ELECTROKINETIC MANAGEMENT OF NITRATE MOVEMENT IN DRIP IRRIGATED SOILS
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Widespread application of nitrogen fertilizers to maximize crop production has resulted in serious water contamination threats. Nitrogen is highly water soluble and very mobile in soil and therefore subject to leaching through soil into underground or adjacent bodies of water. Prior agricultural research found an electrical potential could increase salt removal in soil desalination leaching. Electrokinetic processes can control the movement of some chemicals in fluid or porous media and have been used effectively to concentrate metals and organic chemicals for removal from soils in some commercial decontamination applications. This research will evaluate the effectiveness of a small DC electrical potential in modifying nitrate and pH distribution in a drip irrigated row crop.