
KS652.0204 State supplement - soils**(a) General information**

The soils listed include all the irrigable soils presently being mapped in Kansas. Land types and soils generally considered non-irrigable are not included. As additional soils are recognized, they are to be added to the appropriate irrigation design group.

The soils in each series were evaluated and placed into one of 12 groups called irrigation design groups. Soils having approximately equal intake rates, available water capacities, and available root zone depths were placed together. Some groups include soils with minor variations in intake rate, available water capacity, and permeability.

The grouping of soils is shown in the two listings that follow. The first listing shows all the soils in alphabetical order by series with dominant surface texture with the appropriate irrigation design group. Soils with similar surface textures to those listed are to be considered in the same irrigation design group. The second listing is by irrigation design groups and gives the principal soils included in each of the 12 groups. The intake family used in preparing the design data is included.

Included is a general description of the texture profiles for each design group. The estimated available water capacity for each soil group follows the description. The amounts of moisture are cumulative by 1-foot or 1/2-foot increments of depth.

The most common soils are listed below the available water capacities for each design group.

A form for listing each soil and the irrigation design group number in a county or survey area is included last in this section. Listing the mapping unit or soils in a county on one or several pages of this form simplifies the use of this guide for each county.

The statewide list that follows this section will be of value in preparing the county list. For irrigable soils not listed in the guide or for soils with substantial texture or profile variation from that listed in the guide, consult with appropriate Natural Resources Conservation Service (NRCS) soil scientists to properly list these variant soils in the correct irrigation group.

(b) Soil intake family

Each kind of soil has its own water intake characteristic. The difference in intake between some soils is so minor that for irrigation purposes several soils can be grouped together. In this guide, soil intake families are designated 0.1, 0.3, 0.5, 1.0, 1.5, 2.0, and 3.0 with the lowest number designation representing the slowest intake. These designations relate generally to the intake rate of the soil in inches per hour after several hours of water intake. However, intake rate varies with time as intake continues, being faster at first and slowing to a fairly constant rate after several hours. Therefore, a soil listed in the 0.3 intake family, for instance, does not necessarily take water at 0.3 inch per hour--especially at initial intake. For a light irrigation application of 1 inch, the intake rate might be 2 or 3 times the index rate.

Each of the soil intake family groups relate to one of the intake family curves shown in Figure KS2-1.

