



**Value of Irrigation Water with Alternative Input Prices,  
Product Prices, Product Prices and Yield Levels: Texas  
High Plains and Lower Rio Grande Valley**

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**Texas Water Resources Institute**

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**Texas A&M University**

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## Table of Contents

Introduction -----	1
Procedure -----	2
Total Returns -----	2
Water Management Charge -----	3
Variable Costs of Production -----	3
Land Charge -----	3
Total Costs -----	4
Returns to Irrigation Water -----	4
Interpretation of the Results: Some Cautions -----	4
Results -----	10
Texas High Plains I -----	11
Texas High Plains II -----	41
Texas High Plains III -----	73
Texas High Plains IV -----	159
Lower Rio Grande Valley -----	216

## Introduction

Agriculture is a major income generating sector of the Texas economy. Irrigated agriculture is an important part of Texas agriculture and an "adequate" water supply is important in maintaining a viable agriculture. Irrigation water is important both as a means of increasing the overall production of agricultural commodities and to stabilize farm income from commodities because of the high (year to year) variability of rainfall in most agricultural areas of Texas.

Current interest in the value of irrigation water in agricultural production stems in part from rapid change in prices paid for farm inputs and prices received for farm products. The past two years have been a period of abrupt and large increases in prices. Prices of some farm products have risen to record levels; because of the energy crisis and the rapid rate of inflation, prices of fertilizer and fuel have at least doubled, and the price of other farm inputs have risen substantially. These price changes, in absolute and relative terms, make past studies of the value of irrigation water no longer meaningful or applicable. This study was undertaken to determine the value of irrigation water under 1974 price levels and relationships, and for prices that might be reasonably expected in the future.

In this report estimates are presented of the value of irrigation water at irrigation levels typically used on major crops (1% or more of cropped land area based on 1969 TWDB inventory)<sup>1</sup> produced in the High Plains (Northern and Southern) and Lower Rio Grande Valley Regions of Texas.<sup>2</sup> Estimates of the value of irrigation water under alternative

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<sup>1</sup>Texas Water Development Board, "Inventories of Irrigation in Texas, 1958, 1964 and 1969," Texas Water Development Board Report No. 127.

<sup>2</sup>Similar estimates for the Trans Pecos, Edwards Aquifer, Winter Garden, Coastal Bend, and Gulf Coast Regions are set forth in a second report (in process).

product prices, production costs, and yield levels are presented. This allows the reader to observe the "sensitivity" of the "ability-to-pay" for irrigation water to changing economic conditions (i.e., changing input and output prices).

### Procedure

To estimate the value of irrigation water, a good data base is needed. For this study, reliable 1974 crop enterprise budgets were available. These crop budgets were developed by the area economists of the Texas Agricultural Extension Service using the enterprise budget generator, adapted to the IBM 360 computer. Stored in the model are machinery complements, prices, yields, machinery practices and inputs, by major agricultural regions in Texas; any or all of these may be modified to update existing budgets. This enterprise budget generation capability was developed partially in response to an earlier Texas Water Development Board project with the Texas Agricultural Extension Service.

The 1974 crop enterprise budgets provided data needed to determine returns to irrigation water. The procedure involves accounting for all cost items in the budget with any residual considered as returns to irrigation water. Value of irrigation water was estimated by crop and region based on (1) 5 alternative crop yields, (2) 5 product prices, and (3) 3 alternative input price levels.

Total Returns: Total returns per acre were calculated as yield times price of the product. This means there is a total return value for each of the alternative yields at each of the price levels used. For combination

products, such as lint and seed for cotton, the secondary-product (seed) price was held constant, but its value was included in net returns for every alternative. However, seed output in cotton was changed directly in proportion to lint yield in considering different yield levels, i.e., 1.6 pounds of seed per pound of lint. Forage value (grazing returns) for crops such as winter wheat were typically held constant; i.e., alternative yield and product price levels were not considered.

Management Charge: A management charge of 5 percent of total returns was calculated; this charge was included as a cost and deducted from total returns.

Variable Costs of Production: Variable costs are the traditional "out-of-pocket" costs involved in planting, growing and harvesting. Harvesting costs were based on yield level, hence, would change for each yield level.

Also included in these costs were pumping costs for areas using ground water, or cost of water from a water district. To consider the economic feasibility of importing water into a region it would be appropriate to add these costs back into returns to water (ability-to-pay) since the pumping or water cost presently borne by irrigators would not be incurred for imported water.

Land Charge: Return to the land component for a crop was established as (1) rent from dryland production of that crop if a dryland alternative was feasible or (2) rent to the predominant dryland crop in the region if the crop being considered was not grown as a dryland crop. For example, cotton in the Southern High Plains was evaluated based on dryland rent (1/4 of total dryland lint returns). The rent, therefore, varies with



price of the product. For a crop like soybeans (no dryland alternative), rent to dryland cotton using a constant \$0.40 per pound of lint was used as returns to land. The land charge or basis for calculating the land charge is presented in a footnote for each crop in the results section of this report.

Total Costs: Total costs per acre were obtained by summing the management charge, land charge, variable costs and fixed costs, for each yield level and product price level. These cost estimates were based on 1974 costs figures. To provide implications of cost changes on value of irrigation water, the results were replicated by increasing the 1974 costs by 10 percent and by 20 percent.

Returns to Irrigation Water: Per acre returns to irrigation water for each crop were obtained by subtracting total cost from total returns for each assumed price and yield level. Returns to water were converted to an acre foot basis by dividing the total by the quantity of water applied to the crop.

#### Interpretation of the Results: Some Cautions

Proper interpretation of the results reported herein involves two important considerations. First, the quantities of irrigation water reported are for water applied to the plant and do not take into account water loss in distribution systems. To estimate water pumped or otherwise supplied (as opposed to water applied), it would be necessary to modify water quantities presented in the report to adjust for water loss in distribution systems.

A second consideration has to do with proper accounting procedures involving pumping costs and/or charge for purchased water (as previously noted - see Variable Costs of Production subsection). If the user(s) of these data wishes to know the ability-to-pay for water assuming current (existing) technologies and sources, the water value estimates are immediately interpretable as such (no adjustment is required). On the other hand, if the user wishes to determine the value (ability-to-pay) of water supplied from alternative sources (e.g., imported water) and/or via different technologies, then the value of irrigation water estimates should be increased by the amount of the current pumping costs and/or water charge if these costs would no longer be incurred given the proposed alternative were adopted. One exception to this would be the option of recharging an aquifer. In evaluating the economic feasibility of this option, pumping costs continue under this type of water augmentation technology; therefore, the value of irrigation water estimates should not be adjusted.

