

An aerial photograph of a farm. In the foreground, there are rows of young corn plants in a field. A red tractor is visible in the middle ground, moving through the field. In the background, there is a large barn with a blue roof and a white fence. The sky is clear and blue.

Using the Web Soil Survey

[www://websoilsurvey.nrcs.usda.gov/app/](http://websoilsurvey.nrcs.usda.gov/app/)



United States Department of Agriculture
Natural Resources Conservation Service

Web Soil Survey

Home About Soils Help Contact Us

You are here: Web Soil Survey Home

Search

Enter Keywords
All NRCS Sites

Browse by Subject

- Soils Home
- National Cooperative Soil Survey (NCSS)
- Archived Soil Surveys
- Status Maps
- Official Soil Series Descriptions (OSD)
- Soil Series Extent Mapping Tool
- Soil Data Mart
- Geospatial Data Gateway
- eFOTG
- National Soil Characterization Data

The simple yet powerful way to access and use soil data.



Welcome to Web Soil Survey (WSS)



Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and

anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

Four Basic Steps

1 Define.



Use the Area of Interest tab to define your area of interest.

I Want To...

- Start Web Soil Survey (WSS)
- Know the requirements for running Web Soil Survey — will Web Soil Survey work in my web browser?
- Know the Web Soil Survey hours of operation
- Find what areas of the U.S. have soil data

Announcements/Events

- Web Soil Survey 2.3 has been released! View description of new features.
- Web Soil Survey Release History

I Want Help With...

Area of Interest (AOI)

Soil Map

Area of Interest (AOI)

Search

Area of Interest

Import AOI

Quick Navigation

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude
- PLSS (Section, Township, Range)
- Bureau of Land Management
- Department of Defense
- Forest Service
- National Park Service
- Hydrologic Unit

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)

You Can Select How You Will Identify Your Area of Interest



Area of Interest (AOI) Soil Map Soil Data Explorer Shop Cart

Zoom in to Locate Site, Zoom out, or Move Around Your AOI

Search

Area of Interest

Import AOI

Quick Navigation

- Address
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- Bureau of Land Management
- Department of Defense
- Forest Service
- National Park Service
- Hydrologic Unit

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (roll to scale)



Quick Navigation

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude

PLSS (Section, Township, Range)

View ?

State

Principal Meridian

[View Meridian Map](#)

Section

Township

- North
- South

Range

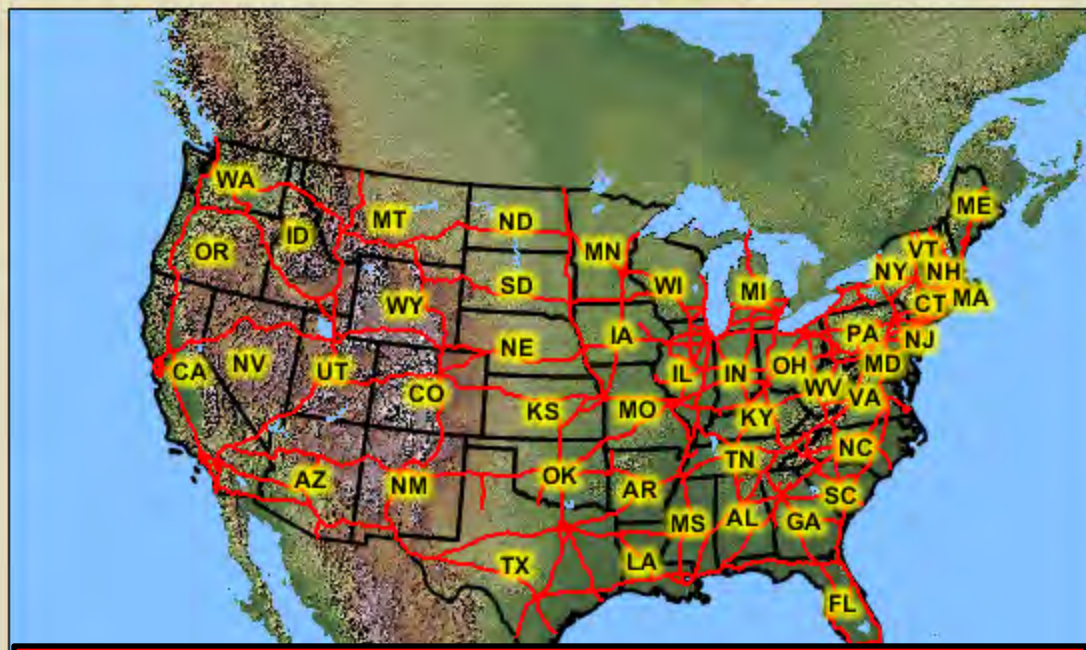
- East
- West

Show **PLSS** Section and **PLSS** Township and Range Layers in Map

View

View Extent

Scale



Or Use a Plat Book to Enter the State, Section, and Township Information To Go To A Specific Section Number and Click On the View Tab



Search

Area of Interest

Import AOI

Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

View ?

State Michigan

Principal Meridian Michigan

View Meridian Map

Section 5

Township 15

- North
- South

Range 13

- East
- West

Show PLSS Section and PLSS Township

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)



Legend

Search

Area of Interest

Import AOI

Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

View ?

