

Saline Irrigation of Florida Turfgrasses

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Turfgrass irrigation has become a major cultural practice throughout Florida. Providing adequate supplemental water insures a consistent, healthy, vigorously growing landscape when rainfall is inadequate or infrequent. Obtaining ample quantities of good quality water is becoming difficult as irrigation demands increase and fresh water supplies dwindle. Often lower quality water with high amounts of dissolved soluble salts is used in order to obtain adequate amounts of irrigation.

Irrigation Water Quality

The principal soluble salts found in water are the chloride and sulfate salts of sodium, calcium, and magnesium. Other salts are found in lesser amounts. The original source of these materials was from weathering of primary rocks and minerals. Oceans have become the eventual reservoir of soluble salts as water has moved through the hydrological cycle. Along coastal regions of the country, seawater is intruding into fresh water supplies and contaminating them by increasing the level of soluble salts. In interior regions of the country, ancient saline marine deposits in geological layers add soluble salts to groundwater as it passes through the layers. This process has occurred throughout the country and virtually all fresh water supplies have some amount of dissolved salts. The amount of salts in water determines the degree of salinity and to a large extent the overall water quality.

Salinity is determined by a meter which measures the electrical conductivity (EC) of a water sample. This is determined as the inverse of the resistance of an electric current as it is passed between two probes in a solution. Electrical conductivity is determined in units

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