So that the user can make these kinds of adjustments of the water value estimates in this report, water cost (cost to deliver irrigation water to the farm distribution system) per acre foot for appropriate crops in the High Plains and Lower Rio Grande Valley were budgeted as follows:

Crop and Irrigation Technique	Quantity of Irrigation Water Used --Acre Feet--	Cost of Irrigation Water	
		Per Acre Foot --Dollars--	Total
<u>Texas High Plains I</u>			
Corn for Grain			
Furrow	1.50	11.52	17.28
Sprinkler	1.67	11.52	19.24
Corn for Silage			
Furrow	1.50	11.52	17.28
Grain Sorghum			
Furrow	1.50	11.52	17.28
Sprinkler	1.67	11.52	19.24
Wheat			
Furrow	1.00	11.52	11.52
Sprinkler	1.33	11.52	15.32

<u>Texas High Plains II</u>			
Alfalfa	2.00	12.12	24.24
Corn for Grain	1.50	12.12	18.18
Corn for Silage	1.50	12.12	18.18
Cotton	1.17	12.12	14.18
Grain Sorghum	1.50	12.12	18.18
Soybeans	1.17	12.12	14.18
Sugar Beets	2.00	12.12	24.24
Wheat	1.00	12.12	12.12

Crop and Irrigation Technique	Quantity of Irrigation Water Used --Acre Feet--	Cost of Irrigation Water	
		Per Acre Foot --Dollars--	Total
<u>Texas High Plains III</u>			
Alfalfa	2.00	12.12	24.24
Corn for Grain	1.50	12.12	18.18
Corn for Silage	1.50	12.12	18.18
Cotton			
Furrow			
PP	.50	15.24	7.62
PP + 1	.83	15.24	12.65
PP + 2	1.17	13.44	15.72
PP + 3	1.50	13.32	19.98
Sprinkler			
PP	.33	13.68	4.51
PP + 1	.58	15.24	8.84
PP + 2	.83	15.24	12.65
PP + 3	1.08	13.32	14.39
Grain Sorghum			
Furrow			
PP + 1	.83	15.24	12.65
PP + 2	1.17	13.44	15.72
PP + 3	1.80	15.00	27.00
PP + 4	1.83	13.32	24.38
Sprinkler			
PP + 1	.58	15.24	8.84
PP + 2	.83	13.44	11.16
PP + 3	1.08	13.32	14.39
PP + 4	1.33	13.32	17.72
Soybeans	1.08	12.12	13.09
Wheat	1.08	12.12	13.09

Crop and Irrigation Technique	Quantity of Irrigation Water Used  --Acres--	Cost of Irrigation Water	
		Per Acre Foot  --Dollars--	Total
<u>Texas High Plains IV</u>			
Alfalfa Pivot	2.00	12.12	24.24
Castors Sideroll	.83	12.12	10.06
Cotton Sideroll			
PP	.33	15.24	5.03
PP + 1	.58	15.24	8.84
PP + 2	.83	13.44	11.16
PP + 3	1.08	12.12	13.09
Cotton Pivot			
PP + 2	.83	12.12	10.06
PP + 3	1.08	12.12	13.09
Grain Sorghum Sideroll			
PP + 2	.83	13.44	11.16
PP + 3	1.08	12.12	13.09
Grain Sorghum Pivot			
PP + 3	1.08	12.48	13.48
PP + 4	1.33	12.48	16.60
Southern Peas Sideroll	.83	12.12	10.06
Wheat	1.08	12.12	13.09

Crop and Irrigation Technique	Quantity of Irrigation Water Used --Acre Feet--	Cost of Irrigation Water	
		Per Acre Foot	Total
		--Dollars--	
<u>Texas Rio Grande Valley</u>			
Cabbage	1.42	10.38	14.74
Cantaloups	1.67	7.57	12.64
Carrots	1.67	6.78	11.32
Coastal Bermuda Hay	1.75	5.08	8.89
Corn for Grain	1.00	8.29	8.29
Corn for Silage	1.00	8.29	8.29
Cotton	1.25	6.79	8.49
Grain Sorghum	.83	6.82	5.66
Grapefruit	1.50	5.50	8.25
Onions	1.58	11.44	18.08
Oranges	1.50	5.50	8.25
Sorghum for Silage	1.00	8.29	8.29
Tomatoes	1.00	9.08	9.08

---

The differences between cost of irrigation water per acre foot are based on the rate of irrigation water utilization and method of charging for the water; i.e., onions require 6 applications at \$2.50 water charge per application (plus system fixed and variable costs) but utilize only 2 acre inches on some of the applications. Cotton, on the other hand, requires only 3 applications, but utilizes 5 acre inches per application. Therefore, the differences in costs per acre foot as in above table.

## Results

This report presents estimated value per acre foot of irrigation water for the Texas High Plains and Lower Rio Grande Valley. This value for each region is given in tabular form, by crop and in some cases irrigation level as well as distribution system used, for 5 yields, 5 product prices and 3 cost levels. The data included in each table are then presented in three separate graphs immediately following the table. There is one graph each for 1974 costs, 1974 costs inflated 10 percent and 1974 costs inflated 20 percent. This provides for maximum flexibility in identifying estimated value of irrigation water for whatever yield, price and cost assumptions the user selects.

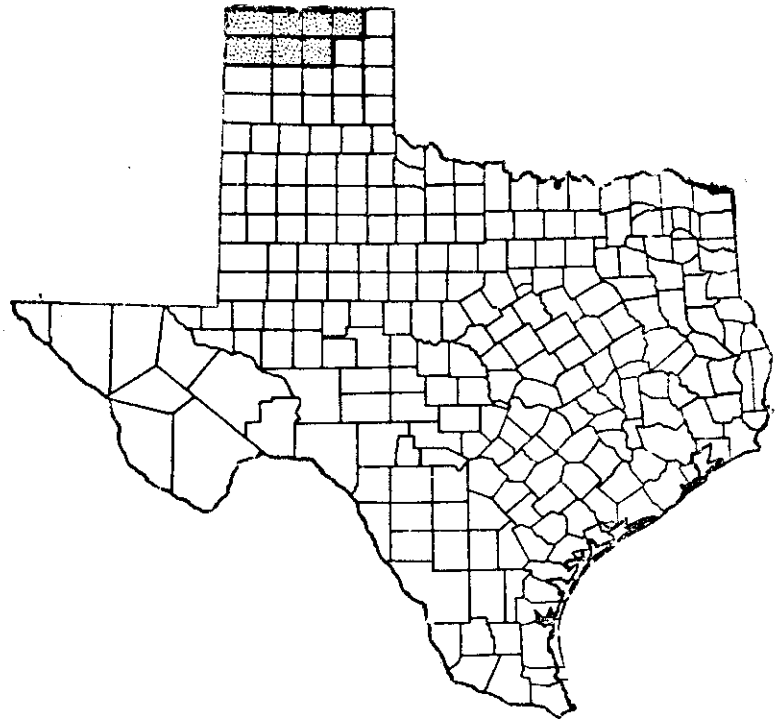
# **Texas High Plains I**



## Texas High Plains I

This area includes the hardlands and sandy lands north of the Canadian River in the Texas Panhandle. Principal irrigation systems used in the region include furrow or gravity flow and sprinkler.

A land charge was estimated as: (1) grain sorghum and wheat - 1/3 of gross revenue from grain produced dryland and (2) for all other crops, the grain sorghum land charge based on a grain price of \$3.30 was applied. Expected dryland yields were 15 hundredweight for grain sorghum and 15 bushels for wheat.



The alternative yields and prices used in this analysis are presented in the following table.