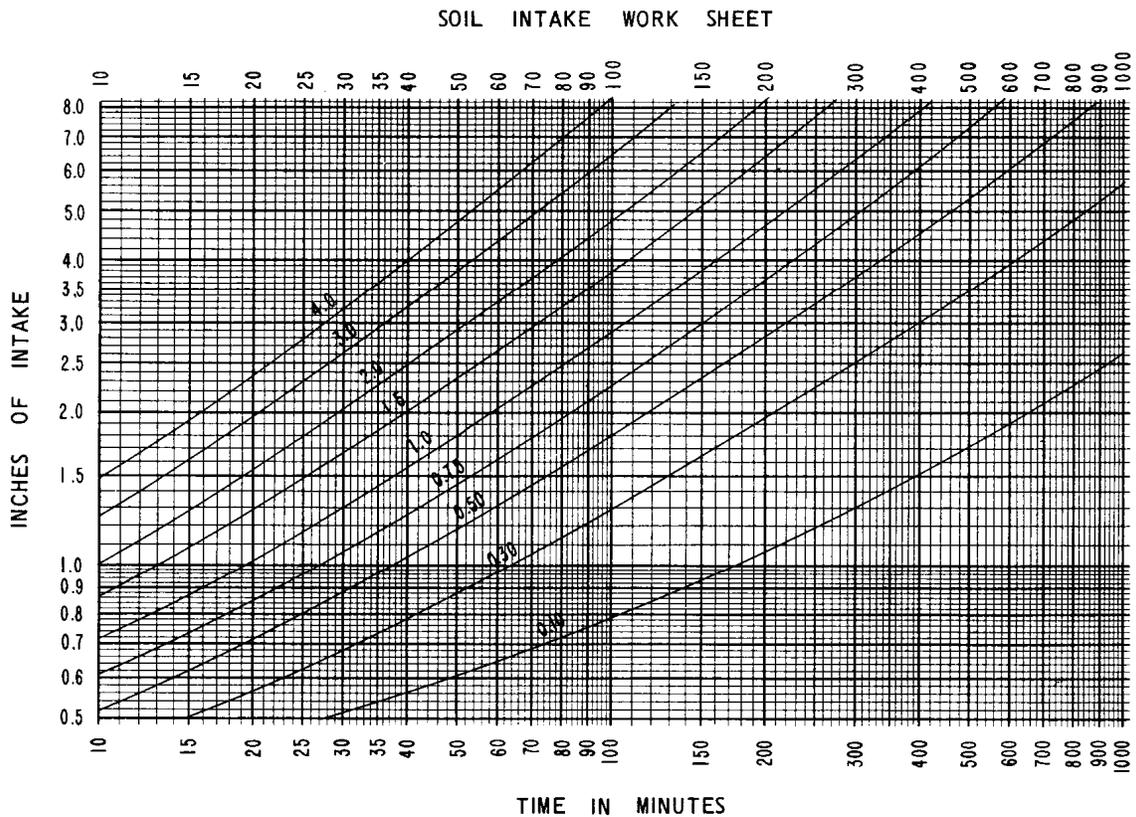
(c) Irrigation design groups

In this guide, the irrigated soils of Kansas are divided into 12 irrigation design groups. There are 2 groups each for soils in intake families 0.1, 0.3, 0.5, 1.0, and 1.5. The

dividing difference in the 0.1 intake family is based on surface clayeyness or surface tightness. The dividing difference within each of the 0.3, 0.5, and 1.0 intake families is profile depth of soil.

The dividing point for 1.5 intake family soils is whether available water capacity is greater or less than 5 inches of water in 5 feet of soil profile. Irrigation design groups 11 and 12 are based on the intake family only.

Figure KS2-1 Intake Family Curves



Map Unit Name	Design Group
Abilene silt loam	3
Aksarben silty clay loam	5
Albion sandy loam	11
Angelus silt loam	5
Anselmo fine sandy loam	9
Arisburg silt loam	3
Armo loam	7
Armo silt loam	7
Armster loam	3
Attica fine sandy loam	9
Avans loam	7
Bates fine sandy loam	8
Bayard fine sandy loam	9
Belfon clay loam	3
Belfon fine sandy loam	7
Belfon loam	7
Belvue silt loam	7
Benkelman very fine sandy loam	7
Bigbow fine sandy loam	7
Bigbow loamy fine sand	7
Bismarckgrove silt loam	7
Blackwood loam	5
Blanket silt loam	3
Blanket silty clay loam	3
Blazefork silty clay loam	1
Boel fine sandy loam	12
Brazilton silty clay loam	1
Brewer silty clay loam	3
Bridgeport clay loam	5
Bridgeport fine sandy loam	7
Bridgeport silt loam	5
Bridgeport silty clay loam	5
Bucyrus silt loam	3
Butler silt loam	1
Buttermilk silt loam	7
Campus clay loam	4
Campus loam	6
Canadian fine sandy loam	9
Canadian sandy loam	9
Canina loam	7
Carey silt loam	7
Carlson silt loam	3

Map Unit Name	Design Group
Carr fine sandy loam	9
Caruso loam	5
Caruso silt loam	5
Caruso silty clay loam	5
Carwile fine sandy loam	3
Carwile loam	3
Case clay loam	5
Cass fine sandy loam	9
Catoosa silt loam	6
Chase silt loam	3
Chase silty clay loam	3
Cherokee silt loam	1
Chillicothe silt loam	3
Church clay	1
Church silty clay loam	3
Clairemont loam	5
Clairemont silt loam	5
Clark clay loam	5
Clark fine sandy loam	9
Clark loam	9
Cleora fine sandy loam	7
Colby loam	5
Colo silt loam	5
Coly silt loam	5
Corbin silt loam	5
Corinth silty clay loam	4
Cozad silt loam	5
Craft very fine sandy loam	7
Crete silt loam	3
Crete silty clay loam	3
Crisfield sandy loam	9
Dale silt loam	5
Dalhart fine sandy loam	7
Dalhart loamy fine sand	9
Darr fine sandy loam	9
Deepwater silt loam	7
Dennis silt loam	3
Dennis silty clay loam	3
Detroit silt loam	3
Detroit silty clay loam	3
Drummond loam	3
Drummond silt loam	3

