

FINAL REPORT: "1998 GWMA IRRIGATION WATER & NITROGEN  
Management BMP Monitoring Grant"

This project continues to be our best method of making one on one contact with local growers. As mentioned before we consider this project more educational than scientific. It takes more than one year on the program for most growers to have trust in the readings they receive with the watermark sensors. After the first year most growers are willing to discuss the possibility of reducing the number of irrigations they usually apply in a season. Almost 100% of the fields with watermark sensors installed also are soil sampled for nutrient requirements. Because they have the results of the soil sampling it makes it easier to instill the concepts of the relationship between irrigation and fertilizer utilization.

We had twenty-seven growers participate in the program this season. Twenty-one were repeat growers and six of them were new to the program. The following table indicates the number of fields, acres and crops the watermark sensors were used in.

CROP	#FIELDS	#ACRES
Potatoes	56	1967
Onions	12	554
Sugar Beets	2	205
Beans	1	32
Corn	2	98
Mint	3	485
Seed Alfalfa	1	37
TOTAL	77	3378

The number of growers who have participated in this program has varied over the past three seasons. In 1995 we had 27 participants. In 1996 we had 40 and this was the year we increased the cost to growers by 25%. We had 33 grower participate in 1997. This year we had the most acreage, I think the reason for the large acreage is because we charge by the field and growers once again enrolled more large fields. We continue to find that about half the growers who discontinue using our service buy their own sensors and do their own readings. Some growers use both our service and their own readings.

It is very difficult to get an accurate reading for the total amount of water the growers save. We use the NRCS's CONRAT rating system to make an estimate. This rating allows us to assign a numerical score to how much we think a growers irrigation skills improve. The system then runs the improvement in irrigation efficiency and gives you a print out in acre inches of water saved for the season. In running this computer program we find the average savings over all crops and all methods of irrigation applications to be between 3 and 6 inches. If you use the average of 4.5 inches saved and apply it to the 3378 acres enrolled you get a savings of 1267 acre feet for 1997. If you divide this by the \$5,000 of grant money it cost \$3.95 per acre foot. This estimated water saved was stored in the reservoir and would potentially be used instream the following year if the reservoirs fill.

In discussing with growers if they feel their yields have increased we usually are told they don't think so. We attribute this to the fact most of the growers participating are some of our better producers. Many growers tell us they feel their quality improves and some times they are paid for the increased quality.

In February of 1999, we intend to hold an Irrigation/Nutrient Management Workshop. The program will include Dr. Clint Shock and Eric Fiebert from the OSU Malheur Research Station, Lynn Jensen, OSU Malheur Extension Service, Gregg Capps, NRCS Water Quality Specialist and Ron Jones, MCSWCD Water Quality Planner. A report of the meeting and participants will be sent in March.

IRRIGATION WATER MANAGEMENT INCOME AND EXPENSE REPORT

INCOME:

OSU Extension(Cash match to grant)	\$	3,280
Growers(Cash match to grant)		9,625
Grant ODA		5,000
Total Income		17,905

EXPENSES:

Wages		8,667
Mileage		5,490
Equipment		2,161
Meetings		120
SWCD (supervision, postage, office supplies, bookkeeping)		1,467
Total Expenses		17,905
Total Project Cost		17,905