Crop	Unit	Yield @ Acre					Price				
		60	80	100	120	140	1.50	2.00	2.50	3.00	3.50
Corn Grain											
Furrow	bu.	60	80	100	120	140	1.50	2.00	2.50	3.00	3.50
Sprinkle	bu.	80	100	120	140	160	1.50	2.00	2.50	3.00	3.50
Corn Silage											
Furrow	ton	10	15	20	25	30	6.00	8.00	10.00	12.00	14.00
Grain Sorghum											
Furrow	cwt.	45	55	65	75	85	2.00	2.50	3.00	3.50	4.00
Sprinkler	cwt.	40	50	60	70	80	2.00	2.50	3.00	3.50	4.00
Wheat											
Furrow	bu.	30	35	40	45	50	1.50	2.50	3.50	4.50	5.50
Sprinkler	bu.	30	35	40	45	50	1.50	2.50	3.50	4.50	5.50

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
CORN GRAIN  
FURROW

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		60.0	80.0	100.0	120.0	140.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-42.993	-29.327	-15.660	-1.993	11.673
	*					
2.000	*	-23.993	-3.993	16.007	36.007	56.007
	*					
2.500	*	-4.993	21.340	47.673	74.007	100.340
	*					
3.000	*	14.007	46.673	79.340	112.007	144.673
	*					
3.500	*	33.007	72.007	111.007	150.007	189.007
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
1.500	*	-53.293	-40.259	-27.274	-14.193	-1.159
	*					
2.000	*	-34.393	-15.059	4.274	23.607	42.941
	*					
2.500	*	-15.493	10.141	35.774	61.407	87.041
	*					
3.000	*	3.407	35.341	67.274	99.207	131.141
	*					
3.500	*	22.307	60.541	98.774	137.007	175.241
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
1.500	*	-63.592	-51.192	-38.792	-26.392	-13.992
	*					
2.000	*	-44.792	-26.125	-7.459	11.208	29.875
	*					
2.500	*	-25.992	-1.059	23.875	48.808	73.741
	*					
3.000	*	-7.192	24.008	55.208	86.408	117.608
	*					
3.500	*	11.608	49.075	86.541	124.008	161.475
	*					
-----						

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

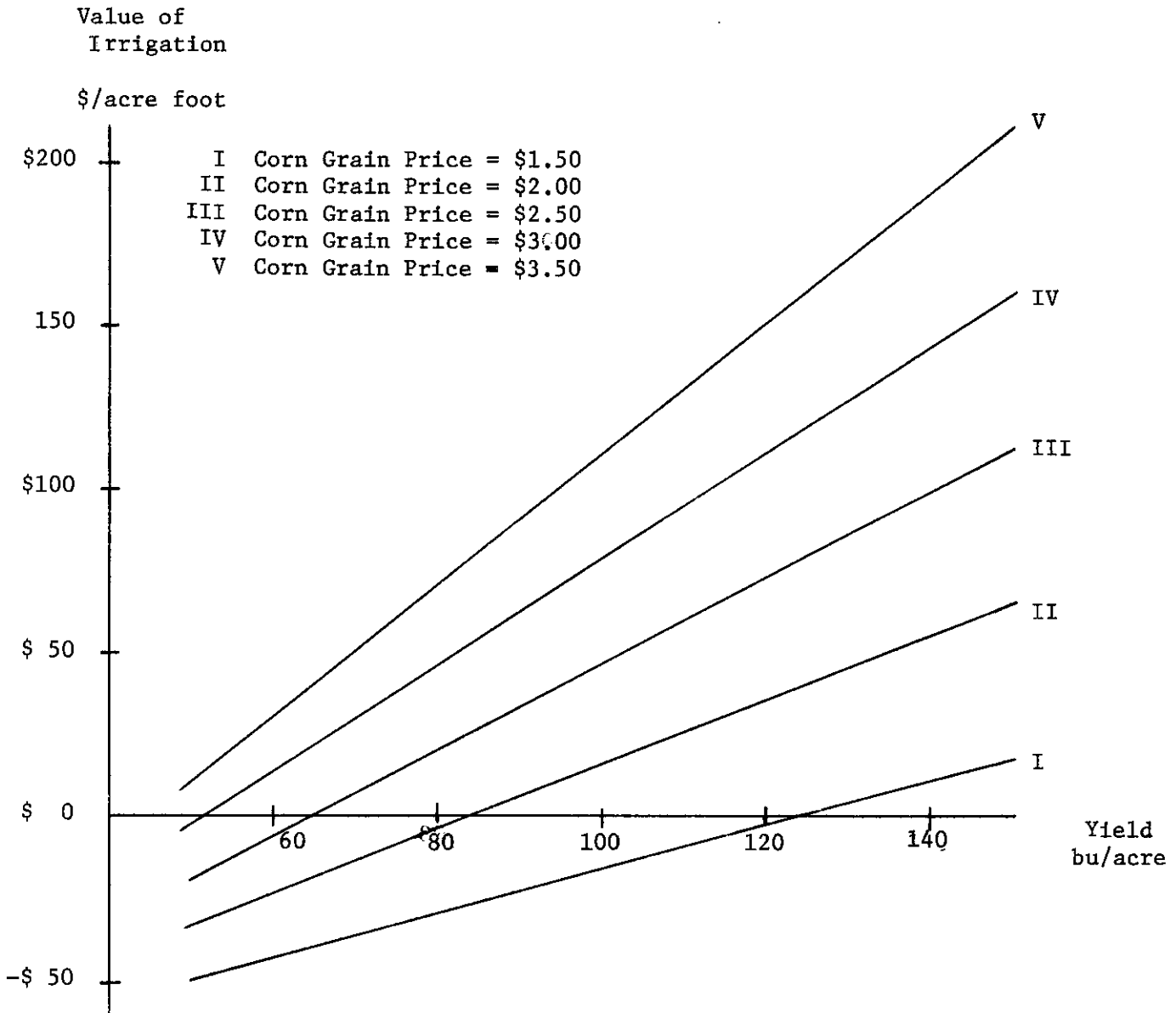


Figure Value of irrigation water applied to Corn Grain, furrow, in High Plains I for alternative Corn Grain prices and yields with expected 1974 costs.