Map Unit Name	Design Group	Map Unit Name	Design Group
Dwight silt loam	1	Haverson fine sandy loam	9
Dwight silty clay loam	1	Haxtun loamy fine sand	11
Dwyer loamy fine sand	12	Hayes fine sandy loam	11
Elmer loam	3	Haynie silt loam	7
Elmont loam	3	Haynie very fine sandy loam	7
Elmont silty clay loam	3	Hepler silt loam	5
Eltree silt loam	7	Hobbs silt loam	5
Eudora fine sandy loam	7	Holder silt loam	7
Eudora loam	7	Holdrege fine sandy loam	7
Eudora silt loam	7	Holdrege loam	5
Eudora very fine sandy loam	7	Holdrege silt loam	5
Eva loamy fine sand	11	Hord silt loam	5
Farnum clay loam	5	Hord silty clay loam	5
Farnum fine sandy loam	9	Hugoton loam	7
Farnum loam	5	Humbarger clay loam	5
Feterita clay	1	Humbarger loam	7
Forgan loam	7	Inavale fine sand	12
Geary silt loam	5	Inavale loamy fine sand	11
Geary silty clay loam	5	Irwin silty clay loam	1
Gerald silt loam	1	Jansen sandy loam	7
Gerlane fine sandy loam	9	Judson silt loam	5
Gibbon loam	3	Kaskan loam	7
Gibbon silty clay loam	3	Kaski loam	5
Girard silty clay loam	4	Keith silt loam	5
Glenberg fine sandy loam	9	Kenesaw silt loam	7
Goessel silty clay	2	Kenoma silt loam	1
Goshen silt loam	5	Kenoma silty clay loam	1
Grant silt loam	5	Kim loam	7
Grigston silt loam	5	Kimo silty clay loam	3
Grundy silt loam	1	Kingfisher silt loam	6
Grundy silty clay loam	1	Kingsdown fine sandy loam	9
Gymer silt loam	3	Kirkland silt loam	1
Gymer silty clay loam	3	Kirkland silty clay loam	1
Haig silty clay loam	1	Kisiwa loam	1
Happyditch loamy fine sand	12	Knox silt loam	7
Happyditch loamy sand	12	Konza silty clay loam	1
Happyditch sand	12	Kuma silt loam	7
Harney silt loam	3	Labette silty clay loam	4
Harney silty clay loam	3	Ladoga silt loam	3
Hastings silt loam	3	Ladysmith silty clay loam	1
Hastings silty clay loam	3	Lancaster loam	8

Map Unit Name	Design Group
Lanton silt loam	3
Lanton silty clay loam	3
Las clay loam	3
Las loam	4
Lautz silty clay	1
Leanna silt loam	1
Lebsack silty clay loam	5
Leshara clay loam	5
Lesho clay loam	4
Limon clay	1
Limon silty clay	1
Lofton clay loam	1
Lofton silty clay loam	1
Longford loam	3
Longford silt loam	3
Longford silty clay loam	3
Lubbock loam	3
Lubbock silt loam	3
Lubbock silty clay loam	3
Mahone loamy fine sand	11
Mangum clay	2
Manter fine sandy loam	7
Marvel silt loam	5
Marshall silt loam	5
Martin silty clay loam	3
Mason silt loam	5
Mayberry clay loam	1
Mayes silty clay loam	1
McCook fine sandy loam	7
McCook loam	7
McCook silt loam	7
McCune silt loam	5
McLain silt loam	3
Mento silt loam	3
Mento silty clay loam	3
Milan clay loam	3
Milan fine sandy loam	7
Milan loam	3
Minco silt loam	7
Missler silty clay loam	3
Monona silt loam	5
Morrill clay loam	5

Map Unit Name	Design Group
Morrill fine sandy loam	9
Morrill loam	5
Muir silt loam	5
Munjor fine sandy loam	9
Munjor sandy loam	9
Muscotah silt loam	1
Muscotah silty clay loam	1
Nalim loam	3
Naron fine sandy loam	7
Naron loam	7
Naron loamy fine sand	7
Nash silt loam	8
Nashville silt loam	8
Ness clay	1
Ness silty clay	1
New Cambria silty clay	1
Newtonia silt loam	7
Nickerson fine sandy loam	9
Nickerson loamy fine sand	9
Nodaway silt loam	7
Norge silt loam	5
Norge silty clay loam	5
Nuckolls silt loam	5
Okemah silt loam	3
Olmitz clay loam	5
Onawa loam	3
Onawet silty clay loam	1
Ortello fine sandy loam	9
Osage clay	1
Osage silty clay	1
Oska silty clay loam	4
Ost clay loam	5
Ost loam	7
Ost silt loam	7
Otero fine sandy loam	9
Parsons silt loam	1
Pawnee clay loam	1
Pawnee clay	1
Penalosa silt loam	3
Penden clay loam	5
Penden loam	7
Pleasant clay loam	1

