CONSERVATION TREE AND SHRUB MANAGEMENT
Leavenworth and Wyandotte
Counties, Kansas

A Conservation Tree/Shrub Suitability Group (CTSG), formerly Windbreak Suitability Group, is a physiographic unit or area having similar climatic and edaphic characteristics that control the selection and height growth of trees and shrubs.

In this table, the Conservation Tree and Shrub Grouping is expressed as a group index number. The group index for Conservation Tree and Shrub groups (CTSG) are a guide for species best suited for different kinds of soil and for prediction height, growth, and effectiveness. The groupings can be used when selection woody plants for windbreaks, wildlife plantings riparian buffers, reforestation, other environmental plantings, recreation, landscaping, wetland restoration or enhancement and critical area plantings. CTSG's are developed to assure satisfactory species selection and adaptation to specific conditions of soil, climate and physiography. CTSG's are a guide for selection species best suited for different kinds of soil and prediction height growth and effectiveness.

All soil series mapped in the state have been placed in 10 groups of similar soil characteristics. Groups 1, 2, 3, 4, 6, and 9 are further divided into subgroups. In addition, all groups provide information by Major Land Resource Areas.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters a tree or shrub may be well or poorly suited because of soil characteristics. Each tree or shrub also has definable potentials of height growth depending on the factors just mentioned. Accurate definitions of potential heights are necessary for proper windbreak planning and design.

Windbreaks protect livestock, buildings, roads and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low-growing and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not grow trees originally. Knowledge of how trees perform on such land can be gained only by observing and recording their performance where trees have been planted and survived. The problem is compounded by the fact that many favorite windbreak species are not indigenous to the areas in which they are planted.

The Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups shows the adapted species listing for each group index number. Showing the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates are based on measurements and observation of established plantings that have been given adequate care. This information should be used to determine the placement of a windbreak, the area protected and the arrangement of species.

A number of attributes are included in the CTSG species tables for each group number found in this section of the Field Office Technical Guide. These attributes were rated subjectively and assigned a relative value to further assist those unfamiliar with individual species characteristics or desirability for the intended use. Definitions and explanations can be found. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery. See part 537 of the National Forestry Manual for additional information.

In the Tree and Shrub Management table interpretive ratings are given for various aspects of forest and conservation tree and shrub management. Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. Well suited indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. Moderately well suited indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable and fair performance can be expected. Some maintenance is needed. Poorly suited indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. Unsuited indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest and conservation tree and shrub management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet. Also, in the Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups.

Ratings in the columns suitability for hand planting and suitability for mechanical planting are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column suitability for mechanical site preparation (surface) are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1-foot is considered in the ratings.

