

**SPRINKLER IRRIGATION SYSTEM
INVENTORY WORKSHEET**

Owner/Operator _____ Field Office _____

Job Description _____

Location _____

Assisted By _____

(Collect and fill out portions of this form that only apply and/or are needed)

Area irrigated _____ acres

Crops

Crops now grown				
Typical planting date				
Typical harvest date				
Typical yield (unit)	()	()	()	()
Age of planting				
Cultivation and other cultural practices				

Water

Water source(s)				
Irrigation organization				
Water available (ft ³ /sec, gpm, miners inches, mg/da)				
Seasonal total water available (ac-ft, million gal)				
Water availability	continuous	demand	rotation	fixed schedule
Typical water availability times (schedule and ordering procedure)				
Method of determining when and how much to irrigate:				
Is flow measuring device maintained and used?				
Method of measuring water flow rate				
Water quality: Sediment		Debris, moss		
Electrical conductivity		mmhos/cm		
Comments:				

Irrigation System Inventory Worksheet (Contd.) - Example

Name _____ Date _____ Prepared By _____

Soils (principal soil in field)

Soil #1

Map Symbol		Soil series & surface texture		
Percentage of field (%)		Area (acres)		
Depth	Texture	AWC (in/in)	AWC (in)	Cum AWC (in)
Depth to water table or restrictive layer ¹				
Intake family/intake group/max application rate				
Comments:				

Soil #2

Map symbol		Soil series & surface texture		
Percentage of field (%)		Area (acres)		
Depth	Texture	AWC (in/in)	AWC (in)	Cum AWC (in)
Depth to water table or restrictive layer ¹				
Intake family/intake group/max application rate				
Comments:				

Soil #3

Map symbol		Soil Series & surface texture		
Percentage of field (%)		Area (acres)		
Depth	Texture	AWC (in/in)	AWC (in)	Cum AWC (in)
Depth to water table or restrictive layer ¹				
Intake family/intake group/max application rate				
Comments:				

¹ If restrictive for root development or water movement

Name _____ Date _____ Prepared By _____

Water supply and distribution system

Supply system to field (earth ditch, lined ditch, plastic pipeline, etc.)

Type
Size
Capacity (ft ³ /sec, gpm, mgal/day)
Pressure/Elevation at head of field or turnout (lb/in ²) (ft)
System condition
Estimated conveyance efficiency of supply system (%)

In field distribution system (earth or lined ditch, buried pipe, surface portable pipe, lay flat tubing):

Type
Size
Capacity
Total available static head (gravity) (ft)
System condition
Estimated efficiency of delivery system (%)
Comments:

Water application system

Existing sprinkler system (attach design and/or system evaluation, if available):

Type system (center pivot, sidewheel-roll, hand move, traveler, big gun)
Manufacturer name and model
Tower spacing (pivot or linear) (ft) End gun (pivot)?
Wheel size (sidewheel-roll) diameter
Type of drive
Pressure at lateral entrance (first head) (lb/in ²)
Mainline diameter/length
Lateral diameter/length
Lateral spacing (S _l) Sprinkler head spacing (S _m)
Sprinkler make/model
Nozzle size(s) by type
Design nozzle pressure (lb/in ²) Wetted diameter (ft)
(Attach sprinkler head data for pivot)
Maximum elevation difference: Along lateral
Between sets
Application efficiency low ¼ (Eq) (%) (Estimated or attach evaluation)
Wind – Prevailing direction and velocity
Comments:

Name _____ Date _____ Prepared By _____

Existing surface system (attach system evaluation, if available)

Type of system (graded border, level border, graded furrow, level furrow, contour levee, contour ditch, wild flooding)			
Leveled fields:	Field slope:	In direction of irrigation	ft/ft
Cross slope:		ft/ft	
Smoothness:	<input type="checkbox"/> Rough	<input type="checkbox"/> Smooth	<input type="checkbox"/> Very smooth
Laser equipment used			<input type="checkbox"/> Yes <input type="checkbox"/> No
Border or levee width	ft	Furrow/corrugation/rill spacing	in
Length of run:	Minimum	ft	Maximum
		ft	Average
			ft
Number of furrows or borders per set			
Border or levee dike heights			
Application efficiency, low 1/4 (E _q)		% (Estimated or attach evaluation)	
General maintenance of system			

Drainage, tail water reuse facility

Method for collection and disposal of field runoff (tailwater, precipitation)
Final destination of runoff water
Surface/subsurface drainage system
Environmental impacts of existing drainage system

Existing micro irrigation system (Attach design or system evaluation, if available)

Type of system:	Drip emitters	Mini spray/sprinklers	Line source
Spacing between discharge devices along distribution laterals	(ft, in)		
Laterals – diameter, length			
Spacing between distribution laterals	(ft, in)		
Average application device discharge pressure (lbs/in ²)			
Are pressure compensating devices required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Are pressure compensating devices used:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Average application device discharge	(gph, gpm)		
Area irrigated by one irrigation set	(acres)		
Typical irrigation set time	(hr, min)		
Maximum elevation difference with one irrigation set	(ft)		
Type and number of filters used			
Irrigation is initiated by:	<input type="checkbox"/> manual control	<input type="checkbox"/> programmed timer	<input type="checkbox"/> clock timer <input type="checkbox"/> soil moisture sensing device
Comments:			

Name _____ Date _____ Prepared By _____

Existing subsurface irrigation system

Water table control type and number of system or segments	
Water table control devices	<input type="checkbox"/> flashboard <input type="checkbox"/> float
Buried laterals	<input type="checkbox"/> diameter <input type="checkbox"/> spacing <input type="checkbox"/> depths
Water table elevation(s):	Existing _____ Planned _____

Month	Elevation	Depth below surface

Pumping plant

Pump

(Attach pump characteristic curves and/or pump system analysis if available)		
Pump elevation above mean sea level (approx) _____ (ft)		
Pump type: <input type="checkbox"/> centrifugal <input type="checkbox"/> turbine <input type="checkbox"/> submersible <input type="checkbox"/> propeller <input type="checkbox"/> axial flow		
Make _____	Model _____	
Electric motor RPM _____	Engine operating RPM _____	
Pump design discharge _____	gpm @ _____	ft or lb/in ²
Impeller size _____	Impeller diameter _____	Number of impellers _____
Pressure at outlet of pump or inlet to pipeline _____	lb/in ²	Date _____
Discharge _____	gpm	How measured _____ Date _____
Valves fittings _____		

Power unit

Rated HP _____ at RPM _____

Irrigation system Inventory Worksheet (Contd.)

Name _____ Date _____ Prepared By _____

Gear or belt drive mechanism

Type (direct, gear, belt)
RPM at driver RPM at pump
Energy (A pump evaluation is required to get this data)
Energy input (from evaluation) (KW) (gal/hr) (mcf)
Pumping plant efficiency (from evaluation) (%)
Energy cost per acre foot (from evaluation)
General condition of equipment, problems

Irrigation management

Irrigation scheduling method(s)
Typical number of irrigations per season
Typical time between irrigations
Set times or time per revolution
Method of determining soil moisture
Typical water application per (set, revolution, pass)
Source, availability and skill of irrigation labor

Comments about management of the existing system and reasons for improvement. What are the objectives of the irrigation decisionmaker?

What management level is planned?

Irrigation system Inventory Worksheet (Contd.)

Name _____ Date _____ Prepared By _____