State Michigan

Principal Meridian Michigan

View Meridian Map

Section 5

Township 15

North

South

Range 13

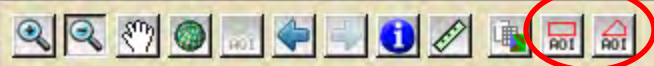
East

West

Show PLSS Section and PLSS Township

Legend

Area of Interest Interactive Map



View Extent Contiguous U.S.



Outline Your Area of Interest by Using the AOI Tools

Search

Area of Interest

Import AOI

Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

View ?

State Michigan

Principal Meridian Michigan

View Meridian Map

Section 5

Township 15

- North
- South

Range 13

- East
- West

Show PLSS Section and PLSS Township

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)



Hold the Cursor Down and Drag to Outline Your Area of Interest

Search

Area of Interest

Open All Close All

AOI Properties

Clear AOI

AOI Information

Name

- Map Unit Symbols
- Use Soil Survey Area Map Unit Symbols
 - Use National Map Unit Symbols

Area (acres) **658.9**

Soil Data Available from Web Soil Survey

Huron County, Michigan (MI063)

Spatial Data Version 6, Dec 8, 2011

Tabular Data Version 10, Dec 8, 2011

Clear AOI

Import AOI

Export AOI

Quick Navigation

Address

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)



Acres in Area of Interest

Clicking on the "Soil Map" Tab Allows the User to View the Soil Types Within the Area of Interest, the Total Acres of Each Soil Type Within the Area of Interest and the Percent Each Soil Type Represents Within the AOI

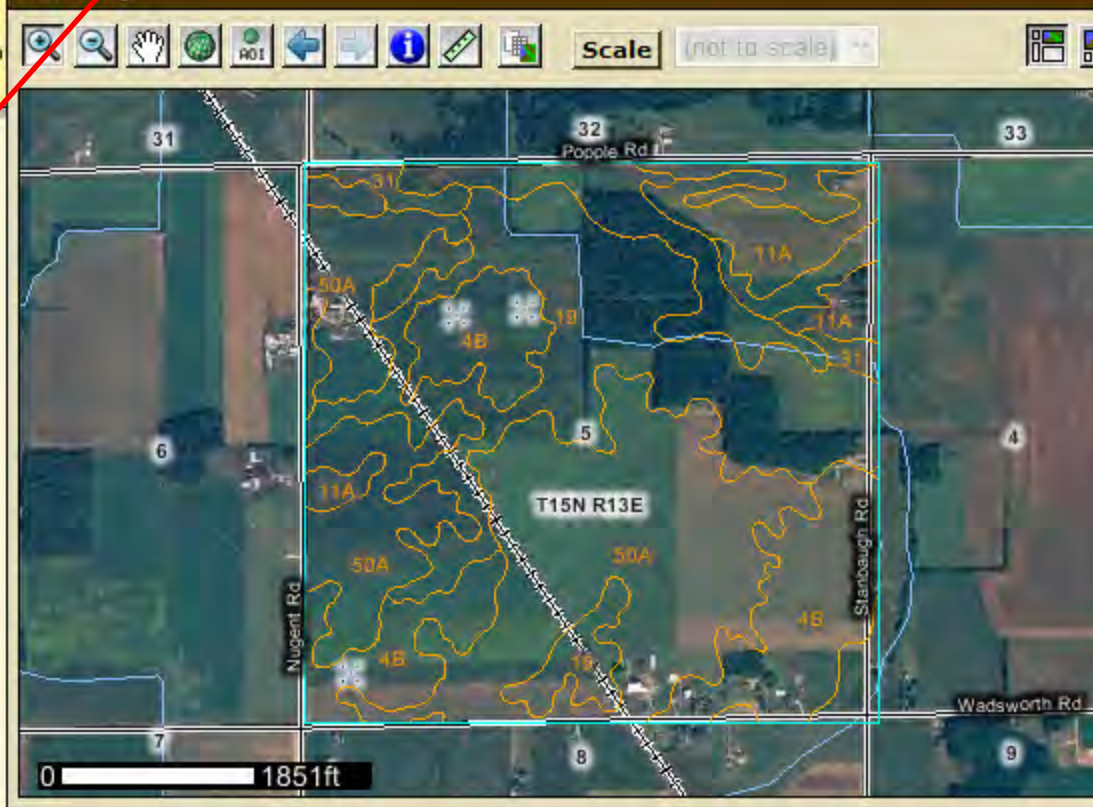
Search

Map Unit Legend

Huron County, Michigan (MI063)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	129.0	19.6%
11A	Covert sand, loamy substratum, 0 to 2 percent slopes	49.0	7.4%
19	Corunna sandy loam	162.1	24.6%
31	Belleville loamy sand	22.1	3.4%
46	Linwood muck	36.6	5.5%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	247.5	37.6%
56A	Riverdale-Pipestone complex, 0 to 2 percent slopes	12.7	1.9%

Soil Map



Click on the Map Unit Name to Read a Description of the Soil Type

Search

Area of Interest

Open All Close All

AOI Properties

Clear AOI

AOI Information

Name

- Map Unit Symbols
- Use Soil Survey Area Map Unit Symbols
 - Use National Map Unit Symbols

Area (acres) 646.4

Soil Data Available from Web Soil Survey

Huron County, Michigan (MI063)

Spatial Data Version 6, Dec 8, 2011

Tabular Data Version 10, Dec 8, 2011

Clear AOI

Import AOI

Export AOI

Area of Interest Interactive Map

View Extent



To Clear the Area of Interest
Click on the "Clear AOI" Tab

Search

Area of Interest

Import AOI

Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

View ?

