum:	light yellowish brown sand

The Kalkaska series is one of the earliest soil series to be recognized in Michigan. It was first described in 1927, in Kalkaska County, which is the source of the series name. Kalkaska soils occur in both the Upper and Lower Peninsulas of Michigan and in 29 of the State's 83 counties. There are over 750,000 acres of these soils in Michigan. Public Act 302, the State Soil Bill, enacted on December 4, 1990, established the Kalkaska series as the official state soil.

Kalkaska soils formed in sandy deposits left by the glaciers that once covered Michigan. These soils are used primarily for hardwood timber, namely sugar maple and yellow birch. Some areas are used for the production of Christmas trees or for specialty crops, such as potatoes and strawberries. The soils also are used for wildlife habitat and building site development.



USDA NRCS
Natural Resources Conservation Service

April 2000

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				April 6-9, National Science Teachers Association—Orlando, FL		
9	10	11	12	13	14	15
April 6-9 National Science Teachers Association Orlando, FL				April 13-15, Conference 2000 Taking Agriculture into the Next Millennium—Ottawa, Ontario, Canada		
16	17	18	19	20	21	22
						Earth Day
23	24	25	26	27	28	29
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National Arbor Day Celebration

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MARCH

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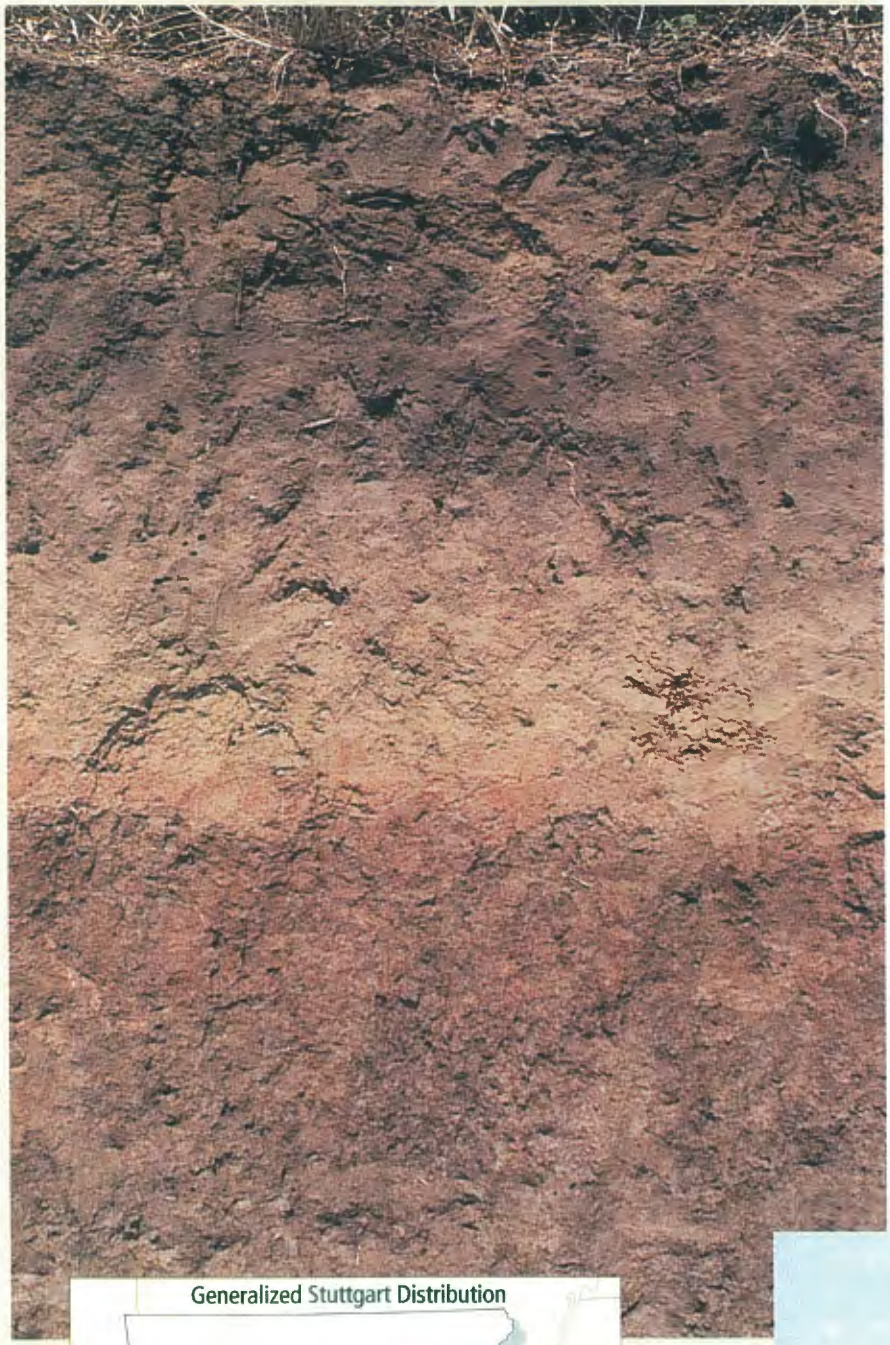
MAY

