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● HELMER

SOIL GUIDE SHEET

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SFP # 1069
WASHINGTON STATE UNIVERSITY

These are well-drained, medium-textured soils that have developed from loess, pumice, and weathered basalt. They are found at elevations of 3000 to 5000 feet. They occupy gently sloping ridgetops and adjacent steep north slopes in Columbia and Walla Walla Counties.

Representative Description:

HELMER silt loam

<u>Water Holding Capacity</u>	<u>Permeability</u>	<u>Shrink-Swell Potential</u>	<u>Engineering Classification</u>
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1'-	<u>Surface layer:</u> 0-2", dark brown silt loam; granular, very friable; pH 6.1-6.5	.22	0.63-2.0	low	ML	A-4
2'-	<u>Subsoil:</u> 2-24", brown silt loam, massive to granular; friable; pH 6.1-6.5	.22	0.63-2.0	low	ML	A-4
3'-	<u>Upper substratum:</u> 24-44", brown silt loam, prismatic; pH 6.1-6.5	.22	0.63-2.0	low	ML-CL	A-4
4'-	<u>Lower substratum:</u> 44-72", yellowish brown silty clay loam, blocky; pH 5.6-6.0	.25	0.63-2.0	low	ML	A-4
5'-						

Caution: All Helmer soils are not exactly like the one shown above. Differences in characteristics will affect suitability and limitations for uses. See Capability Classification table.

ABOUT THE SOIL GUIDE SHEETS: Soil Guide Sheets are written primarily to indicate suitability for irrigation farming. In addition, some engineering properties are shown. These will serve as a preliminary guide but on-site investigation will be needed before making final decisions on non-agricultural uses. Certain terms and soil ratings may not be self explanatory. Refer to "Guide to the Use of Soil Guide Sheets".

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Capability Classification

		(percent slope)				
		0-2	2-5	5-15	15-25	25-40
Helmer soils						
1. Silt loam ^{1/}	IVs	IVe	IVe	IVe	VIe

Determine the depth of your soil. Depth affects use and management. Total water holding capacity is less on shallower soil.

Suitability as a source of:

- Topsoil - Fair
- Sand - Unsuitable
- Gravel - Unsuitable
- Road Fill - Poor to fair

Soil features affecting engineering uses:

- Highway location - Compaction is good to fair, close control is essential; susceptibility to frost action is moderate
- Dikes, Levees, Embankments - Compaction is good to fair
- Reservoir - Moderately permeable
- Septic disposal systems - Moderate permeability

Suitability for irrigation farming:

- Water holding capacity - High
- Infiltration - Slow
- Permeability - Moderate
- Drainage - Well drained
- Salinity and alkali hazard - Slight
- Erosion hazard - Wind erosion, moderate; water erosion, moderate to severe, increasing with slope

General Evaluation: The productivity of Helmer soils is limited mostly by elevation and also by steepness of slope. Suitability for irrigation questionable. If irrigated, suitable only for sprinkler irrigation, especially on steep slopes. Have your soil tested to determine fertilizer needs. Suitable mostly for grain and forage crops.

^{1/}Deep or very deep soils (40"+) with no inhibiting layers in the profile

This Soil Guide Sheet was prepared by A. I. Dow, Extension Soils Specialist, Washington State University in cooperation with Eward T. Harrison, Soil Scientist, Robert F. Mitchel, State Soil Scientist, Soil Conservation Service, USDA; and Mel A. Hagood, Extension Irrigation and Water Use Specialist, Washington State University