



## where would you be without conservation

since the 1930s New Mexico  
weathered two droughts worse than  
the Dust Bowl. did you notice? no?  
maybe it was because of conservation

state-of-the-art conservation techniques

## irrigation water management



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# Save Money, Save Energy with Irrigation Water Management

Irrigation water management is an integral part of a complete farm management program of soil, water, air, plant, and animal resources.

The New Mexico Integrated Water Management Handbook is intended to be a user friendly guide for planners. It is now available from the New Mexico NRCS website: <http://www.nm.nrcs.usda.gov>. It provides guidance on “how-to” evaluate and understand site-specific field conditions. This will enable an increased understanding needed to evaluate and implement alternative best management practices for irrigation water management.

The Handbook will assist water users in reducing water quantities and energy, lowering costs for crop production, and minimizing ground water and surface water contamination, towards a more economical, sustainable, and producer-acceptable farming enterprise. Considering how the farm fits into broader watershed management is also essential to problem-posing and solving resource management success.

The Natural Resources Conservation Service provides technical assistance for producers in all aspects of cropland conservation, including irrigation water management (e.g. installation of irrigation water management practices, water measuring, irrigation scheduling, irrigation system design), and nutrient management (e.g. soil, water, and plant nutrient analysis, developing basic nutrient budgets, and determining appropriate fertilizer and manure applications). Other technical assistance on cropland include agronomic-related practices and management such as conservation tillage, crop rotations, cover and green manure crops, salinity and pest management, and wildlife conservation.

## Potential Benefits of Irrigation Water Management

### Water resource:

- Conserves surface and ground water supplies
- Protects surface and ground water quality
- Substantial reduction in irrigation labor costs
- Significant increase in irrigation application efficiencies (higher yields)
- Reduced pumping costs
- Potential detrimental effects of water quality (pH,

salinity & sodium) on plants and soils are properly assessed and managed

- Irrigation water losses through evaporation, runoff and deep percolation are minimized

### Soil resource:

- Improved soil quality is possible because of increased biomass production (more crop residues are produced)
- Reduced soil erosion from both water and wind
- Proper assessment, management and prevention of Saline, Saline-Sodic and Sodic soils is attained
- Reduced use of soil amendments
- Reduction in water-logged soils
- Reduced leaching results in higher nitrogen-use efficiency

### Plant resource:

- Cost for crop production is reduced due to integration of IWM with nutrient management practices
- Significant increases in yield and crop quality
- Reduced incidences of diseases and pests
- Available water quantity and quality meet the specific requirements of the crop (consumptive use, leaching)

### Other:

- Increased beneficial use of fertilizer and soil amendment inputs
- Reduction in over all on-farm energy use
- Protects the environment by the planned judicious use of water, fertilizers and other inputs
- Record keeping is used as an invaluable planning tool in the decision and management of current and future water resources
- All the major aspects involved in the farm operation are integrated in Integrated Water Management Handbook
- Analysis of soil, plant/petiole tissue and water samples allows the producer to make informed decisions on all inputs and their relationship to IWM principles
- An effective IWM Plan should be updated to reflect management changes, learning, etc.