Map Unit Name	Design Group
Pond Creek silt loam	5
Pond Creek silty clay loam	5
Port silt loam	5
Pratt loamy fine sand	11
Punkin silt loam	1
Radley silt loam	5
Reading silt loam	5
Reading silty clay loam	5
Renfrow clay loam	1
Renfrow silty clay loam	1
Richfield loam	3
Richfield silt loam	3
Rosehill clay loam	4
Rosehill silty clay	4
Rossville silt loam	5
Roxbury silty clay loam	5
Ruella clay loam	5
Ruella loam	5
Ryus silty clay loam	3
Sarcoie silty clay loam	3
Sarpy fine sand	12
Sarpy loamy fine sand	12
Sarpy sand	12
Satanta fine sandy loam	7
Satanta loam	7
Sharpsburg silt loam	3
Sharpsburg silty clay loam	3
Shelby clay loam	5
Shelby loam	5
Shellabarger fine sandy loam	7
Shellabarger loam	7
Shellabarger loamy fine sand	7
Shellabarger loamy sand	11
Shore loam	7
Sibleyville loam	8
Smithland silt loam	3
Smolan silt loam	3
Smolan silty clay loam	3
Solomon silty clay	2
Spearville silty clay loam	3
Spelvin loamy sand	11
St. Paul silt loam	3

Map Unit Name	Design Group
Stephenville fine sandy loam	8
Stonehouse sand	12
Summit silty clay loam	3
Sutphen silty clay	2
Tabler clay loam	1
Tabler loam	1
Tabler silty clay loam	1
Taloka silt loam	1
Taver loam	1
Thurman loamy fine sand	11
Tobin silt loam	5
Tully silty clay loam	3
Uly silt loam	5
Ulysses loam	5
Ulysses silt loam	5
Vanoss silt loam	5
Voda silty clay	3
Vona loamy fine sand	11
Wagonbed silty clay loam	5
Wagstaff silt loam	4
Wakeen silt loam	6
Waldeck fine sandy loam	9
Waldeck loam	9
Waldeck sandy loam	9
Waurika silt loam	1
Welda silt loam	3
Wells clay loam	5
Wells loam	7
Westview silt loam	3
Woodson silt loam	1
Woodson silty clay loam	1
Woodward loam	8
Wymore silty clay loam	1
Wynona silt loam	3
Yaggy fine sandy loam	9
Yahola fine sandy loam	9
Yahola loam	9
Yahola sandy loam	9
Zaar silty clay	1
Zeandale silt loam	7
Zella loam	3
Zella silt loam	3

Map Unit Name	Design Group
Zellmont sandy loam	8
Zenda clay loam	5
Zenda fine sandy loam	7
Zenda loam	7
Zook silty clay loam	1

Irrigation Design Group 1
(Intake Family 0.1)

Deep soils with silt loam or silty clay loam surface layers and slowly to very slowly permeable heavy clay and claypan subsoils. Irrigation application generally does not penetrate below 2 feet unless shrinkage cracks during dry weather are somewhat extensive and deep.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.3"
2'	4.0"
3'	5.9"

Blazefork silty clay loam	Mayes silty clay loam
Blazilton silty clay loam	Muscotah silt loam
Butler silt loam	Muscotah silty clay loam
Cherokee silt loam	Ness clay
Church clay	Ness silty clay
Dwight silt loam	New Cambria silty clay
Dwight silty clay loam	Onawet silty clay loam
Feterita clay	Osage clay
Gerald silt loam	Osage silty clay
Grundy silt loam	Parsons silt loam
Grundy silty clay loam	Pawnee clay loam
Haig silty clay loam	Pawnee clay
Irwin silty clay loam	Pleasant clay loam
Kenoma silt loam	Punkin silt loam
Kenoma silty clay loam	Renfrow clay loam
Kirkland silt loam	Renfrow silty clay loam
Kirkland silty clay loam	Tabler clay loam
Kisiwa loam	Tabler loam
Konza silty clay loam	Tabler silty clay loam
Ladysmith silty clay loam	Taloka silt loam
Lautz silty clay	Taver loam
Leanna silt loam	Waurika silt loam
Limon clay	Woodson silt loam
Limon silty clay	Woodson silty clay loam
Lofton clay loam	Wymore silty clay loam
Lofton silty clay loam	Zaar silty clay
Mayberry clay loam	Zook silty clay loam

