

Guidance Documents

Resource Management System Guide Sheet

For: **IRRIGATED CROPLAND**

STATE: Montana
F.O.: Yellowstone County
Date: August 2001

RESOURCE SETTING: The resource area is in the Yellowstone River Valley east of Billings on irrigated land. Typical crop rotation includes alfalfa, barley, corn, and sugar beets. The predominant soil is Lohmiller Silty Clay Loam on slopes of 0 to 1 percent, which has a "T" value of 5. Irrigation water for the area generally comes from the Yellowstone River through diversions and canals.

IDENTIFIED PROBLEMS: Problems include soil erosion from furrow irrigation and wind, seepage from irrigation ditches, low irrigation efficiency, percolation of irrigation water, and loss of nitrogen and phosphate from irrigation runoff. Weed management is made difficult due to weed seed being carried with irrigation water.

ESSENTIAL PRACTICES: The practice standards considered to be essential to meet a RMS are 328–Conservation Crop Rotation, 344–Residue Management, Seasonal, 590–Nutrient Management, 595–Pest Management, and 449–Irrigation Water Management.

RMS OPTIONS:

RMS #1 Practices (Surface Irrigation)

328	Conservation Crop Rotation	Crop rotation is typically 8-years. (alfalfa 5-years; barley 1-year; corn or beets 1-year, and barley 1-year.)
344	Residue Management, Seasonal	Maintain crop residue to reduce erosion.
443	Irrigation System, Surface	Efficient distribution of irrigation water by surface means.
447	Irrigation Tailwater Recovery	Manage irrigation water to prevent return flows.
449	Irrigation Water Management	Manage water to meet plant needs and minimize over irrigation.
484	Mulching	Add mulch to reduce furrow erosion and increase wetting surface
587	Structure for Water Control	Improve water control from canal.
590	Nutrient Management (Excess)	Take soil tests to budget nutrient application, particularly for nitrogen and phosphate.
595	Pest Management (Chemical)	Control pests in crops and adjacent areas.

RMS #2 Practices (Sprinkler Irrigation)

328	Conservation Crop Rotation	Crop rotation is typically 8-years. (alfalfa 5-years; barley 1-year; corn or beets 1-year, and barley 1-year.)
344	Residue Management, Seasonal	Maintain crop residue to reduce erosion.
430	Irrigation Water Conveyance, Pipeline	Convey water from pump to center pivot and wheel line.
442	Irrigation System, Sprinkler	Design and install sprinkler system.
449	Irrigation Water Management	Manage water to meet crop needs and soil profile conditions.
587	Structure for Water Control	Improve water control from canal and provide pump site structure with screen.
590	Nutrient Management (Excess)	Take soil tests to budget nutrient application, particularly for nitrogen and phosphate.
595	Pest Management (Chemical)	Control pests in crops and adjacent areas.

EXAMPLE RMS GUIDE SHEET - To be discarded after local guide sheet is developed.