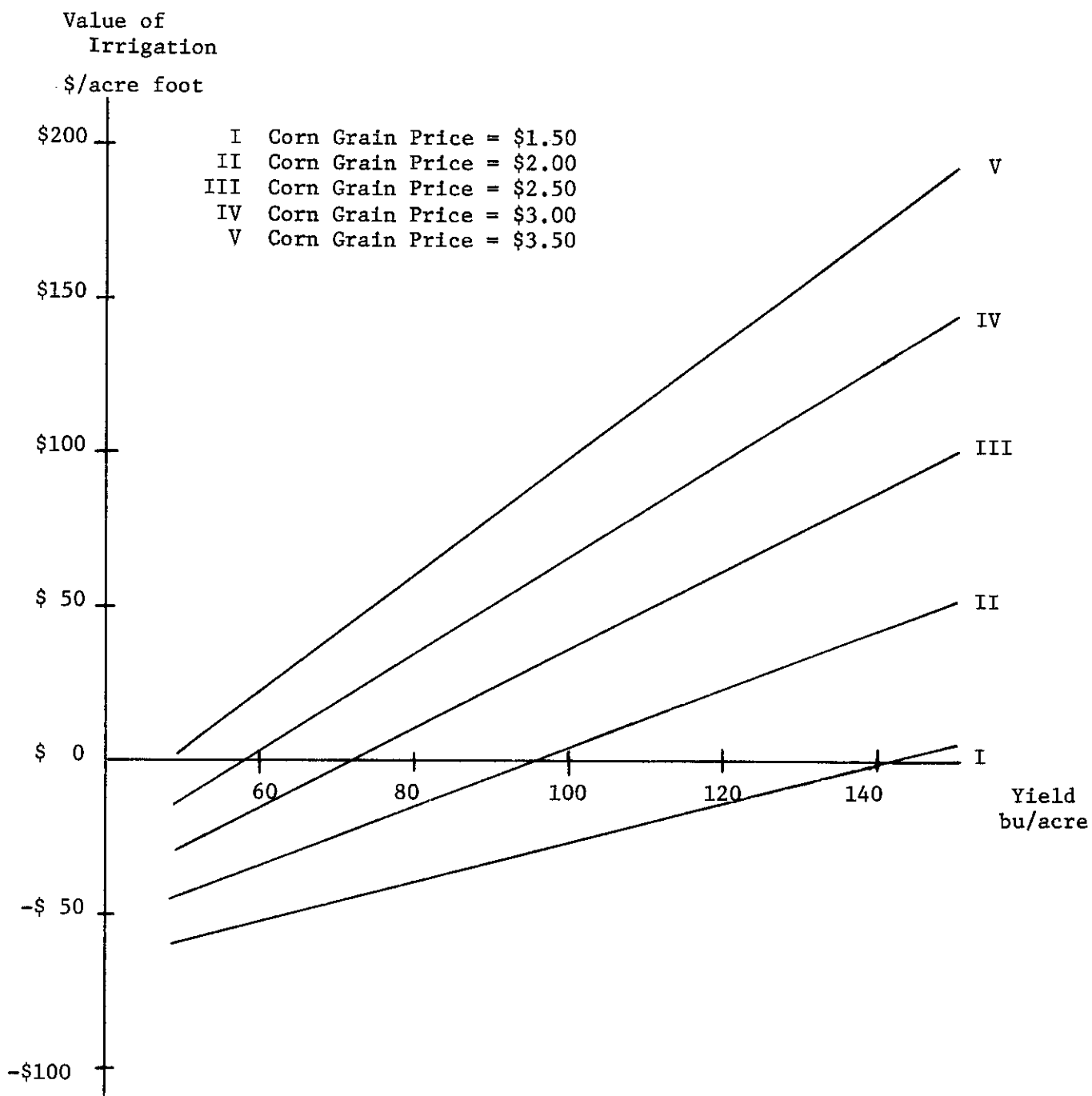


Figure Value of irrigation water applied to Corn Grain, furrow, in High Plains I for alternative Corn Grain prices and yields with expected 1974 costs inflated 10 percent.

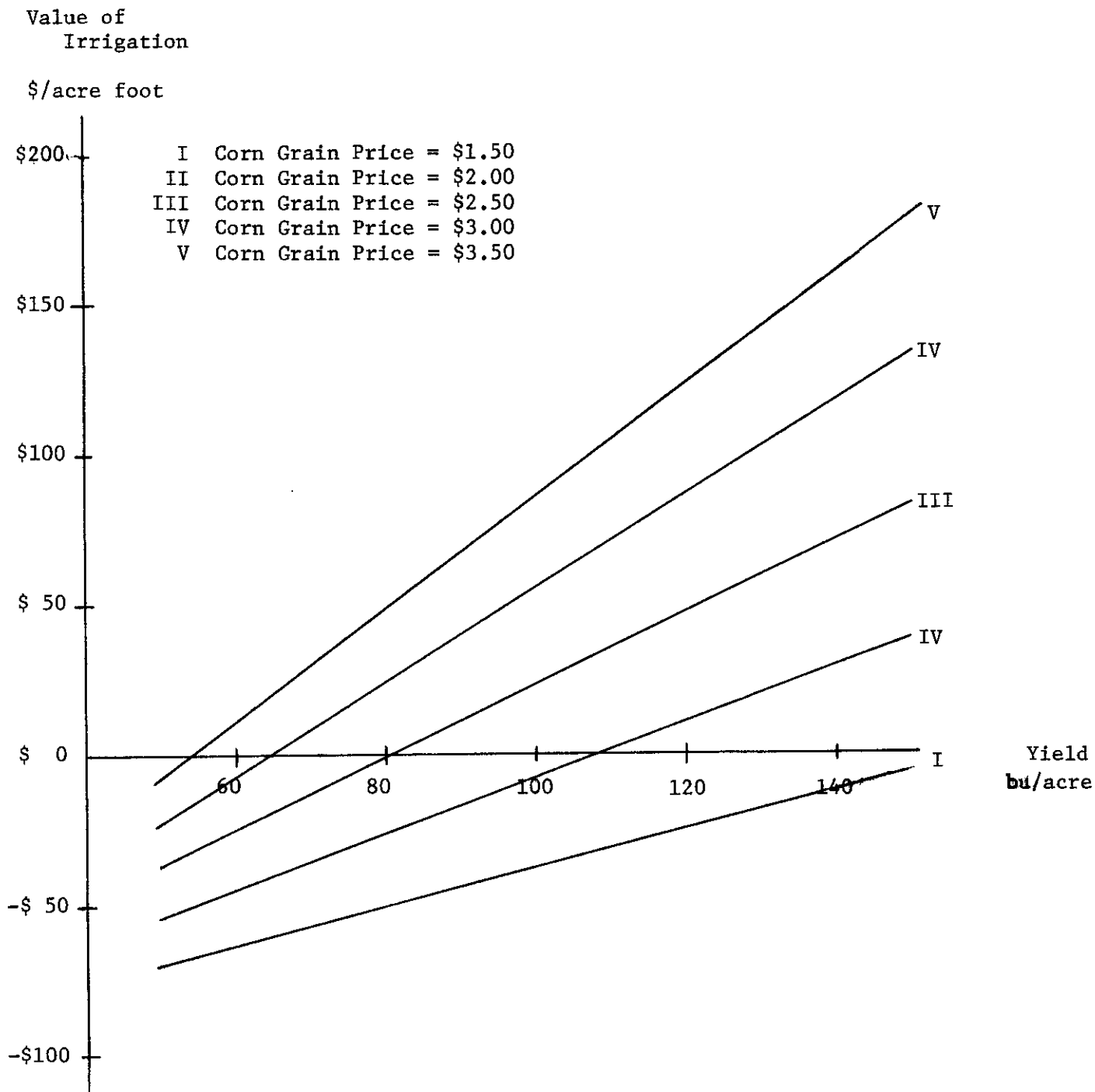


Figure Value of irrigation water applied to Corn Grain, furrow, in High Plains I for alternative Corn Grain prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
CORN GRAIN  
SPRINKLER

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		90.0	100.0	120.0	140.0	160.0
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-34.611	-22.335	-10.060	2.216	14.491
2.000	*	-11.856	6.108	24.072	42.036	60.000
2.500	*	10.898	34.551	58.204	81.856	105.509
3.000	*	33.653	62.994	92.335	121.677	151.018
3.500	*	56.407	91.437	126.467	161.497	196.527
10% COST INFLATION	*					
PRICES	*					
1.500	*	-45.257	-33.551	-21.844	-10.138	1.569
2.000	*	-22.623	-5.257	12.108	29.473	46.838
2.500	*	0.012	23.036	46.060	69.084	92.108
3.000	*	22.647	51.329	80.012	108.695	137.377
3.500	*	45.281	79.623	113.964	148.305	182.647
20% COST INFLATION	*					
PRICES	*					
1.500	*	-55.904	-44.766	-33.629	-22.491	-11.353
2.000	*	-33.389	-16.623	0.144	16.910	33.677
2.500	*	-10.874	11.521	33.916	56.311	78.707
3.000	*	11.641	39.665	67.689	95.713	123.737
3.500	*	34.156	67.808	101.461	135.114	168.767

