



United States  
Department of  
Agriculture

Soil  
Conservation  
Service

In cooperation with  
South Dakota Agricultural  
Experiment Station

# Soil Survey of Jerauld County, South Dakota



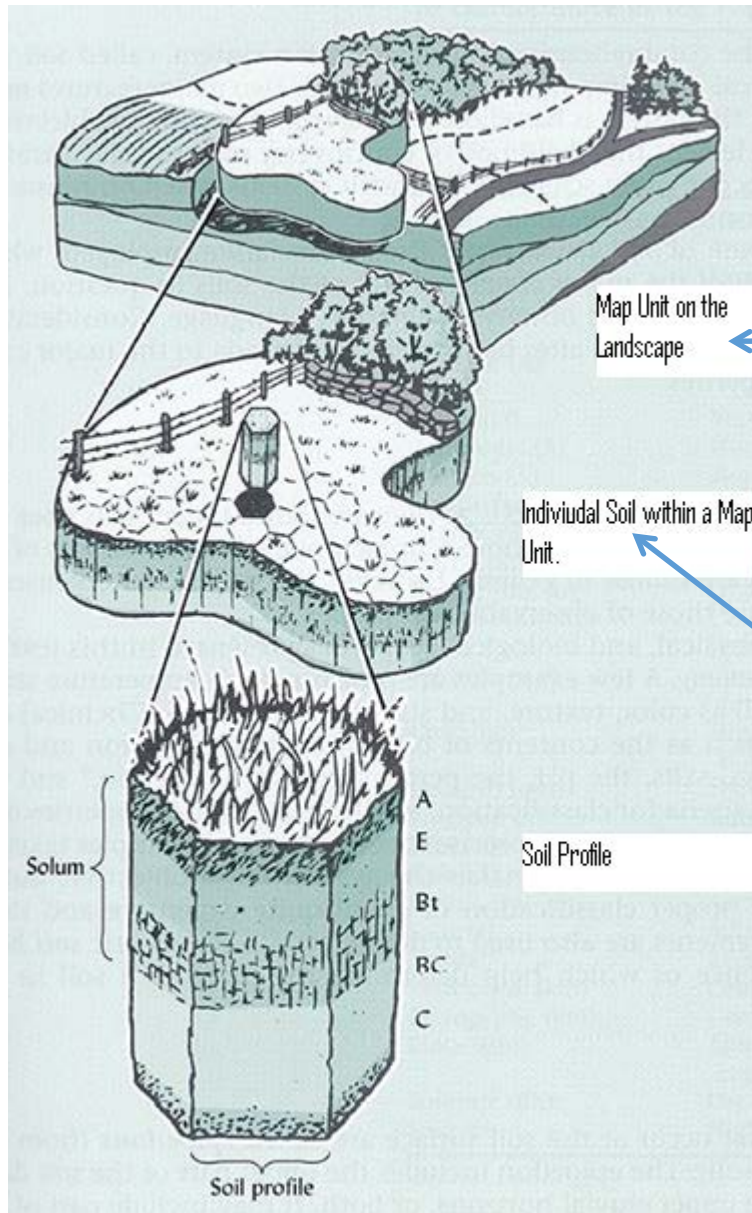
# WHAT IS A SOIL SURVEY?

A Soil Survey is an inventory describing kinds of soils that exist in an area.

**Soils are described in terms of their:**

- **–location on the landscape**
- **–profile characteristics (color, texture, etc.)**
- **–vegetation and hydrology**
- **–relationships to one another**
- **–suitability for various uses**
- **–needs for particular types of management**

**Field Soil Scientists collect, organize, and interpret the information.**



Soils are grouped into Map Units and Series.

**Soil Map Unit** is a geographic collection of areas defined and named the same in terms of their soils (i.e. series) or miscellaneous areas (i.e. gravel pit) or both.

**Soil Series** groups soils that have similar horizons and characteristics developed under similar parent materials and climatic and vegetational conditions (5 soil forming factors).

## Three Main Elements within a Soil Survey:

1. Maps with soil boundaries and photos



## 2. Descriptions of the soils

### **BmD—Betts-Ethan loams, 6 to 40 percent slopes, stony**

#### **Map Unit Setting**

*Landscape:* Till plains  
*Elevation:* 1,300 to 2,300 feet  
*Mean annual precipitation:* 15 to 25 inches  
*Mean annual air temperature:* 43 to 48 degrees F  
*Frost-free period:* 130 to 150 days

#### **Map Unit Composition**

*Betts, stony, and similar soils:* 45 percent  
*Ethan, stony, and similar soils:* 35 percent  
*Minor components:* 20 percent

#### **Description of Betts, Stony**

##### **Setting**

*Landform:* Moraines  
*Landform position (two-dimensional):* Shoulder  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy till

### **Betts Series**

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Permeability:* Moderately slow  
*Landform:* Moraines  
*Parent material:* Glacial till  
*Slope:* 6 to 40 percent

#### **Typical Pedon**

Betts stony loam, in an area of Betts-Ethan loams, 6 to 40 percent slopes, stony, 1,460 feet south and 110 feet east of the northwest corner of sec. 28, T. 108 N., R. 66 W.

A—0 to 2 inches; gray (10YR 5/1) stony loam, very dark gray (10YR 3/1) moist; weak fine granular structure; soft, very friable; common pebbles and stones; common fine roots; strong effervescence; mildly alkaline; abrupt wavy boundary.

Bw—2 to 6 inches; grayish brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) moist; weak medium prismatic structure parting to weak medium subangular blocky; slightly hard, friable; few pebbles; common fine roots; few fine accumulations of carbonate; strong effervescence; mildly alkaline; clear wavy boundary.

Bck—6 to 22 inches; grayish brown (2.5Y 5/2) loam, dark grayish brown (2.5Y 4/2) moist; few fine

### 3. Tables of Soil Properties and Suitabilities

#### Tables – Dwellings Without Basements – Summary By Map Unit

##### Summary by Map Unit – Jerauld County, South Dakota (SD073)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)
BmD	Betts-Ethan loams, 6 to 40 percent slopes, stony	Very limited	Betts, stony (45%)	Too steep (1.00)
				Shrink-swell (0.50)
			Ethan, stony (35%)	Too steep (1.00)
				Shrink-swell (0.50)
			Bon (5%)	Flooding (1.00)

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility	Organic matter
	In	Pct	In/hr	In/in	pH	mmhos/cm		K	T	group	Pct
B1B*:											
Beadle-----	0-5	20-26	0.6-2.0	0.18-0.22	6.1-7.3	<2	Low-----	0.28	5	6	2-4
	5-45	35-45	0.06-0.6	0.13-0.16	6.6-8.4	<2	High-----	0.28			
	45-60	27-45	0.2-0.6	0.13-0.17	7.4-8.4	2-4	Moderate	0.37			
Lane-----	0-8	27-40	0.6-2.0	0.19-0.22	6.1-7.3	<2	Moderate	0.28	5	4	4-6
	8-30	35-50	0.06-0.6	0.13-0.19	6.6-7.8	<2	High-----	0.28			
	30-60	27-45	0.06-0.6	0.11-0.20	7.4-8.4	<4	High-----	0.37			
BmD*:											
Betts-----	0-2	18-27	0.6-2.0	0.16-0.18	6.6-8.4	<2	Moderate	0.20	5	8	2-4
	2-22	20-35	0.6-2.0	0.17-0.20	7.4-8.4	<2	Moderate	0.37			
	22-60	20-35	0.2-0.6	0.17-0.20	7.4-8.4	2-8	Moderate	0.37			

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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 Jerauld County, South Dakota