Stuttgart: *Arkansas State Soil*

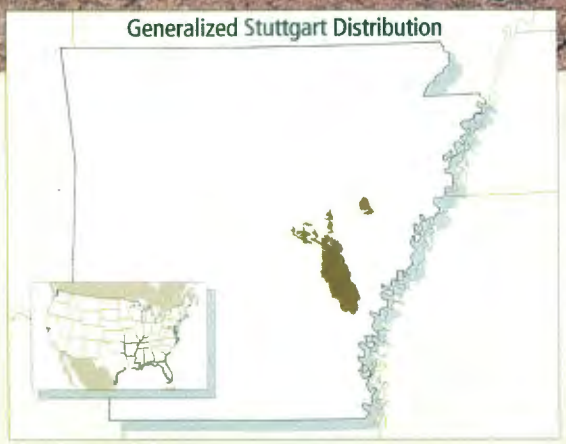


Stuttgart Soil Profile

Surface layer:	dark grayish brown and grayish brown silt loam
Subsurface layer:	yellowish brown silt loam
Subsoil - upper:	red silty clay
- lower:	grayish brown and light brownish gray silty clay loam

Stuttgart soils are named for the city of Stuttgart in southeast Arkansas. They are used primarily for crops, mainly rice, soybeans, small grains, and corn. The Stuttgart area is famous for its large fall and winter population of ducks and geese. These waterfowl feed heavily on the crops grown on the Stuttgart soils. Stuttgart soils have been mapped on about 200,000 acres in Arkansas.

The Stuttgart series consists of very deep, moderately well drained or somewhat poorly drained soils formed in silty and clayey alluvium. These level to gently sloping soils are on the Grand Prairie in the Lower Mississippi Valley. Because of the surface layer of silt loam and slow permeability in the clayey subsoil, the soils are ideal for rice production.



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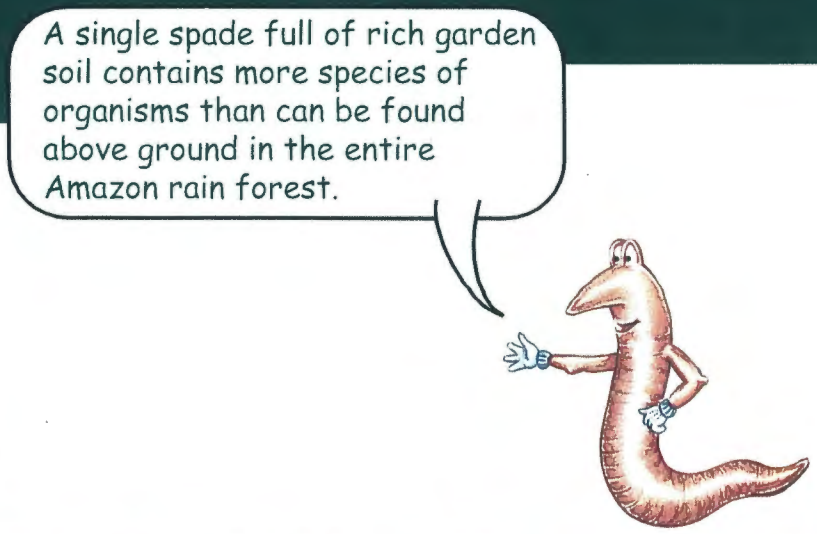

