

# Irrigation System, Surface and Subsurface

## PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service -practice code 443



### DEFINITION

An irrigation system (surface/subsurface) is a planned system in which all necessary components have been installed for efficient application of irrigation water, chemicals and/or nutrients and improve energy efficiency.

### PRACTICE INFORMATION

Surface and subsurface irrigation refers to irrigation water being applied by means other than trickle or sprinkler nozzles. The purpose of the practice is to efficiently convey and distribute irrigation water to the point of application without causing erosion, water loss, or reduction in water quality.

An irrigation system must be designed as an integral part of a conservation plan based on the capabilities of the natural resources and the needs of the farm enterprise. The planned irrigation system must be suited to the site conditions and the crops to be grown.

Surface irrigation systems may not be adapted to the site if the soils are sandy. Sprinkler irrigation systems are a better choice for sandy soils. Conversely, if the soils are very slowly permeable (clayey), the site may not be well adapted to sprinkler irrigation due to excessive runoff and erosion.

### COMMON ASSOCIATED PRACTICES

An irrigation system (surface/subsurface) is planned to serve as part of a conservation management system. The practice is commonly used in conjunction with the following practices: Irrigation Pipeline (430); Irrigation Canal or Lateral (320), Irrigation Field ditch (388), Structure for Water Control (587), Pumping Plant (533); Irrigation Water Management (449), Waste transfer (634), Nutrient Management (590) and Pest Management (595).

Additional information including design criteria and specifications are in the local NRCS Field Office Technical Guide.