Ratings in the column suitability for mechanical site preparation (deep) are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column potential for seedling mortality are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality. See the National Forestry Manual, Subpart B for criteria used in rating management concerns. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
4752:					
Sogn	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Unsuited Restrictive layer	Low
Vinland	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7005:					
Bourbonais	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
Bismarckgrove	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7006:					
Bismarckgrove	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7035:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
Bismarckgrove	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7036:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
Bismarckgrove	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7050:					
Kennebec	Well suited	Well suited	Well suited	Well suited	Low
7051:					
Kennebec, frequently flooded	Well suited	Well suited	Well suited	Well suited	Low
7052:					
Kennebec	Well suited	Well suited	Well suited	Well suited	Low
Colo	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	High Wetness
7055:					
Kimo	Poorly suited	Poorly suited	Poorly suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
	Stickiness; high plasticity index	Stickiness; high plasticity index	Stickiness; high plasticity index		
7061:					
Muscotah----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7087:					
Sarpy----------	Well suited	Well suited	Well suited	Well suited	Low
Haynie----------	Well suited	Well suited	Well suited	Well suited	Moderate Carbonate content
7088:					
Stonehouse----------	Well suited	Well suited	Well suited	Well suited	Low
7089:					
Stonehouse----------	Well suited	Well suited	Well suited	Well suited	Low
Eudora----------	Well suited	Well suited	Well suited	Well suited	Low
7090:					
Wabash----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	High Wetness
7091:					
Wabash----------	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7095:					
Kiro----------	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Wetness	Unsuited Wetness Stickiness; high plasticity index	Unsuited Wetness	High Wetness
7099:					
Zook----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	High Wetness
7105:					
Belvue----------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7106:					
Eudora----------	Well suited	Well suited	Well suited	Well suited	Low
Bismarckgrove-------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7107:					
Bismarckgrove-------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
Kimo----------	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
7119:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
Urbanland	Not rated	Not rated	Not rated	Not rated	Not rated
7120:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
Haynie	Well suited	Well suited	Well suited	Well suited	Moderate Carbonate content
7123:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
7127:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
Kimo	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	Low
7132:					
Stonehouse	Well suited	Well suited	Well suited	Well suited	Low
Eudora	Well suited	Well suited	Well suited	Well suited	Low
7150:					
Haig	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7155:					
Kimo	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	Low
7170:					
Reading	Well suited	Well suited	Well suited	Well suited	Low
7176:					
Rossville	Well suited	Well suited	Well suited	Well suited	Low
7208:					
Muscotah	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	Low
7210:					
Basehor	Moderately suited Rock fragments	Poorly suited Slope Rock fragments	Poorly suited Rock fragments Slope	Poorly suited Slope	Low
7211:					
Bremer	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low
7213:					
Reading	Well suited	Well suited	Well suited	Well suited	Low
7214:					
Eudora	Well suited	Well suited	Well suited	Well suited	Low
7233:					
Elmont	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7235:					
Elmont	Moderately suited Stickiness; high plasticity index	Moderately suited Slope	Well suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
		Stickiness; high plasticity index			
7250:					
Gosport----------	Poorly suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Low
Sogn----------	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index Rock fragments	Well suited	Unsuited Restrictive layer	Low
7252:					
Grundy----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	High Wetness
7253:					
Grundy----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	High Wetness
7261:					
Gymer----------	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7281:					
Konawa----------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7282:					
Konawa----------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7285:					
Ladoga----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	Low
7286:					
Ladoga----------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7290:					
Marshall----------	Well suited	Well suited	Well suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
7291: Marshall	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7292: Marshall	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7302: Martin	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	Low
7304: Martin	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	Low
7305: Martin, eroded	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	Low
7423: Morrill	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7460: Oska	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	Low
7500: Pawnee	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7502: Pawnee	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7503: Pawnee, eroded	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7540: Sharpsburg	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index	Well suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
7541:					
Sharpsburg----------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	Low
7545:					
Sharpsburg----------	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
Urban Land----------	Not rated Not rated	Not rated Not rated	Not rated Not rated	Not rated Not rated	Not rated Not rated Not rated
7585:					
Shelby--------------	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7588:					
Shelby--------------	Well suited	Well suited	Well suited	Well suited	Low
7589:					
Shelby--------------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7590:					
Shelby--------------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7591:					
Shelby--------------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Pawnee---------------	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7592:					
Shelby, eroded------	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	Low
Pawnee, eroded------	Poorly suited Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Slope	Poorly suited Stickiness; high plasticity index	Well suited	High Wetness
7600:					
Sibleyville---------	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Unnamed Series 1 - Shallow----------	Well suited	Moderately suited Slope	Well suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
7602:					
Sibleyville---	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7603:					
Sibleyville---	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7653:					
Vinland---	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7657:					
Vinland---	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
Martin---	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7658:					
Rock Outcrop---	Not rated	Not rated	Not rated	Not rated	Not rated
Vinland---	Moderately suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Poorly suited Slope	Low
7659:					
Vinland---	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Sibleyville---	Well suited	Moderately suited Slope	Well suited	Well suited	Low
7678:					
Welda---	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
7679:					
Welda	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7741:					
Haynie	Well suited	Well suited	Well suited	Well suited	Moderate Carbonate content
7743:					
Haynie	Well suited	Well suited	Well suited	Well suited	Moderate Carbonate content
Onawa	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Wetness Stickiness; high plasticity index	Unsuited Wetness Stickiness; high plasticity index	Unsuited Wetness	Moderate Soil reaction
7760:					
Onawa	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Wetness Stickiness; high plasticity index	Unsuited Wetness Stickiness; high plasticity index	Unsuited Wetness	Moderate Soil reaction
Waldron	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Wetness Stickiness; high plasticity index	Unsuited Wetness	Unsuited Wetness	Moderate Soil reaction
7761:					
Onawa	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Wetness Stickiness; high plasticity index	Unsuited Wetness	Unsuited Wetness	Moderate Soil reaction
7763:					
Onawa	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Wetness	Unsuited Wetness Stickiness; high plasticity index	Unsuited Wetness	Moderate Soil reaction
7764:					
Onawa	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Wetness Stickiness; high plasticity index	Unsuited Wetness	Unsuited Wetness	Moderate Soil reaction
7765:					
Onawet	Poorly suited Wetness Stickiness; high plasticity index	Poorly suited Stickiness; high plasticity index Wetness	Unsuited Wetness Stickiness; high plasticity index	Unsuited Wetness	High Wetness
7790:					
Wathena	Well suited	Well suited	Well suited	Well suited	Low
Haynie	Well suited	Well suited	Well suited	Well suited	Moderate