May 2000

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28	29	30	31			

May 22-26, 2000 American Society for Photogrammetry & Remote Sensing Conference—Washington, DC

May 22-26, Desert Soil Geomorphology Project Study Tour—Las Cruces, NM

May 22-24, United Nations Environment Programme
2000 Millennium International Children's Conference
Eastborne, England

Memorial Day (Observed)

Memorial Day

May 31-June 4
Project Learning Tree
Hendersonville, NC

APRIL

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Monongahela: *West Virgina State Soil*

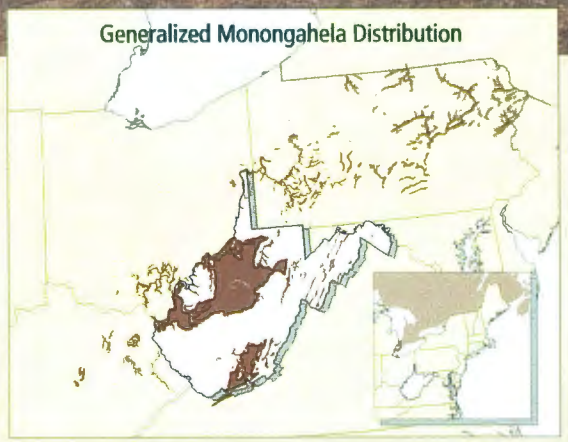
Monongahela Soil Profile

Surface layer:	dark grayish brown silt loam
Subsurface layer:	yellowish brown silt loam
Subsoil - upper:	yellowish brown silt loam
- lower:	a firm, brittle fragipan of light yellowish brown loam
Substratum:	strong brown and gray clay loam

The Monongahela series was designated the official state soil of West Virginia in April 1997. The name "Monongahela" is derived from a Native American word meaning "high banks or bluffs, breaking off and falling down in places."

Monongahela soils occur on more than 100,000 acres in 45 counties in West Virginia. These very deep, moderately well drained soils are on alluvial stream terraces that are not flooded. The mean annual precipitation is about 45 inches, and the mean annual temperature is about 51 degrees F. The soils are used extensively for cultivated crops, hay, pasture, woodland, and homesite development. They are considered prime farmland where slopes are 3 percent or less.

Special thanks to the Tygart's Valley Soil and Water Conservation District for assisting with the site selection for this profile.



USDA NRCS
Natural Resources Conservation Service

June 2000

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MAY

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JULY

May 31-June 4, Project Learning Tree—Hendersonville, NC

May 31-June 4
Project Learning Tree
Hendersonville, NC

World Environment Day

June 14-20, Caretakers of the Environment, International—Lund, Sweden

June 18-22, NRCS North Central Regional Conference—Grand Rapids, MI
June 18-23, NRCS North East Regional Conference—Newport News, VA; NRCS Western Regional Conference—Kona, HI;
NRCS Southern Regional Conference—Auburn, AL

June 14-20, Caretakers of the Environment, International
Lund, Sweden

June 23-26, 3rd International Conference
on Precision Agriculture
Bloomington/Minneapolis, MN

June 23-26, 3rd International Conference
on Precision Agriculture
Bloomington/Minneapolis, MN

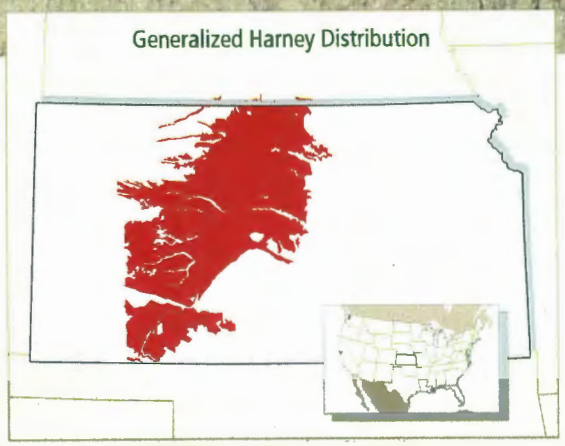
Harney: *Kansas State Soil*

Harney Soil Profile

Surface layer:	dark grayish brown silt loam
Subsurface layer:	dark grayish brown silty clay loam
Subsoil - upper:	grayish brown silty clay loam
- middle:	light brownish gray, calcarous silty clay loam
- lower:	light gray, calcarous silt loam

The Harney series was adopted as the official state soil of Kansas on April 12, 1990, when Governor Mike Hyden signed Senate Bill 96. The name "Harney," meaning people, is derived from "harahey," an ancient Wichita Indian term for "Pawnee Indian," stemming from when Coronado journeyed across Kansas.

