Table 1. Net Present Value Per Acre of an Above-Ground Drip Investment for Alternative Lint Price, Yield Increments, System Investment Cost and Energy Rate, Assuming a Conventional Furrow Yield of 2.2 Bales Per Acre*

A. Energy Rate $0.050/kwh

Investment Costs Per Acre	$.60/lb Lint Incremental Yield (Bales)			$.70/lb Lint Incremental Yield (Bales)		
	.5	1.0	1.5	.5	1.0	1.5
$ 800	- 34	270	574	22	383	743
1,000	-146	158	462	- 90	271	631
1,200	-258	46	351	-201	160	519
1,400	-369	-65	240	-312	49	408

B. Energy Rate $0.075/kwh

Investment Costs Per Acre	$.60/lb Lint Incremental Yield (Bales)			$.70/lbLint Incremental Yield (Bales)		
	.5	1.0	1.5	.5	1.0	1.5
$ 800	18	321	625	74	434	795
1,000	- 94	210	514	- 37	322	683
1,200	-205	99	403	-148	211	572
1,400	-317	-13	291	-260	100	461

*Interested readers should consult the report by Wilson, Ayer and Snider to obtain the details and assumptions of the economic analysis.

IMPLICATIONS OF THE GROUNDWATER LAW

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By now all farmers in an Active Management Area should have received a certificate of grandfathered irrigation rights showing the authorized irrigated acres, a preliminary water duty based on the historic cropping patterns for the period 1975 through 1979, the water duty acres (the maximum net acres irrigated during the period 1975 through 1979) and should have indicated to the Department of Water Resources (DWR) which measuring device they are or will be using.

If you have questions about or do not agree with the proposed water allocated to your farm or with your water duty acres, you should contact the DWR immediately. It will be easier to make changes to the proposed values rather than to wait for them to become final and then have to resort to formal hearings and legal measures.

The law requires that water pumped in 1984 be measured and the volume used reported by March 31, 1985. If irrigation water has been pumped after midnight, December 31, 1983, it should have been measured.

Many approved water measuring devices are available and being used. The most commonly used devices, according to farmer response to the DWR, are recording meters. They are the easiest to use since they can be read directly in acre-feet. They also are more expensive, require maintenance, and are usually permanently installed at one location. The second most used facilities are the services of consultants who, for a fee, will make the measurements using their own equipment. The third most frequently used type of device is one of several available rate-of-flow devices. These measures the rate of flow rather than volume of flow as required by the DWR and are used in conjunction with an electric or gas meter which serves as a totalizer. These devices can be portable and usually require less maintenance than the recording meters.

The law requires a minimum of two water measurements per year to relate water flow to electric or gas consumption. It is recommended that more than two measurements per year be taken to insure accuracy and to help manage the irrigation water.

Remember, there is a one-time only tax credit for the purchase and installation of the water measuring device. This applies only to the Arizona State tax and allows the costs to be spread over three years.

DEFICIT IRRIGATION WITH A DRIP SYSTEM

D. A. Pennington, B. B. Taylor, S. W. Stedman, J. E. Malcuit and T. S. Hitz

Former Extension Specialist and Current Assistant Farm Manager, Extension Agronomists and Research Assistants

The total number of acres on a farm that can be planted to cotton at one time is limited by the amount of water available during the peak water use period of July and August. The available water is a sum of the water that can be delivered to