Memo

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San Diego County Water Authority

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RE: Basic costs to fallow agricultural acreage in IID

The Imperial Valley Cooperative Extension web site (www.ceimperial.ucdavis.edu) was consulted for representative costs of cultural operations necessary to fallow land. The main concern would be weed control. Weed control is usually effected by cultural or chemical means. Land can be disced to mechanically uproot weeds. Chemicals can be applied as a pre-emergence herbicide (in which case weeds are killed as they sprout), or as post-emergence (in which case only emerged weeds are killed). Flood irrigation can also be used for weed control but would not be expected in this situation.

Other costs associated with fallowing would obviously be the fixed and overhead costs of owning the land (mortgage/land rent, insurance, property taxes, ad valorum taxes, etc.) and standby charges for water service. Although not as common in the Imperial as other agricultural areas there may be demand charges for electric power if electric-powered wells/pumps are in place.

The following costs were seen on the web page. Note that the Cash Overhead figures are for land that is in production. The Herbicide costs are the total of chemical and application (presumably by tractor).

Weed control in a fallowing situation is highly dependent on rainfall, especially from winter going into spring or early fall. In either case there essentially is an irrigation followed by sufficient heat. Absent rainfall, weed pressures would be minimal, assuming that the preceeding crop utilized most of the soil moisture in the top foot of the root zone.

Discing or chemicals could be used for completely fallowed, "flat" land. However, if the land was bedded and just being rested between crops it is more likely that a contact herbicide would be used. Again, depending on how long the ground was out of production it may take two applications, once in late spring, once in the fall.

A brief conversation with Keith Mayberry of the Extension also brought up a "cost". His feeling is that fallowing will tend to bring salts to the surface where a high water table exists. This salt would then have to be leached with additional (extra cost) water applications when the land went back into production. However, assuming that fallowed land was rotated on at least an annual basis it is hard to imagine how this would be a significant factor.

Table 1 – Reported Costs of certain operations as reported by UC Cooperative Extension (all costs are $/acre)

Operation/Cost	Alfalfa Hay	Cotton	SudanGrass	Wheat
Disc once	11.50	11.50	11.50	11.50
Pre-emergence Herbicide	42.5	38.55		
Seasonal, contact Herbicide	21.50	34.00		17.25
Land Rent	190.00	150.00	110.00	125.00
Cash Overhead (this was for land in production)	81.45	124.33	45.60	46.84
Water Standby Charge	3.80	3.80	3.80	3.80

Note: Sudan Grass was not listed to have any herbicide costs, probably because it is a very dense, fast-growing plant that competes very well with weeds.

Table 2 – Total, per-acre costs for fallowing at 5.3 Acre-feet/Acre allocation with two operations (chemical or discing) used for weed control (note: $42.50 used for chemical control on ground used for Sudan Grass)

	Alfalfa Hay		Cotton		Sudan Grass		Wheat	
Operation or Cost	Disc	Chemical	Disc	Chemical	Disc	Chemical	Disc	Chemical
Weed Control	23.00	42.50	23.00	68.00	23.00	42.50	23.00	34.50
Land Rent	190.00	190.00	150.00	150.00	110.00	110.00	125.00	125.00
Overhead	81.45	81.45	124.33	124.33	45.60	45.60	46.84	46.84
Water Standby	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80
Total	298.25	317.75	189.13	346.13	182.40	201.90	198.64	210.14
$/AF	56.27	59.95	35.68	65.31	34.42	38.09	37.48	39.65

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