Harney soils have the ideal qualities of prairie soils. They are recognized as prime farmland and have excellent properties for producing food and fiber crops. These soils occur on about 4 million acres in west-central Kansas. Kansas is one of the top producers of wheat, grain sorghum, and silage in the nation because of Harney and other productive soils.



USDA NRCS
Natural Resources Conservation Service

July 2000

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3	4	5	6	7	8
		Independence Day				July 8-11 SWCS Annual Conference St. Louis, MO
9	10	11	12	13	14	15
			July 12-19, International Conference on Urban Soils: Soils of Urban, Traffic, and Mining Areas Essen, Germany			
	July 10-14, Symposium on the Role of Erosion and Sediment Transport in Nutrient and Contaminant Transfer Waterloo, Ontario, Canada					
July 8-11, The 2000 SWCS Annual Conference, "Gateway to the Future–Conserving Private Land"—St. Louis, MO						
16	17	18	19	20	21	22
July 12-19, International Conference on Urban Soils: Soils of Urban, Traffic, and Mining Areas Essen, Germany						
23	24	25	26	27	28	29
30	31					

JUNE

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AUGUST

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Myakka: *Florida State Soil*

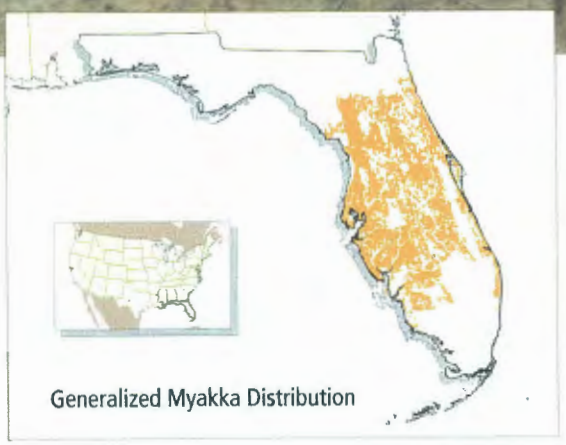
Myakka Soil Profile

Surface layer:	gray fine sand
Subsurface layer:	light gray fine sand
Subsoil:	dark reddish brown fine sand with organic stains
Substratum:	brown and yellowish brown fine sand

The State of Florida has the largest total acreage of Aquods (wet, sandy soils with an organic-stained subsoil layer) on flatwood landforms in the nation. Myakka, pronounced My-yak-ah, an Indian word for Big Waters, is a native soil of Florida and does not occur in any other State. It occurs on more than 1.5 million acres in Florida. It is the most extensive soil in the State.

The Florida Association of Professional Soil Classifiers and the Florida Chapter of the Soil and Water Conservation Society worked together to commemorate the State's unique soil legacy. It is very fitting that they adopted Myakka, a typical flatwoods soil, as the state soil to acknowledge the heritage that has made agriculture the State's major industry.

On May 22, 1989, Governor Bob Martinez signed Senate bill number 524 into law, making Myakka Florida's official state soil.



Generalized Myakka Distribution

USDA NRCS
Natural Resources Conservation Service

August 2000

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
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27	28	29	30	31		

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9 10 11 12 13 14 15
16 17 18 19 20 21 22
30/30 24/31 25 26 27 29 29
JULY

S M T W T F S
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3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
SEPTEMBER

August
IGU—Commision on Environmental Education
Seoul, Korea

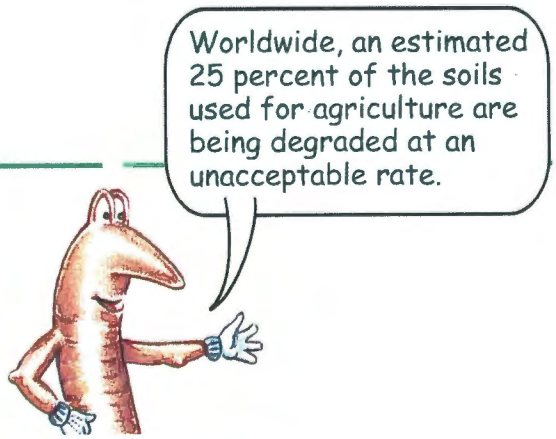
August 1-6, Envirothon—Wolfville, Nova Scotia