State Michigan

Principal Meridian Michigan

View Meridian Map

Section 5

Township 15

- North
- South

Range 13

- East
- West

Show PLSS Section and

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)



Legend

Search

Area of Interest

Open All Close All

AOI Properties

Clear AOI

AOI Information

Name

- Map Unit Symbols
- Use Soil Survey Area Map Unit Symbols
 - Use National Map Unit Symbols

Area (acres) 58.1

Soil Data Available from Web Soil Survey

Huron County, Michigan (MI063)

Spatial Data Version 6, Dec 8, 2011

Tabular Data Version 10, Dec 8, 2011

Clear AOI

Import AOI

Export AOI

Quick Navigation

Legend

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)



Search

Area of Interest

Import AOI

Quick Navigation

Add

Stat

Soil

Latit

PLS

Principal meridian Michigan

View Meridian Map

Section

Township

North
 South

Area of Interest Interactive Map



View Extent Contiguous U.S. Scale (not to scale)



Click on the AOI symbol to outline the field. Click at a corner and then click around the border of the field. Double click when the outline is complete

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Shopping Cart (Free)

Search

Area of Interest

Import AOI

Quick Navigation

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude

PLSS (Section, Township, Range)

View ?

State Michigan

Principal Meridian Michigan

View Meridian Map

Section 5

Township 15

North
South

Area of Interest Interactive Map

Legend | [Map Tools: Search, Zoom, Pan, Home, AOI, Back, Forward, Info, Measure, Layer, AOI, AOI]

View Extent: Contiguous U.S. | Scale: 1:1000000



Area of Interest (AOI)

Soil Map

Soil Data Explorer

Shopping Cart (Free)

Search

Area of Interest

Open All Close All

AOI Properties

Clear AOI

AOI Information

Name

Map Unit Symbols

- Use Soil Survey Area Map Unit Symbols
- Use National Map Unit Symbols

Area (acres) 45.1

Soil Data Available from Web Soil Survey

Huron County, Michigan (MI063)

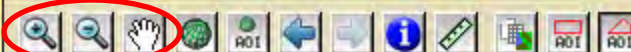
Spatial Data Version 6, Dec 8, 2011

Tabular Data Version 10, Dec 8, 2011

Clear AOI

If the AOI Does Not Cover the Area You Want to Identify, Click the "Clear AOI" tab and Outline the Field Again. Use the + and - Lens and Hand Symbol to Help Identify the Correct Field Boundary

Area of Interest Interactive Map



View Extent Contiguous U.S.

Scale (not to scale)

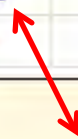


Search

Map Unit Legend

Huron County, Michigan (MI063)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	22.8	50.4%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	22.4	49.6%
Totals for Area of Interest		45.2	100.0%



Click on "Map Unit Name" for soil information

Soil Map

Legend

Scale (not to scale)

T15N R13E

5

0 425ft

Area of Interest (AOI)

Soil Map

Soil

Search

Map Unit Legend

Huron County, Michigan (MI063)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	23.4	51.1%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	22.4	48.9%
Totals for Area of Interest		45.8	100.0%

The report generates information on the soil type selected

Map Unit Description

[Printable Version](#)

Report — Map Unit Description

Huron County, Michigan

50A—Shebeon-Badaxe sandy loams, 0 to 2 percent slopes

Map Unit Setting

Elevation: 610 to 820 feet

Mean annual precipitation: 31 to 34 inches

Mean annual air temperature: 45 to 47 degrees F

Frost-free period: 135 to 184 days

Map Unit Composition

Shebeon and similar soils: 40 percent

Badaxe and similar soils: 25 percent

Minor components: 35 percent

Description of Shebeon

Setting

Landform: Flats on till plains, knolls on till plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy till over dense loamy till

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Clicking on the "Soil Data Explorer" will add a second row of tabs.

Soil Data Explorer

Area of Interest (AOI)

Soil Map

Shopping Cart (Free)

View Soil Information By Use: All Uses

Printable Version

Add to Shopping Cart

Intro to Soils

Suitabilities and Limitations for Use

Soil Properties and Qualities

Ecological Site Assessment

Soil Reports

Search

Content

Table of Contents

View Selected Topics

- All Uses
 - Introduction to Soils
 - Soils 101
 - Information for Land Users
 - Cropland
 - Land capability classification
 - Soil erosion and crop production
 - Cropland management
 - Forestland
 - Grazed Forestland
 - Forest Canopy
 - Forest Overstory
 - Forest Understory
 - Forest Productivity
 - Forestland Ecological Sites
 - Forestland Management
 - Agroforestry
 - Pastureland and Hayland
 - Forage

All Uses

Cropland

Land capability classification

Determinations of land capability involve consideration of the risks of land damage from erosion and other causes and the difficulties in land use resulting from physical land characteristics and from climate. Land capability, as used in the USA, is an expression of the effect of physical land characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, forestland, or engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit.

