PROTECTION OF FOOD AND WATER SUPPLIES FROM PATHOGEN CONTAMINATION

Animal wastes frequently contain high concentrations of pathogenic bacteria and protozoa that pose a risk to human and/or animal health via consumption of contaminated drinking water and/or food. Manure-contaminated soil and water resources have frequently been associated with water-borne and food-borne disease outbreaks. Manure is frequently added to field soils where produce is grown as a soil amendment.

Our research looks at factors influencing surface water and food contamination in the Santa Ana River (SAR) watershed, which contain a large number of concentrated animal operations (CAFOs). CAFO wastewater is reported to influence the quality of the SAR, which empties into the Pacific Ocean at Huntington Beach. Runoff and irrigation water that contain pathogens will also contaminate soils and fresh produce. The contamination of fresh produce by pathogens such as *E. coli* O157:H7 is a serious food-safety concern that we are currently working on.