August 6-12, Society of Wetland Scientists (SWS) & The International Association of Ecology (INTECOL), 6th International Wetland Symposium
Québec City, Québec, Canada

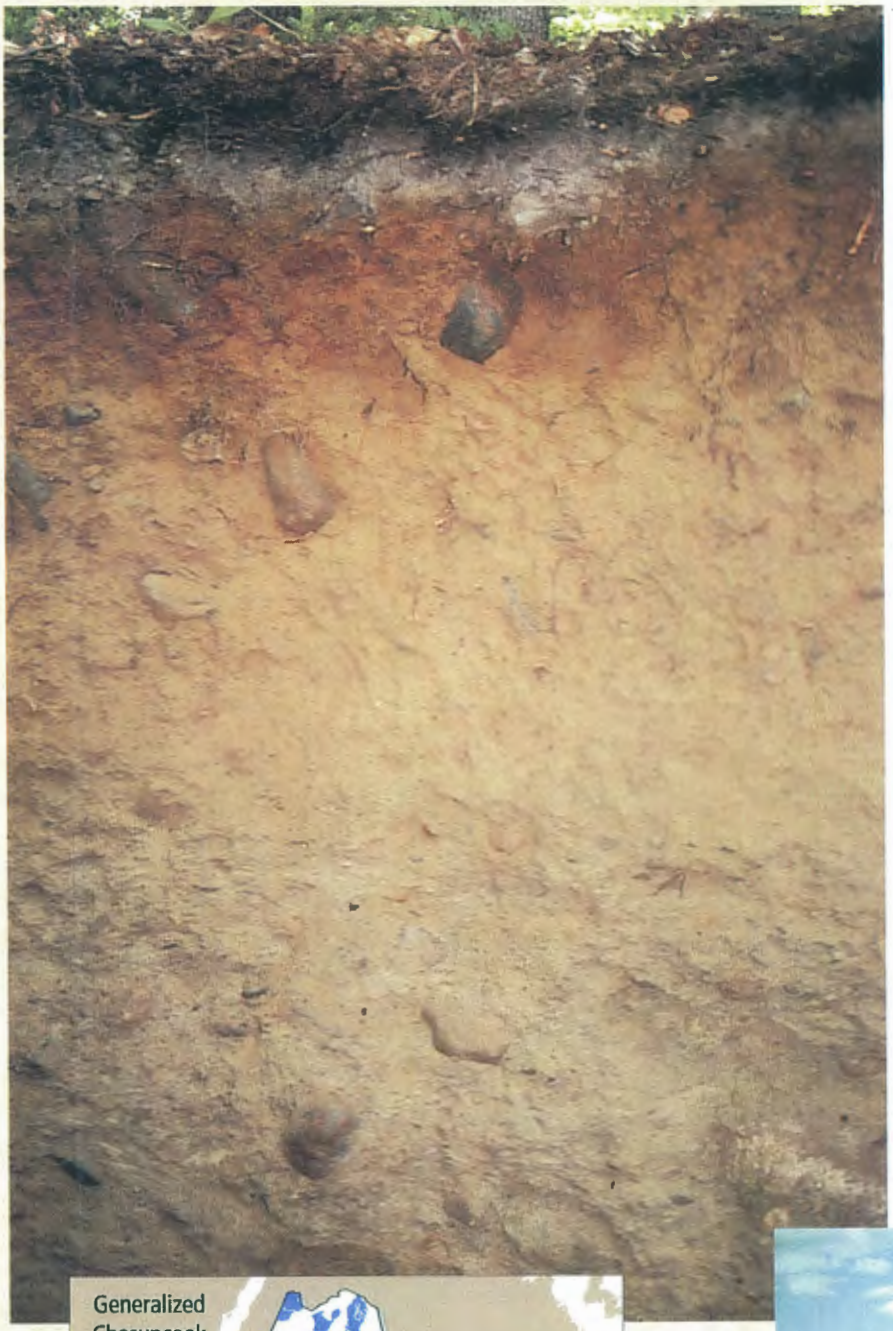
August 1-6
Envirothon
Wolfville, Nova Scotia