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

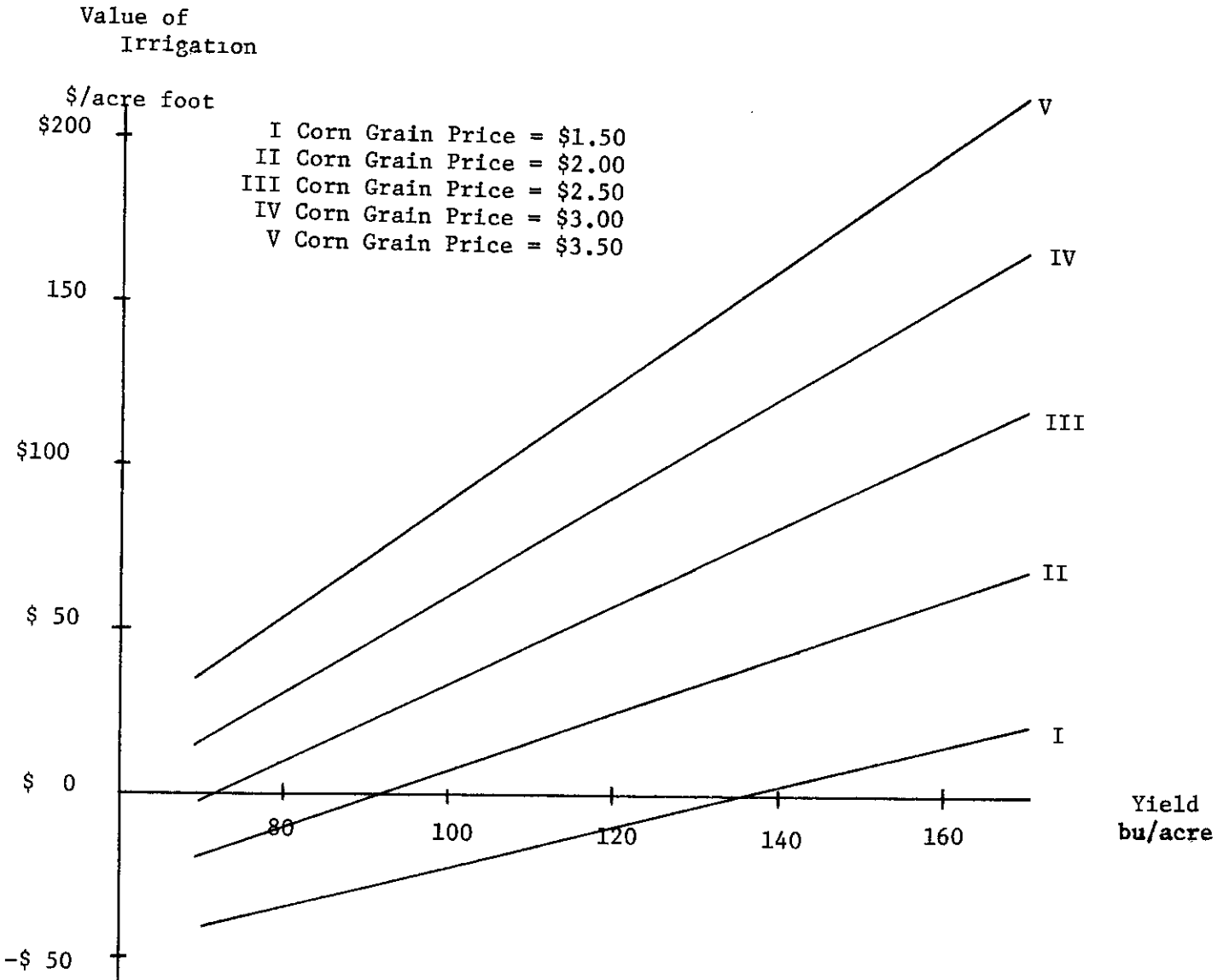


Figure Value of irrigation-water applied to Corn Grain, sideroll sprinkler, in High Plains I for alternative Corn Grain prices and yields with expected 1974 costs.

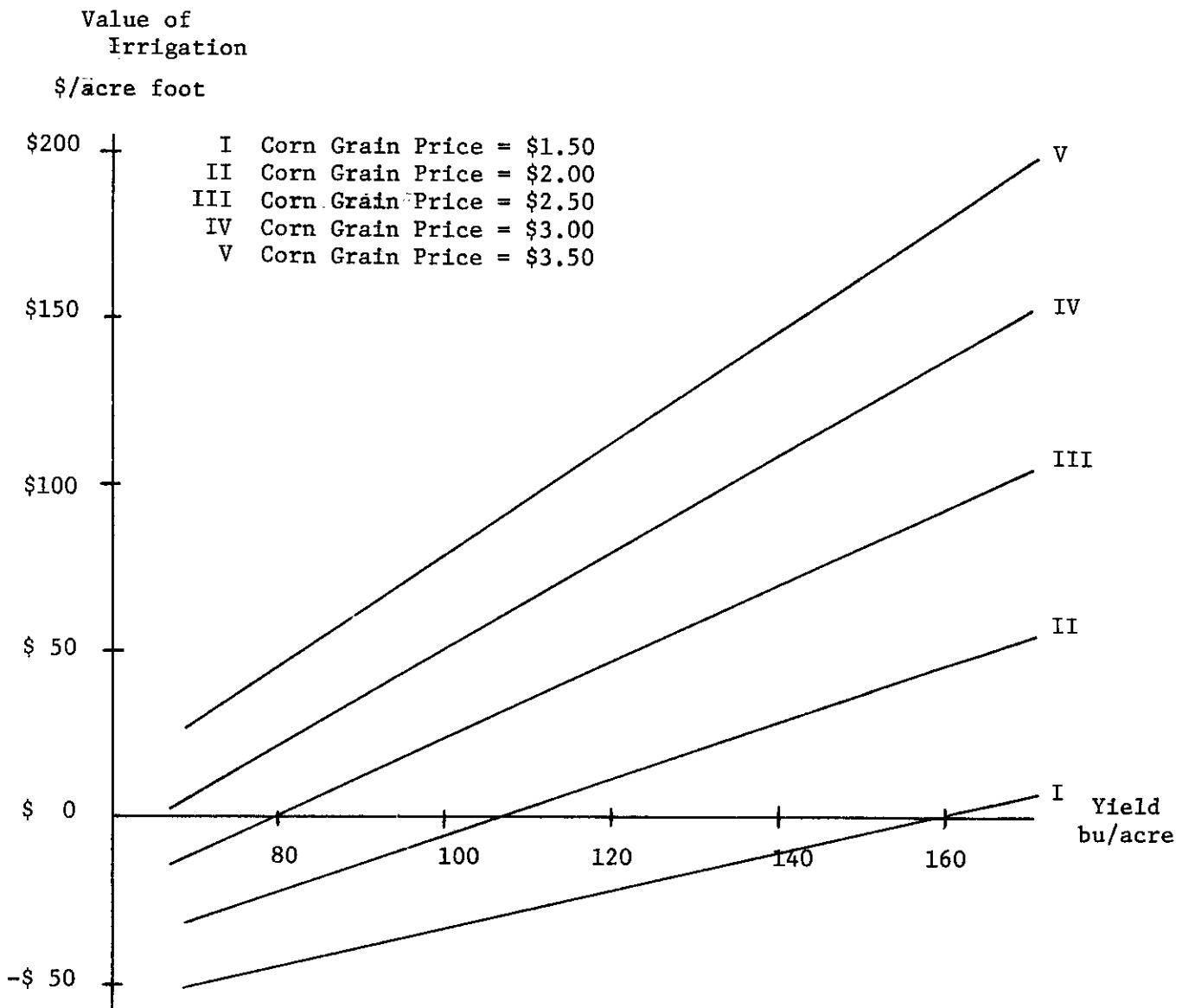


Figure Value of irrigation water applied to Corn Grain, sideroll sprinkler, in High Plains I for alternative Corn Grain prices and yields with expected 1974 costs inflated 10 percent.