Irrigation Design Group 2
(Intake Family 0.1)

Deep soils with silty clay or clay textures throughout. Occasional silty clay loam phases occur. Surface infiltration and subsoil permeability are very slow when the soil is moist. Shrinkage on drying causes extensive cracking which results in high rates of water acceptance until swelling occurs.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	1.6"
2'	3.1"
3'	4.6"

Goessel silty clay
Mangum clay
Solomon silty clay
Sutphen silty clay

Irrigation Design Group 3
(Intake Family 0.3)

Deep soils with silt loam, loam, clay loam, or silty clay loam surface layers and clay loam, silty clay loam, or silty clay subsoils. Subsoil permeability is slow to moderately slow.

Shrinkage cracks that result from drying in the soils with more clayey subsoil textures allow water acceptance sufficient for this design.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.3"
2'	4.3"
3'	6.3"
4'	8.4"
5'	10.6"

Abilene silt loam	Elmont silty clay loam	Milan clay loam
Arisburg silt loam	Gibbon loam	Milan loam
Amster loam	Gibbon silty clay loam	Missler silty clay loam
Belfon clay loam	Gymer silt loam	Nalim loam
Blanket silt loam	Gymer silty clay loam	Okemah silt loam
Blanket silty clay loam	Harney silt loam	Onawa loam
Brewer silty clay loam	Harney silty clay loam	Penalosa silt loam
Bucyrus silt loam	Hastings silt loam	Richfield loam
Carlson silt loam	Hastings silty clay loam	Richfield silt loam
Carwile fine sandy loam	Kimo silty clay loam	Ryus silty clay loam
Carwile loam	Ladoga silt loam	Sarcoxie silty clay loam
Chase silt loam	Lanton silt loam	Sharpsburg silt loam
Chase silty clay loam	Lanton silty clay loam	Sharpsburg silty clay loam
Chillicothe silt loam	Las clay loam	Smithland silt loam
Church silty clay loam	Longford loam	Smolan silt loam
Crete silt loam	Longford silt loam	Smolan silty clay loam
Crete silt loam	Longford silty clay loam	Spearville silty clay loam
Dennis silt loam	Lubbock loam	St. Paul silt loam
Dennis silty clay loam	Lubbock silt loam	Summit silty clay loam
Detroit silt loam	Lubbock silty clay loam	Tully silty clay loam
Detroit silty clay loam	Martin silty clay loam	Voda silty clay
Drummond loam	McLain silt loam	Welda silt loam
Drummond silt loam	Mento silt loam	Westview silt loam
Elmer loam	Mento silty clay loam	Wynona silt loam
Elmont loam		Zella loam
		Zella silt loam

Irrigation Design Group 4
(Intake Family 0.3)

Moderately deep soils with silt loam, clay loam, or silty clay loam surface layers and clay loam or silty clay subsoils with predominantly moderately slow permeability.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.2"
2'	4.3"
2.5'	5.4"

Campus clay loam
Corinth silty clay loam
Girard silty clay loam
Labette silty clay loam
Las clay loam

Lesho clay loam
Oska silty clay loam
Rosehill clay loam
Rosehill silty clay
Wagstaff silt loam

Irrigation Design Group 5
(Intake Family 0.5)

Deep soils with silt loam, loam., clay loam, or silty clay loam surface layers and subsoils. Subsoil permeability is moderate to moderately slow.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.5"
2'	4.9"
3'	7.1"
4'	9.4"
5'	11.7"