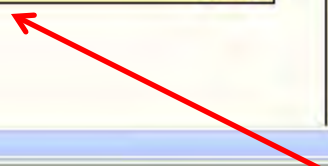
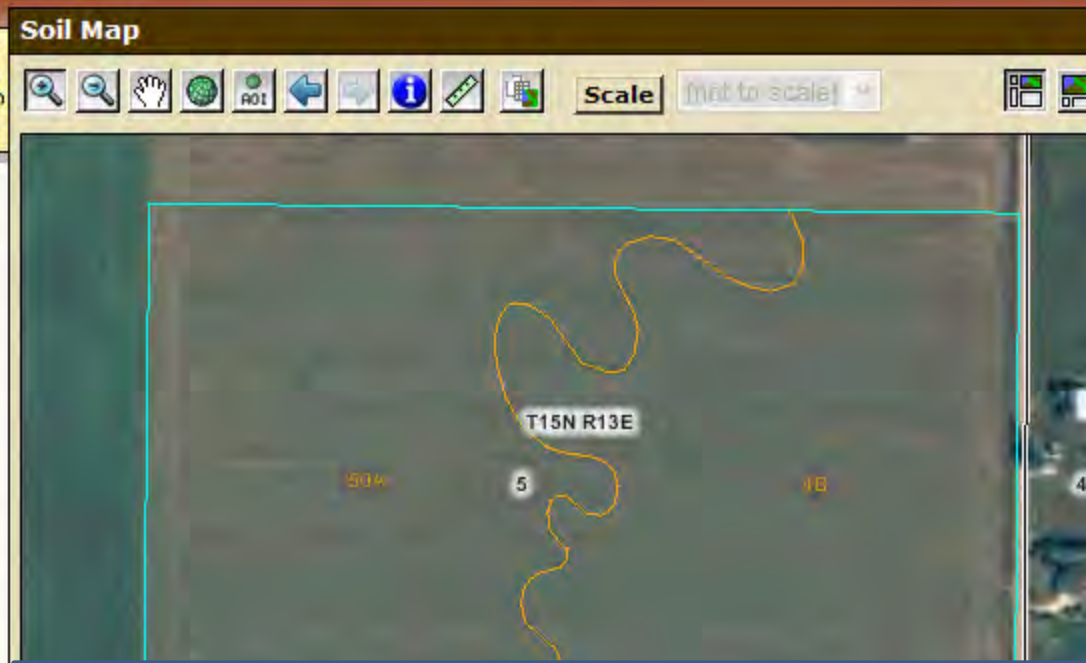
The "Intro to Soils" tab has several categories. Only one "button" can be activated. Checking a category heading will highlight the entire list of subjects. Or, only one subject can be selected.

Search

Suitabilities and Limitations Ratings

[Open All](#) [Close All](#) ?

Building Site Development	? ▾
Construction Materials	? ▾
Disaster Recovery Planning	? ▾
Land Classifications	? ▾
Land Management	? ▾
Military Operations	? ▾
Recreational Development	? ▾
Sanitary Facilities	? ▾
Vegetative Productivity	? ▾
Water Management	? ▾



“The Suitabilities and Limitations for Use” tab is mostly for non-agricultural uses.

Area of Interest (AOI) Soil Map **Soil Data Explorer** Shopping Cart (Free)

View Soil Information By Use: All Uses [Printable Version](#) [Add to Shopping Cart](#)

- Intro to Soils
- Suitabilities and Limitations for Use
- Soil Properties and Qualities**
- Ecological Site Assessment
- Soil Reports

Search

Properties and Qualities Ratings

[Open All](#) [Close All](#) ?

Soil Chemical Properties	? ▾
Soil Erosion Factors	? ▾
Soil Physical Properties	? ▾
Soil Qualities and Features	? ▾
Water Features	? ▾

Soil Map

Legend

Scale (not to scale)

59A 5 T15N R13E 1B

0 435ft

The "Soil Properties and Qualities" tab displays crop field soil information

Search

Properties and Qualities Ratings

Open All Close All ?

- Soil Chemical Properties
 - Soil Erosion Factors**
 - K Factor, Rock Free
 - K Factor, Whole Soil
 - T Factor
 - Wind Erodibility Group
 - Wind Erodibility Index**
- View Description View Rating

View Options

- Map
- Table
- Description of Rating
- Rating Options

Detailed Description

Advanced Options

Map — Wind Erodibility Index

Scale [Unit to scale]



Web Soil Survey

Tie-break Rule Lower Higher

[View Description](#) [View Rating](#)

Soil Physical Properties ?

Soil Qualities and Features ?

Water Features ?

been shown at a more detailed scale.

Tables – Wind Erodibility Index – Summary By Map Unit

Summary by Map Unit – Huron County, Michigan (MI063)

Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	56	22.8	50.4%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	86	22.4	49.6%
Totals for Area of Interest			45.2	100.0%

Description – Wind Erodibility Index

The wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Rating Options – Wind Erodibility Index

Units of Measure: tons per acre per year
Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Higher

Wind Erosion ranking index starts at a low of 56 and ends at a high of 310.