August 8-13, Soil and Water Conservation Society—St. Louis, MO

August 8-13
Soil and Water Conservation Society
St. Louis, MO



Chesuncook: *Maine State Soil*



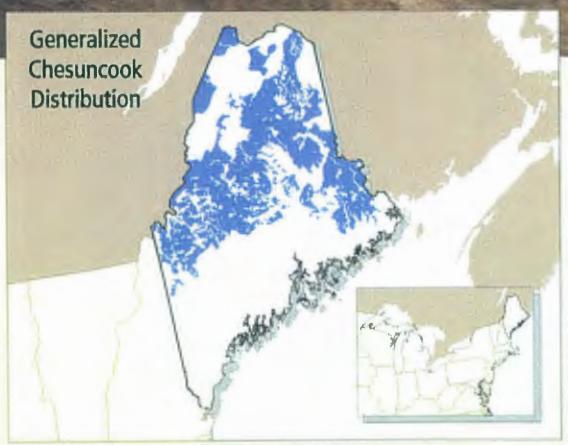
Chesuncook Soil Profile

Surface layer:	black, friable highly decomposed plant material
Subsurface layer:	pinkish gray, very friable silt loam
Subsoil - upper:	dark reddish brown, very friable silt loam
upper middle:	reddish brown, very friable silt loam
lower middle:	dark yellowish brown, very friable silt loam
lower:	light olive brown, mottled, friable gravelly loam
Substratum:	light olive brown, mottled, very firm gravelly loam

Named after Chesuncook Lake in scenic northern Maine, Chesuncook soils occur on more than 150,000 acres. These soils typify the cool, northern temperate, forested regions of Maine. On April 16, 1999, Gov. Angus King signed legislation making Chesuncook the official state soil of Maine.

These very deep, moderately well drained soils are on till plains, hills, ridges, and mountains. If surface stones are removed and the slope is less than 8 percent, these soils are considered prime farmland.

Woodland productivity on these soils is high. The most common trees are red spruce, balsam fir, yellow birch, American beech, sugar maple, white ash, and red maple. Small areas of the soils are used for potatoes, oats, barley, hayland, or pasture. Some areas are used for low-density urban development, wildlife habitat, or recreation.



SDA NRCS

ural Resources Conservation Service

September 2000

UNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
0	11 Labor Day	12	13	14	15	16
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UGUST

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OCTOBER

San Joaquin: *California State Soil*

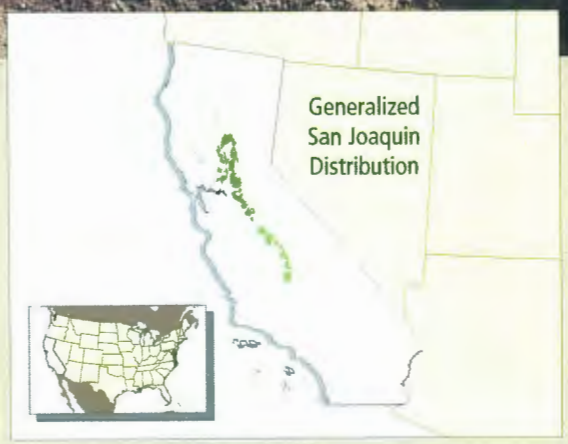
San Joaquin Soil Profile

Surface layer: brown loam
Subsoil - upper: brown loam
- lower: brown clay
Substratum: a light brown and brown, indurated duripan with 70 to 90 percent silica-sesquioxide cementation

California's Great Central Valley has more than 500,000 acres of San Joaquin soils, named for the south end of that valley. These soils are used for irrigated crops, such as wheat, rice, figs, almonds, oranges, and grapes, and for pasture and urban development.

The San Joaquin series became the official state soil in 1997, the result of efforts by students and teachers from Martin Luther King, Jr. Middle School in Madera, natural resource professionals, the Professional Soil Scientists Association of California, legislators, and various state universities.