Aksarben silty clay loam	Grant silt loam	Nuckolls silt loam
Angelus silt loam	Grigston silt loam	Olmitz clay loam
Blackwood loam	Hepler silt loam	Ost clay loam
Bridgeport clay loam	Hobbs silt loam	Penden clay loam
Bridgeport silt loam	Holdrege loam	Pond Creek silt loam
Bridgeport silty clay loam	Holdrege silt loam	Pond Creek silty clay loam
Caruso loam	Hord silt loam	Port silt loam
Caruso silt loam	Hord silty clay loam	Radley silt loam
Caruso silty clay loam	Humbarger clay loam	Reading silty clay loam
Case clay loam	Judson silt loam	Reading silt loam
Clairemont silt loam	Kaski loam	Rossville silt loam
Clark clay loam	Keith silt loam	Roxbury silty clay loam
Colby loam	Lebsack silty clay loam	Ruella clay loam
Colo silt loam	Leshara clay loam	Ruella loam
Coly silt loam	Manvel silt loam	Shelby clay loam
Corbin silt loam	Mason silt loam	Shelby loam
Cozad silt loam	McCune silt loam	Tobin silt loam
Dale silt loam	Monona silt loam	Uly silt loam
Farnum clay loam	Morrill clay loam	Ulysses loam
Farnum loam	Morrill loam	Ulysses silt loam
Geary silt loam	Muir silt loam	Vanoss silt loam
Geary silty clay loam	Norge silt loam	Wagonbed silty clay loam
Goshen silt loam	Norge silty clay loam	Zenda clay loam

Irrigation Design Group 6
(Intake Family 0.5)

Moderately deep soils with silt loam or loam surface layers and loam, clay loam, or silty clay loam subsoils with moderate to moderately slow permeability.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.3"
2'	4.3"
3'	6.4"

Campus loam
Catoosa silt loam
Kingfisher silt loam
Wakeen silt loam

Irrigation Design Group 7
(Intake Family 1.0)

Deep soils with silt loam, loam, or very fine sandy loam surface layers and moderately permeable, medium-textured subsoils.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.0"
2'	4.0"
3'	5.9"
4'	7.8"
5'	9.4"

Armo loam	Kaskan loam
Armo silt loam	Kenesaw silt loam
Avans loam	Knox silt loam
Belfon fine sandy loam	Kuma silt loam
Belfon loam	Manter fine sandy loam
Belvue silt loam	McCook fine sandy loam
Benkelman very fine sandy loam	McCook loam
Bigbow fine sandy loam	McCook silt loam
Bigbow loamy fine sandy	Milan fine sandy loam
Bismarkgrove silt loam	Minco silt loam
Bridgeport fine sandy loam	Naron fine sandy loam
Buttermilk silt loam	Naron loam
Carina loam	Naron loamy fine sand
Carey silt loam	Newtonia silt loam
Cleora fine sandy loam	Nodaway silt loam
Craft very fine sandy loam	Ost loam
Dalhart fine sandy loam	Ost silt loam
Deepwater silt loam	Penden loam
Eltree silt loam	Satanta fine sandy loam
Eudora loam	Satanta loam
Eudora silt loam	Shellabarger fine sandy loam
Eudora very fine sandy loam	Shellabarger loam
Forgan loam	Shellabarger loamy fine sand
Haynie silt loam	Shore loam
Haynie very fine sandy loam	Wells loam
Holder silt loam	Zeandale silt loam
Holdrege fine sandy loam	Zenda fine sandy loam
Hugoton loam	Zenda loam
Jansen sandy loam	

Irrigation Design Group 8
(Intake Family 1.0)

Moderately deep soils with silt loam, loam, or very fine sandy loam surface layers and moderately permeable clay loam, loam, or silt loam subsoils.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	2.1"
2'	4.1"
2.5'	5.3"

Bates fine sandy loam
Lancaster loam
Nash silt loam
Nashville silt loam
Sibleyville loam
Stephenville fine sandy loam
Woodward loam
Zellmont sandy loam

Irrigation Design Group 9
(Intake Family 1.5)

Deep soils with fine sandy loam and loam surface layers and subsoils that have moderately rapid permeability. Available water capacity is moderate to low.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	1.9"
2'	3.8"
3'	5.6"
4'	7.2"
5'	8.4"

Anselmo fine sandy loam
Attica fine sandy loam
Bayard fine sandy loam
Canadian fine sandy loam
Canadian sandy loam
Carr fine sandy loam
Cass fine sandy loam
Clark fine sandy loam
Clark loam
Crisfield sandy loam
Dalhart loamy fine sand
Darr fine sandy loam
Farnum fine sandy loam
Gerlane fine sandy loam
Glenberg fine sandy loam
Haverson fine sandy loam
Kingsdown fine sandy loam
Morrill fine sandy loam
Munjor fine sandy loam
Munjor sandy loam
Nickerson fine sandy loam
Nickerson loamy fine sand
Ortello fine sandy loam
Otero fine sandy loam
Waldeck fine sandy loam
Waldeck loam
Waldeck sandy loam
Yaggy fine sandy loam
Yahola fine sandy loam
Yahola loam
Yahola sandy loam