Crop Tolerances* to Blowing Soil – Table 1

Tolerant "T"	Mod. Tolerance 2 t/ac	Low Tolerance 1 t/ac	Very Low Tolerance 0 - 0.5 t/ac
Barley	Alfalfa (mature)	Asparagus	Alfalfa (seedlings)
Buckwheat	Corn	Broccoli	Asparagus
Flax	Onions (>30 days)	Cabbage	Cantaloupe
Grain Sorghum	Orchard crops	Eggplant	Carrots
Millet	Soybeans	Garlic	Celery
Oats	Sunflowers	Potatoes	Cucumbers
Rye	Sweet corn	Sweet potatoes	Flowers
Wheat		Sweet Peppers	Green Peas
		Soybeans	Lettuce
		Sugar Beets	Lima Beans
		Tobacco	Muskmelons
			Onions (seedlings)
			Spinach
			Squash
			Strawberries
			Snap Beans
			Table beets
			Tomatoes
			Watermelons

Developed in consultation with ARS Researchers, Manhattan, KS (3/00)

* **Crop tolerance** is defined as the maximum wind erosion (tons/acre) that a growing crop can tolerate, from crop emergence to field stabilization, without an economic loss to crop stand, crop yield, or crop quality. Crops can be damaged by blowing soil particles, exposure of plant roots, burial of plants by drifting soil or desiccation and twisting of plants by the wind. Crop tolerances to abrasion are usually less than soil loss tolerance.

Crops may tolerate greater amounts of blowing soil than shown above, but yield and quality will be adversely affected. When crop damage is a major concern, the wind erosion control system should be designed to reduce wind erosion below the crop tolerance level during the seedling period of the affected crop.

Search

Properties and Qualities Ratings

Open All Close All

- Soil Chemical Properties
- Soil Erosion Factors
- Soil Physical Properties
- Soil Qualities and Features
- Water Features**
- Depth to Water Table
- Flooding Frequency Class
- Ponding Frequency Class

Map - Wind Erodibility Index

Legend Scale [not to scale]



Search

Properties and Qualities Ratings

Open All Close All

- Soil Chemical Properties
- Soil Erosion Factors
- Soil Physical Properties
- Soil Qualities and Features

Water Features

Depth to Water Table

View Description View Rating

View Options

- Map
- Table
- Description of Rating
- Rating Options

Map - Depth to Water Table

Legend

Scale (not to scale)



Lower
 Higher

Interpret Nulls as Zero
 Yes
 No

Beginning Month:

Ending Month:

Flooding Frequency Class
 Ponding Frequency Class

been shown at a more detailed scale.

Tables – Depth to Water Table – Summary By Map Unit

Summary by Map Unit – Huron County, Michigan (MI063)

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	30	22.8	50.4%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	15	22.4	49.6%
Totals for Area of Interest			45.2	100.0%

Description – Depth to Water Table

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options – Depth to Water Table

Units of Measure: centimeters

Aggregation Method: Dominant Component

Centimeter =0.3937 inches

Soil Map Legend

Map Legend

- Soil Survey Areas
- Soil Map Units
- Soil Ratings
 - 0 - 25
 - 25 - 50
 - 50 - 100
 - 100 - 150
 - 150 - 200
 - > 200
- Special Point Features
- Special Line Features
- Political Features
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 - PLSS Township and Range
 - PLSS Section
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 - Bureau of Land Management
 - Bureau of Reclamation
 - Department of Defense
 - Fish and Wildlife Service
 - Forest Service
 - National Park Service

Land Qualities

Assessment

Reports

Legend

- All
- ?
- ?
- ?
- ?
- ?
- ?
- ?
- ?
- ?

Map - Depth to Water Table



Warning: Soil Ratings Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on

View Soil Information By Use: All Uses [Printable Version](#) [Add to Shopping Cart](#)

- Intro to Soils
- Suitabilities and Limitations for Use
- Soil Properties and Qualities**
- Ecological Site Assessment
- Soil Reports

Search

Properties and Qualities Ratings

[Open All](#) [Close All](#) ?

- Soil Chemical Properties
- Soil Erosion Factors
- Soil Physical Properties
- Soil Qualities and Features**
- AASHTO Group Classification (Surface)
- Depth to a Selected Soil Restrictive Layer
- Depth to Any Soil Restrictive Layer

Drainage Class

[View Description](#) [View Rating](#)

View Options

- Map
- Table
- Description of Rating

Map — Drainage Class

Map navigation tools: zoom in, zoom out, pan, AOI, home, info, scale, print. Scale: not to scale. Calibrate scale for maps viewed on screen.



