

One half of the AWC was selected as an average for all soils. In reality, it will vary with different soils, crops, and climate. See "Consumptive Use of Selected Nebraska Crops" table in Nebraska Supplements to Chapter 4.

(d) Use of Irrigation Design Groups

The soils listed in this Irrigation Guide include the irrigable soils presently being mapped in Nebraska. 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. Some soil phases or variants suitable for irrigation are not included in the listing of soils. The design group will be assigned locally in counties where they occur.

The soils in each series were evaluated and placed into one of 14 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. If the variation is significant, it is noted in the irrigation design group where the soil is listed.

The grouping of soils is shown in the two listings that follow. The first list shows all the soils in alphabetical order by series, surface texture with the appropriate irrigation design group.

The second listing is by irrigation design groups and gives the principal soils included in each of the 14 groups. Two of these are divided into sub-groups because of minor profile differences and available water capacity. This is not enough difference to justify dividing the soils into additional design groups. The intake family used in preparing the design data is included.

Included is a general description of the texture profiles. Where soils of a design group are subdivided, there is a general description for each subgroup.

The estimated available water capacity for each soil group or subgroup follows the description. The amounts of moisture are cumulative by one-foot or one-half foot increments of depth. The data used to calculate the available water capacities are in Table 2-16 that follows this grouping of soils. This table shows available water capacities by soil texture classes. It also gives the range of available water capacity for each of the soil texture classes for the surface layer, subsoil, and lower horizon. With this table it is possible to make a reasonable estimate of the available water capacity of any soil profile for which the horizon thickness and texture is known.

The most common soils and their respective field symbol are listed below the available water capacities for each design group or subgroup.

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 area. The statewide list that follows this section will be of value in preparing the county list.

Available Water Capacity of Soils by Soil Texture Classes

In estimating available water capacity of the groups of soils in this irrigation guide, the predominant soil textures of the major soil horizons for soils in each irrigation group were used. Individual soils in the irrigation design groups vary somewhat in total available water capacity because of minor differences in texture of the soil horizons.