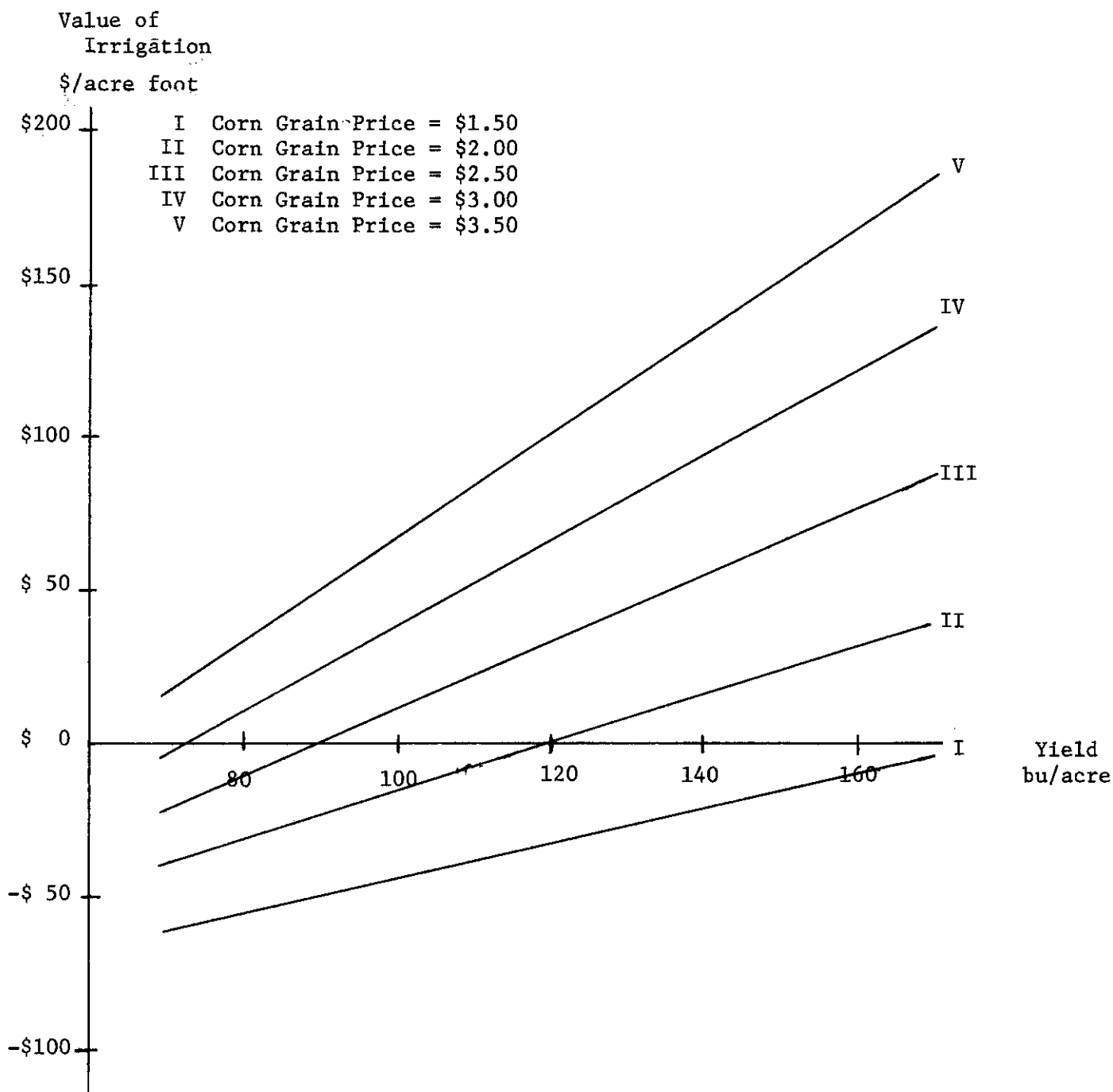


Figure Value of irrigation water applied to Corn Grain, sideroll sprinkler, in High Plains I for alternative Corn Grain prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
CORN SILAGE  
FURROW

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION TONS PER ACRE				
		10.0	15.0	20.0	25.0	30.0
-----						
PRODUCTION COSTS 1974						
PRICES	*					
6.000	*	-47.207	-28.207	-9.207	9.793	28.793
8.000	*	-34.540	-9.207	16.127	41.460	66.793
10.000	*	-21.873	9.793	41.460	73.127	104.793
12.000	*	-9.207	28.793	66.793	104.793	142.793
14.000	*	3.460	47.793	92.127	136.460	180.793
-----						
10% COST INFLATION						
PRICES	*					
6.000	*	-55.927	-37.027	-18.127	0.773	19.673
8.000	*	-43.327	-18.127	7.073	32.273	57.473
10.000	*	-30.727	0.773	32.273	63.773	95.273
12.000	*	-18.127	19.673	57.473	95.273	133.073
14.000	*	-5.527	38.573	82.673	126.773	170.873
-----						
20% COST INFLATION						
PRICES	*					
6.000	*	-64.648	-45.848	-27.048	-8.248	10.552
8.000	*	-52.115	-27.048	-1.981	23.085	48.152
10.000	*	-39.581	-8.248	23.085	54.419	85.752
12.000	*	-27.048	10.552	48.152	85.752	123.352
14.000	*	-14.515	29.352	73.219	117.085	160.952
-----						