Tie-break Rule
 Lower
 Higher

[View Description](#) [View Rating](#)

Frost Action

Frost-Free Days

Hydrologic Soil Group

Map Unit Name

Parent Material Name

Representative Slope

Unified Soil Classification (Surface)

Water Features

Tables – Drainage Class – Summary By Map Unit

Summary by Map Unit – Huron County, Michigan (MI063)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	Moderately well drained	22.8	50.4%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	Somewhat poorly drained	22.4	49.6%
Totals for Area of Interest			45.2	100.0%

Description – Drainage Class

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Rating Options – Drainage Class

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Higher

View Soil Information By Use: All Uses

Printable Version Add to Shopping Cart

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- Soil Reports**

- Search**
- Soil Reports**
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 - Building Site Development
 - Construction Materials
 - Disaster Recovery Planning
 - Land Classifications
 - Land Management
 - Recreational Development
 - Sanitary Facilities
 - Soil Chemical Properties
 - Soil Erosion
 - Soil Physical Properties
 - Soil Qualities and Features
 - Vegetative Productivity**
 - Waste Management
 - Water Features
 - Water Management

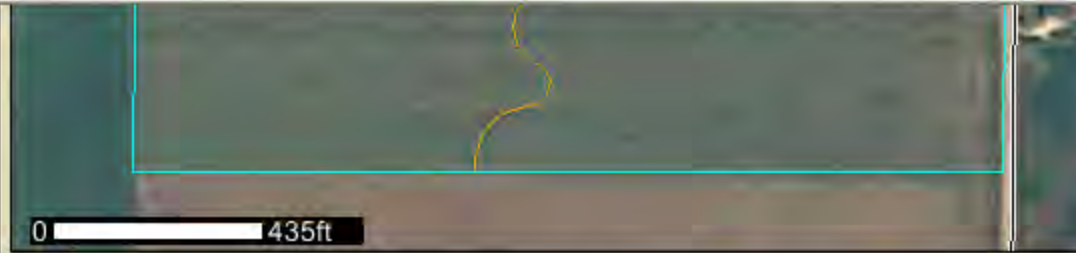
Soil Map

Scale: not to scale



Warning: Soil Map may not be valid at this scale.

- Soil Erosion
- Soil Physical Properties
- Soil Qualities and Features**
 - Soil Features
- Vegetative Productivity**
 - Forestland Productivity
 - Irrigated Yields by Map Unit
 - Nonirrigated Yields by Map Unit**
 - [View Description](#)
 - [View Soil Report](#)
- Options**
 - Select 1-5 crops
 - Corn (Bu)
 - Corn silage (Tons)
 - Dry beans (Bu)
 - Grass-legume hay (Tons)
 - Oats (Bu)
 - Sugar beets (Tons)
 - Winter wheat (Bu)
 - [View Description](#)
 - [View Soil Report](#)
- Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition
- Windbreaks and Environmental Plantings
- Waste Management
- Water Features



Warning: Soil Map may not be valid at this scale.
You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Click on "View Soil Report"



Forestland Productivity

Irrigated Yields by Map Unit

Nonirrigated Yields by Map Unit

[View Description](#)

[View Soil Report](#)

Options

Select 1-5 crops

- Corn (Bu)
- Corn silage (Tons)
- Dry beans (Bu)
- Grass-legume hay (Tons)
- Oats (Bu)
- Sugar beets (Tons)
- Winter wheat (Bu)

[View Description](#)

[View Soil Report](#)

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition

Windbreaks and Environmental Plantings

Waste Management

Water Features

Water Management

Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Report – Nonirrigated Yields by Map Unit

Huron County, Michigan

Map symbol and soil name	Land capability	Corn	Corn silage	Dry beans	Sugar beets	Winter wheat
		<i>Bu</i>	<i>Tons</i>	<i>Bu</i>	<i>Tons</i>	<i>Bu</i>
4B—Grindstone loam, 0 to 4 percent slopes		120	19.00	35	18.90	59
Grindstone	2s					
50A—Shebeon-Badaxe sandy loams, 0 to 2 percent slopes		201	32.00	64	31.90	96
Shebeon	2w					
Badaxe	3w					

Description – Nonirrigated Yields by Map Unit

Nonirrigated Yields by Map Unit

The average yields per acre that can be expected of the principal crops under a high level of management are shown in this table. In any given year, yields may

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 - Soil Chemical Properties
 - Soil Erosion
 - Soil Physical Properties
 - Soil Qualities and Features
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 - Forestland Productivity
 - Irrigated Yields by Map Unit
 - Nonirrigated Yields by Map Unit**

Soil Map

Legend

Scale: (not to scale)

0 482ft

Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area

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Report Options

Title Nonirrigated Yields by Map Unit; Huron County, Michigan

Subtitle (optional)

