

PART 523 - IRRIGATION

523.00 General.

Irrigation is the efficient application of water to land areas for purposes of sustained agricultural crop production. This requires proper evaluation of the soil or land surface materials so they are compatible with the planned plantings; evaluation of water source for quality and quantity; evaluation of the land surface topography and water delivery and distribution system layout; and operation skill levels for proper management. Irrigation increases the capability to not only produce a variety of crops, but also allows for better control of quantity and quality of the crop. It allows land susceptible to excessive erosion to be taken out of row crops and returned to permanent vegetative cover. Increases in irrigation have accentuated the need to manage the application to water, minimize erosion, use the water resources wisely, and thus maintain the quality of surface and ground water. The objectives of a resource management system, which often includes irrigation, are to achieve acceptable levels of quality for sustained use of the resources, adequately protect the environment, and provide an acceptable standard of living.

523.01 Technical assistance.

SCS is a recognized leader in irrigation Technology, especially in plant, soil, and water management. The Service helps landowners develop resource conservation systems necessary to meet the conservation needs of the land; develop technical materials and standards; train landowners, contractors, manufacturers, and others in design and use of systems compatible with soil conditions and plant needs; and assists other federal agencies and foreign governments. SCS provides landowners direct technical assistance with on-farm irrigation water management. With limited resources, priorities for furnishing technical and financial assistance must be carefully assessed.

523.02 Irrigation guides.

Each state conservationist is responsible for preparing an irrigation guide setting forth the basic design and management criteria for all conservation irrigation methods applicable to local combinations of soils slopes, crops, water supply, and climatic conditions. The state conservationist may assign leadership responsibility to someone on his or her Staff for developing or updating the irrigation guide. Although SCS has the technical responsibility for preparing the irrigation guide, cooperation from others is desirable, such as representatives of the state university, state experiment stations, Extension Service, and Agricultural Research Service. A suggested outline for the Irrigation Guide is provided in the National Engineering Handbook, Section 15, Chapter 3, Planning Farm Irrigation Systems.

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523.03 Assistance on irrigation projects.

SCS policy is to assist individual farmers, farmer groups, and legal entities to install irrigation practices that maximize the conservation uses of soil and water resources and minimize operation and management problems. SCS plans and designs conveyance systems that measure and control irrigation water deliveries to each water user. In irrigation land treatment projects, SCS plans and designs on-farm systems.

523.04 Water management for salinity control.

Water management recommendations will be made that will result in control of salinity both on and off site. Some soluble salts in the soil and irrigation water are toxic to plants. Water management recommendations will consider control of salinity within the root zone and in return flows (off site). The key to soil salinity control is a net downward movement of soil water in the crop root zone. Poor internal drainage may necessitate installation of improved drainage measures.

523.05 Irrigation training.

SCS will develop and maintain an adequately trained and informed Staff which understands the principles of irrigation system design, operation and management. SCS will maintain a coordinated training program that includes a series of courses covering soil-plant-water relationships, methods of estimating evapotranspiration, methods of scheduling irrigations, system design, system evaluation and management, and the use of the latest Technology and equipment. The Service also provides training and technical instructions to contractors and landowners who install and/or manage an irrigation system.