TABLE 3. FURROW IRRIGATION EROSION SITE CHARACTERISTICS

I. QS value

Q = flow rate of water introduced into the furrow (in gallons per minute, GPM).

S = furrow slope (in feet per 100 feet, percent).

Example: For a 5 gpm flow rate and a 2% furrow grade:

$$QS = 5 \text{ gpm} * 2\% \text{ grade} = 10$$

II. Relative ranking of soil erodibility under furrow irrigation

Use local criteria to determine the relative erodibility of the soil in question. If no local criteria are established, use the following for guidance:

A. <u>Very Erodible Soils</u>

Soils in which the surface layer texture is silt, or silt loam with < 15% nonmontmorillonitic clay, or fine and very fine sandy loam with < 15% nonmontmorillonitic clay, or loamy fine sand, or loamy very fine sand. Contact a soil scientist for clay content and mineralogy.

B. <u>Erosion-Resistant Soils</u>

Soils that have the following characteristics in the upper 5 cm of the surface layer:

silty clay, clay, or sandy clay texture, weak or massive structure, and mixed or montmorillonitic clay mineralogy.

other soils that have medium or coarse blocky structure or coarse granular structure (i.e. natural aggregates > 10 mm) and very firm or firmer rupture resistance class in the moist state (i.e. requires at least strong force between thumb and forefinger to cause failure of a moist soil aggregate).

See the Soil Survey Manual (1993), chapter 3 for description of soil structural aggregates (peds), and table 3-14 for soil rupture-resistance classes.

C. <u>Erodible Soils</u>

Soils that have a surface layer not fitting any of the above criteria.