



**United States Department of Agriculture
Natural Resources Conservation Service**

Water Management Activity – Reduction of Evaporative Losses

Reduction of Evaporative Losses

The reduction of evaporative losses is an integral part of an irrigation water management plan. The purpose of this enhancement is to conserve irrigation water by reducing evaporative loss. The methods to accomplish this include using soil surface evaporative barriers (straw mulch, compost or fabric barriers) in crop rows, timing of irrigation applications to avoid peak evaporative conditions and installation of windbreaks or barriers to improve water distribution and reduce drift.

Benefits

These activities used in conjunction with IWM can conserve irrigation water by 5%-20% by reducing the effects of wind and high air temperatures on evaporation of irrigation water. These activities increase the effective amount of soil water available for crop use and can reduce the duration and frequency of irrigation sets.

Criteria for Reduction of Evaporative Losses Enhancement Activity

Level 1

A soil surface evaporative barrier is utilized which provides more than 60% coverage of the soil surface.

Level 2

Level 1 is achieved and one of the following activities is added to the management of the operation:

- Irrigation timing to avoid peak evaporative conditions
- Windbreaks or barriers are utilized to improve water distributions and reduce drift

Reference:

Natural Resources Conservation Service. 2002. National Agronomy Manual 190-V. USDA-NRCS. Washington, D.C.

Natural Resources Conservation Service. 1991. National Engineering Handbook (NEH-15), 2nd Edition, Chapter 15, Irrigation 210-VI. USDA-NRCS. Washington, D.C.

Natural Resources Conservation Service. National Engineering Handbook, Part 652, Irrigation Guide, 1996.

Klocke, N. L., Water Savings from Crop Residue in Irrigated Corn, Kansas State University, Garden City, Kansas

Shelton, David P., Saving Water and Energy - Crop Residue Management, University of Nebraska, Haskell Agricultural Laboratory, Concord, NE