San Joaquin soils formed in old alluvium on hummocky topography. A cemented hardpan a few feet beneath the surface restricts roots and water percolation. A San Joaquin soil profile is in the Netherlands World Soil Museum.



USDA NRCS
Natural Resources Conservation Service

Students from Dixieland Elementary School in Madera work with soil scientists to prepare soil monoliths for a variety of educational purposes.

October *2000*

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
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October 14-18
Water Environment Federation
Anaheim, CA

October 14-18, Water Environment Federation—Anaheim, CA

October 22-27, 11th International Soil Conservation Organization Conference; Land Conservation and Food Production in the Next Millennium
Buenos Aires, Argentina

SEPTEMBER

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NOVEMBER

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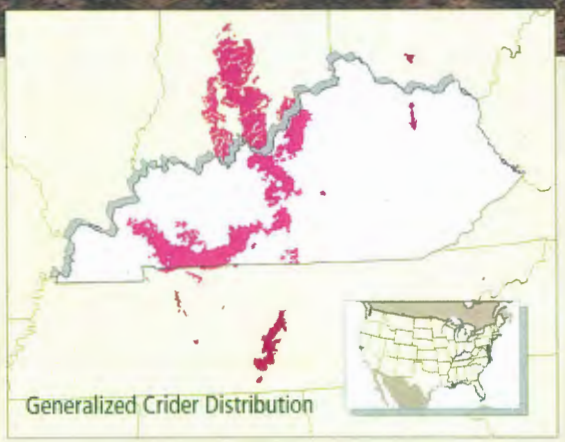
Crider: *Kentucky State Soil*

Crider Soil Profile
Surface layer: brown silt loam
Subsoil - upper: reddish brown silt loam
- middle: dark red silty clay loam
- lower: dark red clay

Crider soils are extensive, making up about 500,000 acres in Kentucky and occurring in 35 counties in the State. Most areas are used for crops or pasture. Corn, small grain, soybeans, tobacco, and hay are the main crops. Crider soils are highly productive. Many areas of these soils are considered prime farmland.

The Crider series consists of very deep, well-drained, moderately permeable soils on uplands. These soils formed in a mantle of loess and in the underlying limestone residuum. Slopes range from 0 to 20 percent. The average annual precipitation is about 48 inches, and the average annual temperature is about 57 degrees F.

The Crider series was established in Caldwell County, Kentucky, in 1957. It is named after a community in the county.



USDA NRCS
Natural Resources Conservation Service

November 2000

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5	6	7	8	9	10	11
			November 5-9, Soil Science Society of America (SSSA) National Meeting—Minneapolis, MN			Veterans Day
12	13	14	15	16	17	18
			November 13-16, Geologic Society of America Conference—Reno, NV	November 16-21, Society of American Foresters Centennial Celebration—Washington, DC		
19	20	21	22	23	24	25
November 16-21, Society of American Foresters Centennial Celebration—Washington, DC				Thanksgiving Day		
26	27	28	29	30		

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OCTOBER

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24/31	25	26	27	28	29	30

DECEMBER

Paxton: *Massachusetts State Soil*

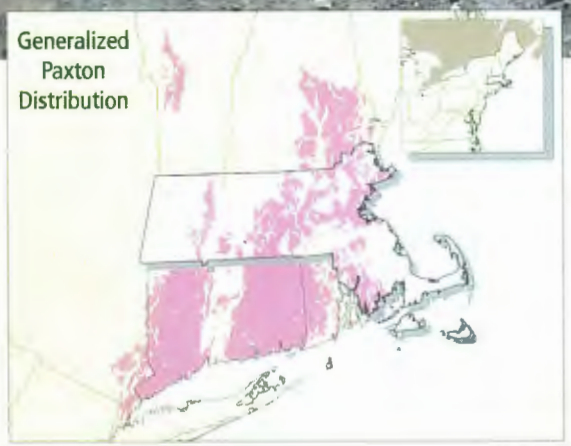
Paxton Soil Profile

Surface layer: very dark grayish brown fine sandy loam
Subsoil: yellowish brown fine sandy loam
Substratum: olive gravelly fine sandy loam (dense till)

Designated by the Massachusetts Legislature as the state soil in 1991, the Paxton series covers about 400,000 of the 5.3 million acres in the State.

