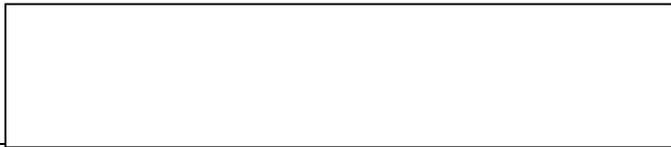


## 2004 Irrigation Water Management Plan

IWM is the process of determining and controlling the rate, amount, and timing of irrigation water in a planned and efficient manner. The purpose of which is to effectively use available irrigation water supply in managing and controlling the moisture environment of crops to promote the desired crop response, to minimize loss of plant nutrients and soil erosion, to control undesirable water loss, and to protect water quality.

<b>Irrigator Knowledge Requirements</b>	<b>Performance Requirements</b>	<b>Date Performance Requirement Achieved</b>
1) Understand the impacts on pumping plant and irrigation system efficiency on water and power usage.	Measure and document the PCC value for each irrigation system. GWMA technician will measure system flow and document power consumption during flow test.	
2) Know how to determine the amount of water delivered to an area and know the application rate of the irrigation system.	The irrigator shall have on each field some form of water measurement in place. This could include rain gauges, flow meters, records of hours of operation, or anything that actually measures the water applied to a field. A turn-out weir may not be acceptable, for example, because it may not represent actual field applications.	
3) Know how to determine when irrigation water should be applied, based on the rate of water used by crops and on the stages of plant growth, cooling, frost control, or salt leaching.	Daily crop ET values will be supplied by the grower. A printout from Agrimet or PAWS or personal weather stations or copies of ET data supplied from newspapers or other sources based on crop grown and planting dates shall satisfy documentation requirements. If irrigation is used for leaching, tests showing excessive salts in the soil or from irrigation water shall be supplied. Leaching should be timed to coincide with low no3-n content in the soil.	
4) Be aware of the normal time needed for the soil to absorb the required amount of water and know how to recognize and control erosion caused by irrigation.	Signed statement from grower indicating they made an ocular evaluation of erosion throughout the season and took measures to control erosion and adjusted irrigation accordingly.	
5) Know application rate, irrigation time or rotation time, or stream size to compensate for changes in such factors as intake rate or the amount of water to be applied.	Irrigation design or results from in-field irrigation system evaluation shall be supplied.	



6) Understand distribution uniformity and application efficiency concepts and their implications on IWM.	Uniformity can be assessed using aerial photography, catch can tests, or other appropriate methods. <b>Aerial Photo performed by:</b>  _____	
7) Know how to recognize water (and nitrogen) movement past the crop rooting zone.	A deep soil moisture device shall be installed below the crop rooting depth. Records of readings shall be supplied.	
8) Keep records of irrigation applications.	Record shall be supplied.	
9) Have a soil moisture monitoring system in place and records kept. While the soil feel and appearance method should be used in conjunction with some type of soil moisture sensor system, <b><u>use of the soil feel and appearance as a stand alone method is not adequate.</u></b>	Records of soil moisture shall be supplied. Readings shall be taken at a minimum of once per week. Rooting depths shall be based upon the effective rooting depth identified in Table 2 of PNW 475.	
10) Assure that the total season <b>measured</b> average irrigation application shall not exceed by more that 10% the crop consumptive use as determined by use of the Agrimet , PAWS, or personal weather station ET data and crop water use coefficient curves.	If all the above data is supplied, the technician responsible for certifying implementation should be able to calculate and evaluate whether this item has been achieved.	

**Implementation of Irrigation Water Management (IWM) on a field can be certified by GWMA personnel or other GWMA designated professionals only after the above performance requirements have been satisfied.**



Please fill out information as applicable.

I, \_\_\_\_\_, agree to implement this plan on above stated fields, as part of the Columbia Basin GWMA cost-share program. Failure to implement this plan may cause a reduction or total loss of cost-share monies provided by the GWMA program. **Also, failure to submit stated information by DECEMBER 15, 2004 will invalidate the IWM contract and cost-share monies will be forfeited.**

**Signatures:**

\_\_\_\_\_  
Cooperator

\_\_\_\_\_  
Date

\_\_\_\_\_  
GWMA IWM Technician

\_\_\_\_\_  
Date

\_\_\_\_\_  
GWMA

\_\_\_\_\_  
Date



### MANDATORY AERIAL PHOTO

A bare ground/early season aerial photograph of each field is a mandatory component of this program. Please select the consultant you want to perform this service.

- Professional Agricultural Services
- Photography Plus - Martin Pitney
- Soil Test Consultants
- Other Please Specify \_\_\_\_\_ Phone Number: \_\_\_\_\_

The above consultant has my permission to provide a copy of the aerial photograph to the Franklin Conservation District/GWMA. I also authorize the consultant to bill me for these services. Any bills resulting from consultant services authorized by the grower, including the above will be sent to the grower.

Signature:

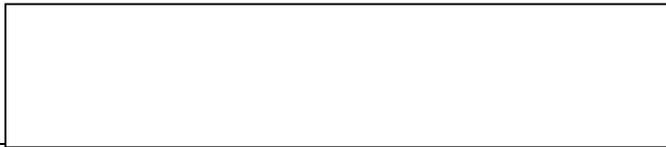
\_\_\_\_\_

Cooperator

\_\_\_\_\_

Date





### **Seasonal Irrigation Application Worksheet**

Crop: \_\_\_\_\_

Crop Start Date: \_\_\_\_\_

Crop Ending Date: \_\_\_\_\_

Seasonal Consumptive Use-ET data (inches): \_\_\_\_\_

Seasonal measured average irrigation application: \_\_\_\_\_

Measured PCC Value: \_\_\_\_\_

Determining the seasonal measured average irrigation application will be dependant upon the type of field measuring system utilized.

If rain gauges are used, simply put the total amount of water caught during the crop growing season into the space above. Make sure to use the average of the rain gauge measurements if multiple rain gauges per field are utilized.

If a flow meter on the pipeline delivering water to the system or an hour meter is used to calculate inches of application, multiply the total water delivered by 0.9 and enter the value in the space above. This procedure basically subtracts out 10% for wind drift and evaporation that would not enter a rain gauge.

If some other type of measurement method is used, please describe below and show calculations:

**Fill-out PCC calculation worksheet for each irrigation system.**