Irrigation Design Group 10
(Intake Family I.5)

Soils are moderately deep over sand with sandy loam to loam surface layers and moderately rapid to rapidly permeable subsoils with low available water capacity.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	1.3"
2'	2.6"
3'	3.3"
4'	3.8"
5'	4.3"

No Kansas soils in this Design Group

Irrigation Design Group 11
(Intake Family 2.0)

Deep soils with loamy fine sand or loamy sand surface layers and moderately rapid to rapidly permeable subsoils.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	0.9"
2'	2.1"
3'	3.2"
4'	4.4"
5"	5.7"

Albion sandy loam
Eva loamy fine sand
Haxtun loamy fine sand
Hayes fine sandy loam
Inavale loamy fine sand
Mahone loamy fine sand
Pratt loamy fine sand
Shellabarger loamy sand
Spelvin loamy sand
Thurman loamy fine sand
Vona loamy fine sand

Irrigation Design Group 12
(Intake Family 3.0)

Deep, rapidly permeable soils with sand or fine sand textures throughout.

<u>Depth</u>	<u>Available Water Capacity</u>
1'	0.8"
2'	1.6"
3'	2.4"
4'	3.1"
5'	3.8"

Boel fine sandy loam
Dwyer loamy fine sand
Happyditch loamy fine sand
Happyditch loamy sand
Happyditch sand
Inavale fine sand
Sarpy fine sand
Sarpy loamy fine sand
Stonehouse sand

Table KS2-1 Average Available Water Holding Capacity for Kansas Soils

0 to 12" Soil Layer								
Soil Texture	Average Bulk Density	Percent Moisture				Inches per Inch		
		1*	2*	3*	4*	1*	2*	3*
		F.C.	W.P.	A.C.	%F.C.	F.C.	W.P.	A.C.
Sand	1.60	8.7	3.5	5.2	40	0.14	0.06	0.08
Loamy sand	1.60	11.9	4.5	7.4	38	0.19	0.07	0.12
Sandy loam	1.55	15.4	5.8	9.6	38	0.24	0.09	0.15
Fine sandy loam	1.50	19.5	7.5	12.0	38	0.29	0.11	0.18
Loam	1.45	23.6	9.2	14.4	39	0.34	0.13	0.21
Silt loam	1.40	27.2	10.9	16.3	40	0.38	0.15	0.23
Silty clay loam	1.35	28.8	13.0	15.8	45	0.39	0.18	0.21
Sandy clay loam	1.40	27.0	13.5	13.5	50	0.38	0.19	0.19
Clay loam	1.40	27.1	15.1	12.2	55	0.38	0.21	0.17
Silty clay	1.30	28.7	18.0	10.7	61	0.37	0.23	0.14
Clay	1.25	29.4	20.1	9.3	68	0.37	0.25	0.12
Below 12"								
Soil Texture	Average Bulk Density	Percent Moisture				Inches per Inch		
		1*	2*	3*	4*	1*	2*	3*
		F.C.	W.P.	A.C.	%F.C.	F.C.	W.P.	A.C.
Sand	1.70	7.0	3.0	4.0	43	0.12	0.05	0.07
Loamy sand	1.70	10.0	4.2	5.8	42	0.17	0.07	0.10
Sandy loam	1.65	13.4	5.6	7.8	42	0.22	0.09	0.13
Fine sandy loam	1.60	18.2	8.0	10.2	44	0.29	0.13	0.16
Loam	1.55	22.6	10.3	12.3	46	0.35	0.16	0.19
Silt loam	1.50	26.8	12.9	13.9	48	0.40	0.19	0.21
Silty clay loam	1.45	27.6	14.5	13.1	52	0.40	0.21	0.19
Sandy clay loam	1.50	26.0	14.8	11.2	57	0.39	0.22	0.17
Clay loam	1.50	26.3	16.3	10.0	62	0.39	0.24	0.15
Silty clay	1.40	27.9	18.8	9.1	67	0.39	0.26	0.13
Clay	1.35	28.8	20.8	8.0	72	0.39	0.28	0.11