These very deep, well-drained soils are on uplands. They formed in friable glacial till that overlies firm, dense till. The dense till is the outstanding characteristic of the Paxton series. Permeability is moderate to the dense till and slow or very slow in the dense till. During wet periods, water collects above the dense till. Available water capacity is high. The soils are very strongly acid to moderately acid.

Where stones are removed and slopes are gentle, Paxton soils are well suited to cultivated crops, hay, and improved pasture. Some areas are used as homesites. Where stones have not been cleared and slopes are steeper, most areas of the soils are wooded.



USDA NRCS
Natural Resources Conservation Service

December *2000*

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
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17	18	19	20	21	22	23
24	25 Christmas Day	26	27	28	29	30
31						

NOVEMBER

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JANUARY

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

This is a representative listing of environmental, conservation and education organizations holding meetings of interest to educators.

Ag in the Classroom,
US Department of Agriculture
Room 3435-S
1400 Independence Ave. SW
Washington, DC 20250
www.reeusda.gov/serd/hep/ageclass.htm

American Association for the Advancement of Science
1200 New York Ave, NW
Washington, DC 20005
www.aaas.org

American Association of School Administrators
1801 N. Moore St.
Rosslyn, VA 703-528-0700
www.aasa.org

Association for Supervision and Curriculum Development
1250 N. Pitt St.
Alexandria, VA 22314-1453
www.ascd.org

Caretakers of the Environment, Int'l
for information about 2000 meeting, contact
International Institute for Industrial Environmental Economics
Box 196, SE-221 OO Lund, Sweden
MalinL@lu-imi.envecon.lu.se

Caretakers of the Environment International, USA
e-mail: azecr@aol.com
Caretakers of the Environment, International
www.boker.org.il/eng/caretakers/

Envirothon
PO Box 855
League City, TX 77574
www.envirothon.org

Girl Scouts of the USA
420 Fifth Ave
New York, NY 10018-2798
www.gsusa.org

International Geographic Union
Commission on Environmental Education
Faculty of Education,
Queensland University of Technology,
Kelvin Grove, Brisbane 4059 Australia
www.mailserv@qut.edu.au

National Arbor Day Foundation
100 Arbor Avenue
Nebraska City, NE 68410
www.arborday.org

National Association for Biology Teachers
11250 Roger Bacon Dr.
Reston, VA 20190-5202
www.nabt.org

National Association of Agricultural Educators
703-838-5885
1410 King St.
Suite 400
Alexandria, VA 22314
www.naae.org

National Association of Conservation Districts
P. O. Box 855
League City, TX 77574
www.nacdnet.org

National Association of Elementary School Principals
703-684-3345
1615 Duke St.
Alexandria, VA 22314-3483
www.naesp.org

National Association of Secondary School Principals
1904 Assoc. Dr.
Reston, VA 22091
www.nassp.org

National Council for Geographic Education
Indiana University of PA.
16A Leonard Hall
Indiana, PA 15705
www.ncge.org

National Council for the Social Studies
3501 Newark St.
Washington, DC 20016
www.ncss.org

National FFA Organization
6060 FFA Drive
PO Box 68960
Indianapolis, IN 46268-0960
www.ffa.org

National Indian Education Assoc.
703-838-2870
700 North Fairfax St., Suite 210
Alexandria, VA 22314
www.niea.org

National Science Teachers Association
1840 Wilson Blvd.
Arlington, VA 22201
www.nsta.org

Project Learning Tree
American Forest Foundation
1111 19th St. NW
Suite 780
Washington, DC 20036
www.plt.org

Soil and Water Conservation Society
7515 N. E. Ankeny Ave.
Ankeny, IA 50021-9764
www.swcs.org

United Nations Environment Programme
Environmental Training Network for
Latin America and the Caribbean
Blvd. de los Virreyes No. 155
Col. de los Virreyes
11000 Mexico, D.F. Mexico
www.educamb@rolac.unep.mx

United Nations Environment Programme (HQ)
PO Box 30552
Nairobi, Kenya
www.unep.org

OTHER RESOURCES.

North American Association for Environmental Education
1255 23rd. St. NW
Suite 400
Washington, DC 20037
www.naaee.org

Project Food Land and People
Presidio of San Francisco,
PO 29474
San Francisco, CA 94129
telephone: 415-561-4445

January, 2000