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

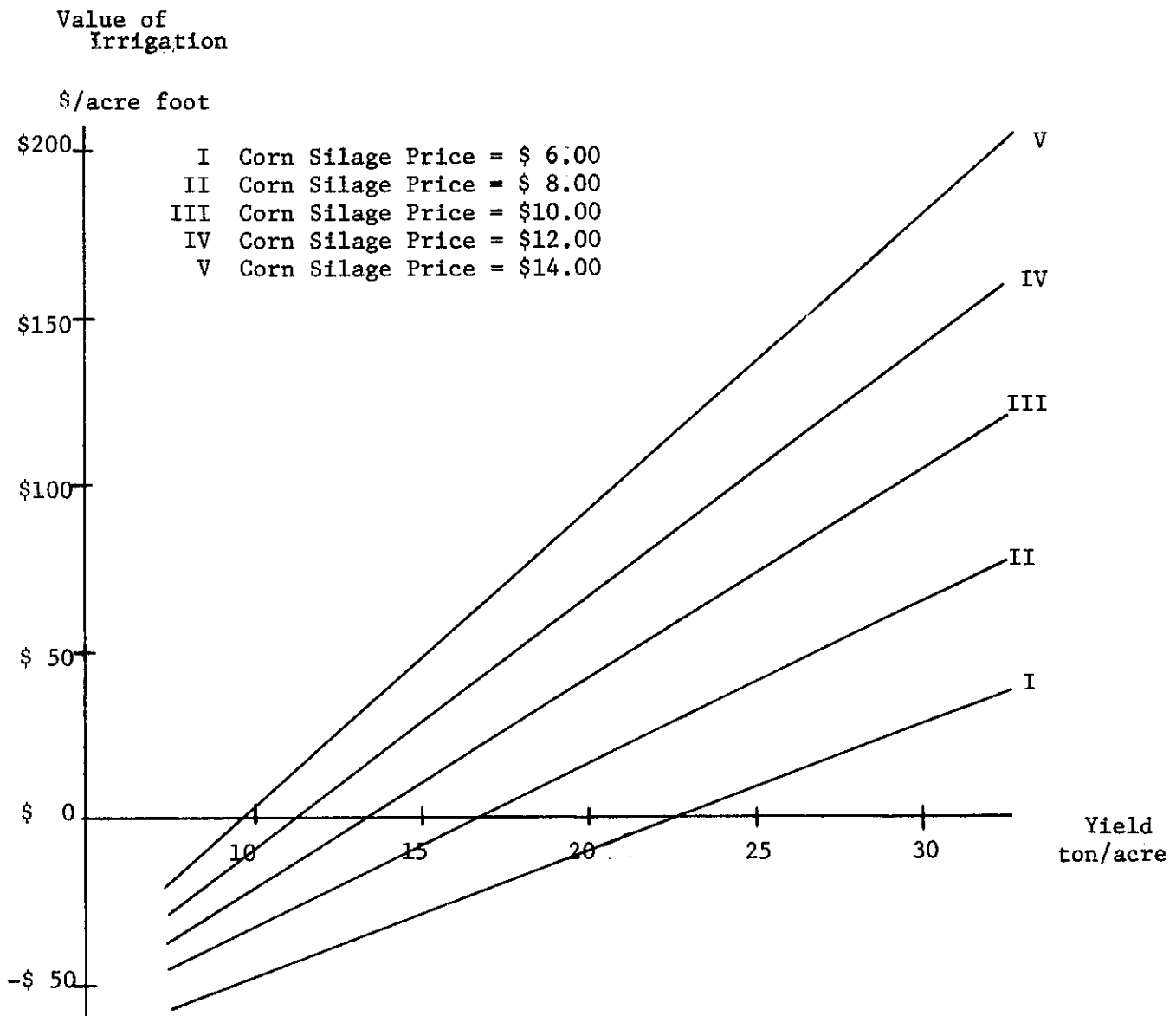


Figure Value of irrigation water applied to Corn Silage, furrow, in High Plains I for alternative Corn Silage prices and yields with expected 1974 costs.

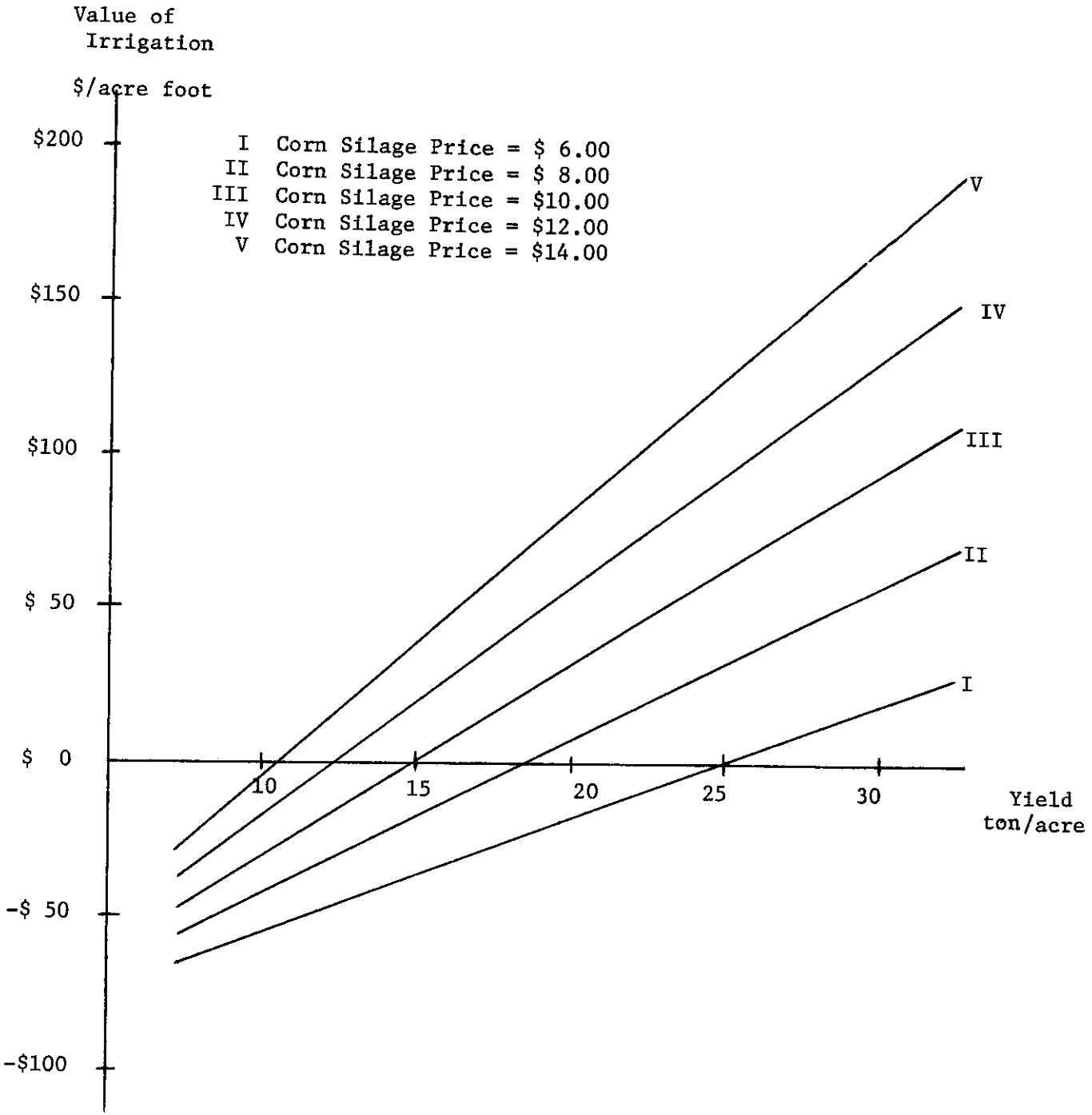


Figure Value of irrigation water applied to Corn Silage, furrow, in High Plains I for alternative Corn Silage prices and yields with expected 1974 costs inflated 10 percent.