- Area of Interest Name: (none defined)
- Custom Subtitle:
- None

Cancel View

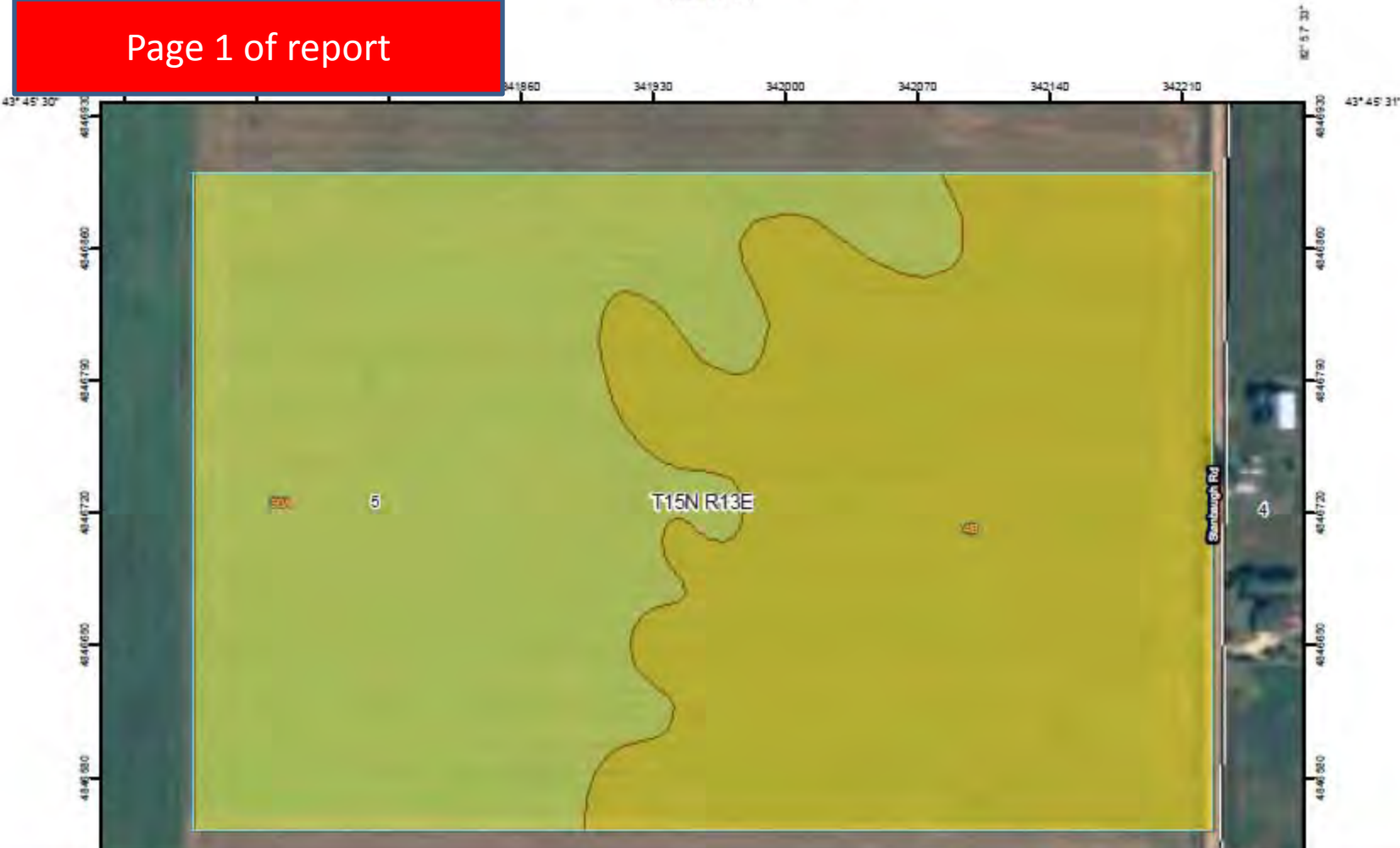
Fill in custom information to fit your needs



Warning: Soil Map may not be valid at this scale.
You have zoomed in beyond the scale at which the soil map for this area

Wind Erodibility Index—Huron County, Michigan (Tom's East)

Page 1 of report



Page 2 of report

MAP LEGEND

- Area of Interest (AOI)
- Soils**
- Soil Map Units
- Soil Ratings**
- 0
- 38
- 48
- 56
- 86
- 134
- 160
- 180
- 220
- 250
- 310
- Not rated or not available
- Political Features**
- Cities
- PLSS Township and Range
- PLSS Section
- Water Features**
- Streams and Canals
- Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:3,020 if printed on A size (8.5" x 11") sheet.
 The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.
 Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 17N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huron County, Michigan
 Survey Area Data: Version 11, Dec 8, 2011

Date(s) aerial images were photographed: 8/28/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Page 3 of report

Wind Erodibility Index

Wind Erodibility Index— Summary by Map Unit — Huron County, Michigan (MI063)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
4B	Grindstone loam, 0 to 4 percent slopes	56	23.6	50.9%
50A	Shebeon-Badaxe sandy loams, 0 to 2 percent slopes	86	22.8	49.1%
Totals for Area of Interest			46.4	100.0%

Description

The wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Rating Options

- Units of Measure: tons per acre per year
- Aggregation Method: Dominant Condition
- Component Percent Cutoff: None Specified
- Tie-break Rule: Higher



- Area of Interest (AOI)
- Soil Map
- Soil Data Explorer
- Shopping Cart (Free)**

Check Out

Search

Report Properties

Title

Title Custom Soil Resource Report for Huron County, Michigan

- Subtitle
- Area of Interest Name: (none defined)
 - Custom Subtitle:
 - None

Size

Total Size 928 KB (0.9 MB)

Map Options

Map Scale Automatic

Printed Sheet A (8.5" x 11") 1 sheet

Check Out

Search

Report Properties

Title

Title Custom Soil Resource Report for Huron County, Michigan

Subtitle Area of Interest Name: (none defined)
 Custom Subtitle:

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Size

Total Size 928 KB (0.9 MB)