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
					Carbonate content
7850:					
Judson	Well suited	Well suited	Well suited	Well suited	Low
7910:					
Armster	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	High Wetness
7911:					
Armster, eroded	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	High Wetness
7915:					
Armster	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	High Wetness
7916:					
Armster	Moderately suited Stickiness; high plasticity index	Moderately suited Stickiness; high plasticity index Slope	Well suited	Well suited	High Wetness
7950:					
Gosport	Poorly suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Low
7951:					
Gosport	Moderately suited Slope Stickiness; high plasticity index	Unsuited Slope Stickiness; high plasticity index	Poorly suited Slope	Poorly suited Slope	Low
7955:					
Knox	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7956:					
Knox	Moderately suited Stickiness; high plasticity index	Moderately suited Slope	Poorly suited Slope	Poorly suited Slope	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
		Stickiness; high plasticity index			
7957:					
Knox----------	Moderately suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Poorly suited Slope	Low
Sogn----------	Moderately suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index Rock fragments	Poorly suited Slope	Poorly suited Slope	Low
7958:					
Knox, eroded--------	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
7959:					
Knox----------	Moderately suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Poorly suited Slope	Low
Gosport----------	Moderately suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Poorly suited Slope	Low
7970:					
Palermo----------	Moderately suited Stickiness; high plasticity index	Poorly suited Slope Stickiness; high plasticity index	Poorly suited Slope	Poorly suited Slope	Low
7971:					
Knox----------	Moderately suited	Moderately suited	Well suited	Well suited	Low

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Map symbol and soil name	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Palermo	Moderately suited Stickiness; high plasticity index	Moderately suited Slope Stickiness; high plasticity index	Well suited	Well suited	Low
9971: Arents, Earthen Dam-	Not rated	Not rated	Not rated	Not rated	Not rated
9980: Fluvaquents	Poorly suited Wetness Rock fragments	Poorly suited Rock fragments Wetness	Unsuited Wetness Rock fragments	Unsuited Wetness	Not rated Not rated Not rated Wetness
9982: Fluvents	Not rated	Not rated	Not rated	Not rated	Not rated
9983: Pits	Not rated	Not rated	Not rated	Not rated	Not rated
9984: Made Land	Not rated	Not rated	Not rated	Not rated	Not rated
9986: Miscellaneous Water-	Not rated	Not rated	Not rated	Not rated	Not rated
9988: Orthents	Not rated	Not rated	Not rated	Not rated	Not rated
9993: Pits	Not rated	Not rated	Not rated	Not rated	Not rated
9999: Water	Not rated	Not rated	Not rated	Not rated	Not rated