1* Field capacity

2* Wilting point

3* Average water-holding capacity

4* Percent of field capacity at wilting point

Figure KS2-2 Soil Textural Triangle

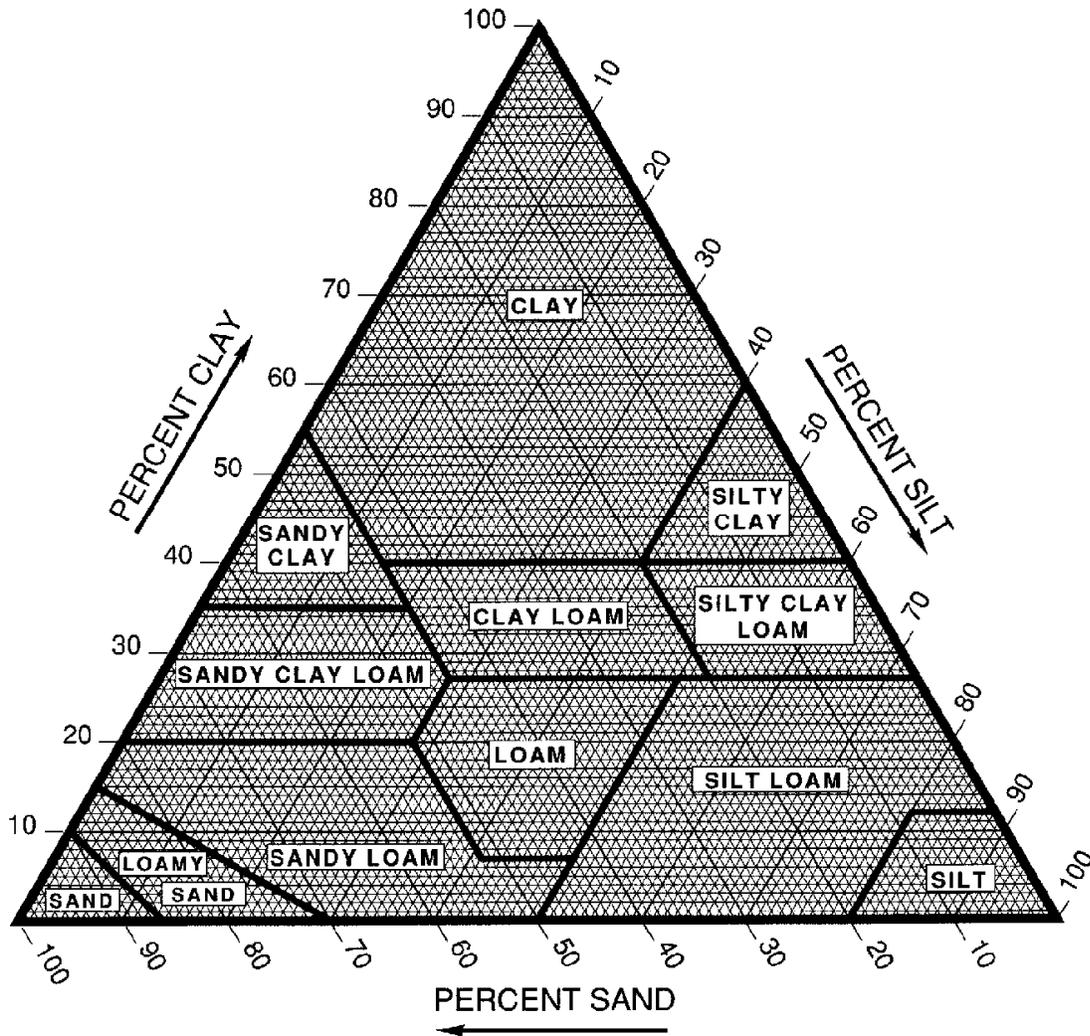


Figure KS2-3 Worksheet to Identify Irrigable Soils in County

Irrigation Design Group Number
for
Soils of a County or Survey Area

County or Survey Area

Use this worksheet to list the irrigable soils within a county or an area. Enter published or field mapping symbol, soil name, and applicable irrigation design group number. Add pages as needed.

Mapping Unit or
Published Symbol

Soil Name

Irrigation Design
Group Number

<u>Mapping Unit or Published Symbol</u>	<u>Soil Name</u>	<u>Irrigation Design Group Number</u>