Map Options

Map Scale Automatic

Printed Sheet A (8.5" x 11") 1 sheet

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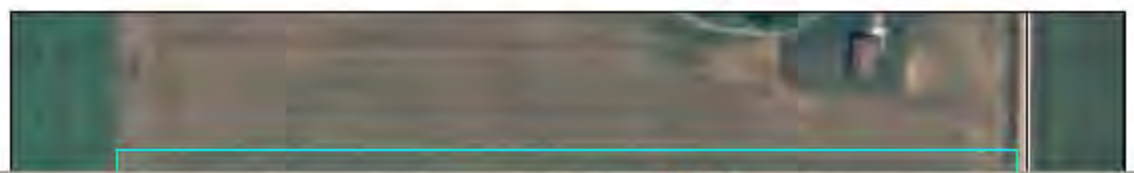
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 - Map Unit Legend
- Map Unit Descriptions
 - Huron County, Michigan
- References



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Huron County, Michigan



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- References

Huron County, Michigan

4B—Grindstone loam, 0 to 4 percent slopes

Map Unit Setting
Elevation: 580 to 790 feet
Mean annual precipitation: 31 to 35 inches
Mean annual air temperature: 45 to 47 degrees F
Frost-free period: 135 to 184 days

Map Unit Composition
Grindstone and similar soils: 88 percent
Minor components: 12 percent

Description of Grindstone

Setting
Landform: Knolls on moraines, till plains, flats on moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Dense, calcareous loamy till

Properties and qualities
Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water capacity: Low (about 5.3 inches)

Interpretive groups
Land capability (nonirrigated): 2s

Typical profile
0 to 9 inches: Loam
9 to 11 inches: Clay loam
11 to 20 inches: Clay loam
20 to 27 inches: Silt loam
27 to 55 inches: Loam
55 to 80 inches: Loam

Minor Components

Home Insert Page Layout Formulas Data Review View Acrobat

Clipboard Font Alignment Number Styles Cells Editing

Times New Rom 11 A A

General

Conditional Formatting Format as Table Cell Styles

Insert Delete Format

Sort & Find & Filter Select

A43 Cinch

	A	B	C	D	E	F	G
38	Capture 2EC	279-3114	Bifenthrin	12 hrs	yes	Mix and load 150' from wells. Not for use in permeable soils with high water table.	Do not apply directly to water, or areas where surface water is present or to intertidal areas below the means high mark
39	Caramba	7969-246	metconazole	12 hrs,	no	This chemical has the potential to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.	Product may contaminate water through drift spray in wind. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.
40	Celebrity	7969	Dicamba Nicosulfuran	12 Hr.	no	Mix and load 150' from wells	Do not apply directly to water, areas where surface water is present, or to intertidal areas below the mean high mark
41	Celebrity Plus	7969-175	Sodium salt of dicamba	12 hrs.	No	Highly leachable, do not apply to sandy soil with less than 3% organic matter and where ground water depth is shallow. Mix and load 150' from well	Do not mix or load any closer than 150' of surface water, do not apply directly to water or surface water
42	Chlorpyrifos 4E AG	66222-19	Chlorpyrifor: Phosphorothioate	24 Hr.	Yes	Mix and load 150' from wells	This pesticide is extremely toxic to fish, aquatic invertebrates and small mammals. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
							Do not mix or load any closer than 150' of surface



FUNGICIDE

For use in disease control in the following crops: barley, oats, rye, sugar beets, triticale and wheat

Active Ingredient*:

metconazole: 5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol 8.6%

Other Ingredients: 91.4%

Total: 100.0%

*Equivalent to 0.75 pound of metconazole per gallon.

EPA Reg. No. 7969-246

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
WARNING/AVISO**

selection chart.

Applicators and other handlers must wear:

- Protective eyewear
- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, or butyl rubber, or nitrile rubber, or neoprene rubber, or polyvinyl chloride or viton
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Environmental Hazards

This pesticide is toxic to fish and aquatic invertebrates. Drift or runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment wash water or rinsate.

Groundwater Advisory

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Surface Water Advisory

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils or soils with shallow water tables are more prone to runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features, such as ponds, streams, and springs, will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.



Huskie™

Net Contents:

2.5 Gallons

HERBICIDE

GROUP 6 | 27 HERBICIDE

FOR CONTROL OF CERTAIN BROADLEAF WEEDS IN WHEAT, BARLEY, CONSERVATION RESERVE PROGRAM ACRES (CRP), GRASS GROWN FOR SEED, GRAIN SORGHUM (TO INCLUDE GRAIN AND FORAGE) AND TRITICALE

**KEEP OUT OF REACH OF CHILDREN
WARNING AVISO**

wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate any body of water and do not apply when/where conditions could favor runoff. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate. Do not allow sprays to drift onto desirable plants. Drift or runoff may adversely affect non-target plants.

Ground Water Advisory:

Pyrasulfotole is known to leach through soil into ground water under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

Surface Water Advisories:

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not use this product until you have read the entire label.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Web Soil Survey

<http://websoilsurvey.nrcs.usda.gov/app/>

Start Web Soil Survey

State – County or PLSS (Section, Township, Range)
Soil Map Tab

Click + or – to zoom in or out
Click the hand symbol to move around
Click AOI to outline field.

See Web Soil Survey PowerPoint presentation on the Huron Conservation website at;

www.huroncd.org

Or on the Michigan Water Stewardship website under
“Cropping System” at;

www.mwsp.msu.edu/mwsp/cropping_systems

Contact Tom Hanselman at the Huron Conservation office at;

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Email; tom.hanselman@mi.nacdnet.net