

concentrations of chloride, sulfate, and bicarbonate ions can cause specific injury under certain soil conditions.

**Table 2. Recommended Irrigation Amounts for Saline Water.**

Irrigation water EC (dS/m)	Maximum plant salinity tolerance level, measured by saturated soil paste extract (dS/m)		
	4 (Low)	8 (Medium)	16 (High)
	(inches of water required to replace weekly evapotranspiration losses and provide adequate leaching in rootzone)		
0.00	1.5	1.5	1.5
1.00	2.0	1.7	1.6
2.00	3.0	2.0	1.7
3.00	6.0	2.4	1.8

### **Influence of Saline Irrigation on Soils**

Soils are a key to the continued use of saline irrigation water. Good drainage is essential to leach soluble salts through the soil profile. The better the drainage, the more successfully proper saline irrigation can keep the soil level of soluble salts within tolerable limits. Soil texture has a major influence on use of saline irrigation water. Sand-textured soils have a low moisture-holding capacity and will concentrate soluble salts quicker than fine-textured soils as moisture is lost by evapotranspiration. Sand soils are usually best suited for saline irrigation because of easy drainage, but they must be maintained at field capacity in order to prevent intolerable salt levels.

Soluble salts are measured in soils by the same basic method as water samples. A conductivity instrument measures the electrical conductivity from a saturated paste extract from a soil. The IFAS Soil Testing Laboratory uses a dilution of one part dry soil to two parts water. The electrical conductivity readings of soils are two to ten times greater than the irrigation water applied to them. Soils with EC readings of 2.0 to 4.0 dS/m are considered to have low salt levels. Soils with EC readings of 4.0 to 12.0 dS/m have medium levels. When soil readings are above 12.0 dS/m, soils are considered to have high salt levels.

To maintain a certain salt level in the soil, saline water must be applied at rates exceeding evapotranspiration to leach excess salts through the soil (Table 2). For example, to replace 1.5 inches of water lost by evapotranspiration (approximately a week's worth of plant water use) rainwater with 0 dS/m would not increase the salinity, so 1.5 inches of irrigation would be sufficient. However, greater