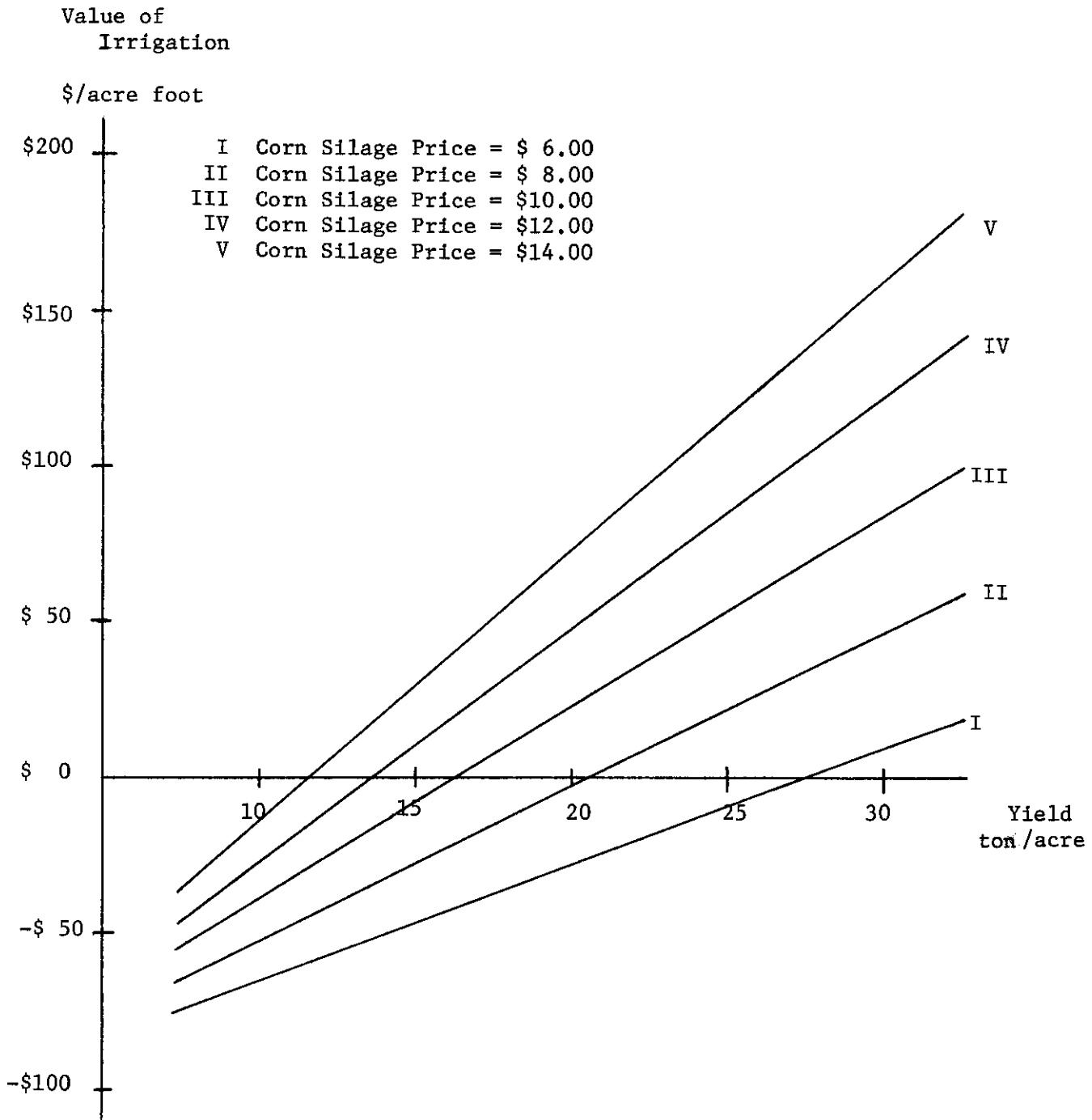


Figure Value of irrigation water applied to Corn Silage, furrow, in High Plains I for alternative Corn Silage prices and yields with expected 1974 costs inflated 20 percent.

RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
GRAIN SORGHUM  
FURROW

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		45.0	55.0	65.0	75.0	85.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-34.433	-25.299	-16.166	-7.033	2.101
2.500	*	-21.849	-9.549	2.751	15.051	27.351
3.000	*	-9.266	6.201	21.668	37.134	52.601
3.500	*	3.318	21.951	40.585	59.218	77.851
4.000	*	15.901	37.701	59.501	81.301	103.101
-----						
10% COST INFLATION	*					
PRICES	*					
2.000	*	-43.876	-35.163	-26.449	-17.736	-9.023
2.500	*	-31.534	-19.671	-7.807	4.056	15.919
3.000	*	-19.192	-4.179	10.834	25.848	40.861
3.500	*	-6.850	11.313	29.476	47.640	65.803
4.000	*	5.491	26.805	48.118	69.431	90.745
-----						
20% COST INFLATION	*					
PRICES	*					
2.000	*	-53.319	-45.026	-36.733	-28.439	-20.146
2.500	*	-41.219	-29.792	-18.366	-6.939	4.488
3.000	*	-29.119	-14.559	0.001	14.561	29.121
3.500	*	-17.019	0.675	18.368	36.061	53.755
4.000	*	-4.918	15.908	36.735	57.562	78.388

A DRYLAND YIELD OF 15.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of  
Irrigation

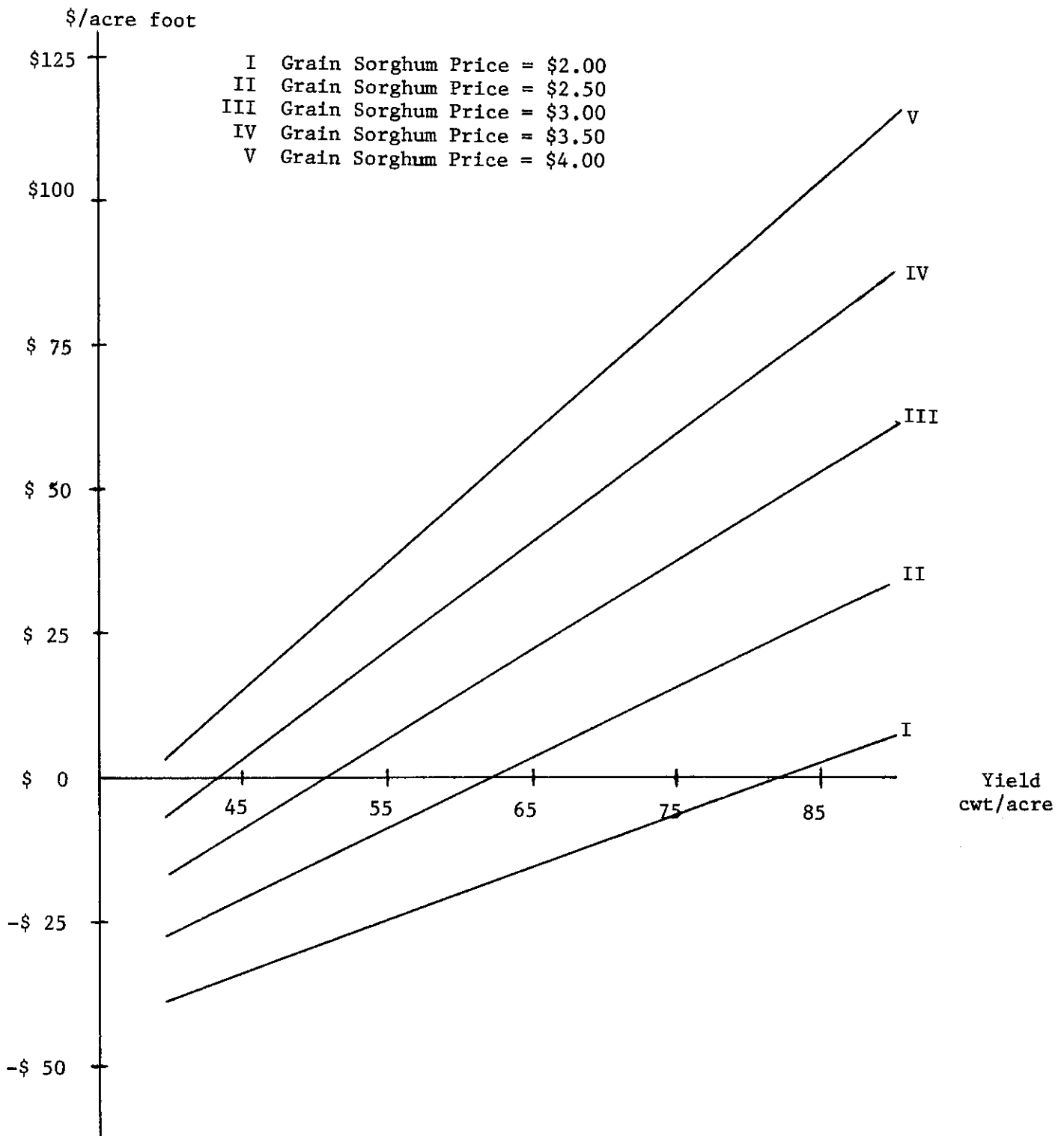


Figure Value of irrigation water applied to Grain Sorghum, furrow, in High Plains I for alternative Grain Sorghum prices and yields with expected 1974 costs.

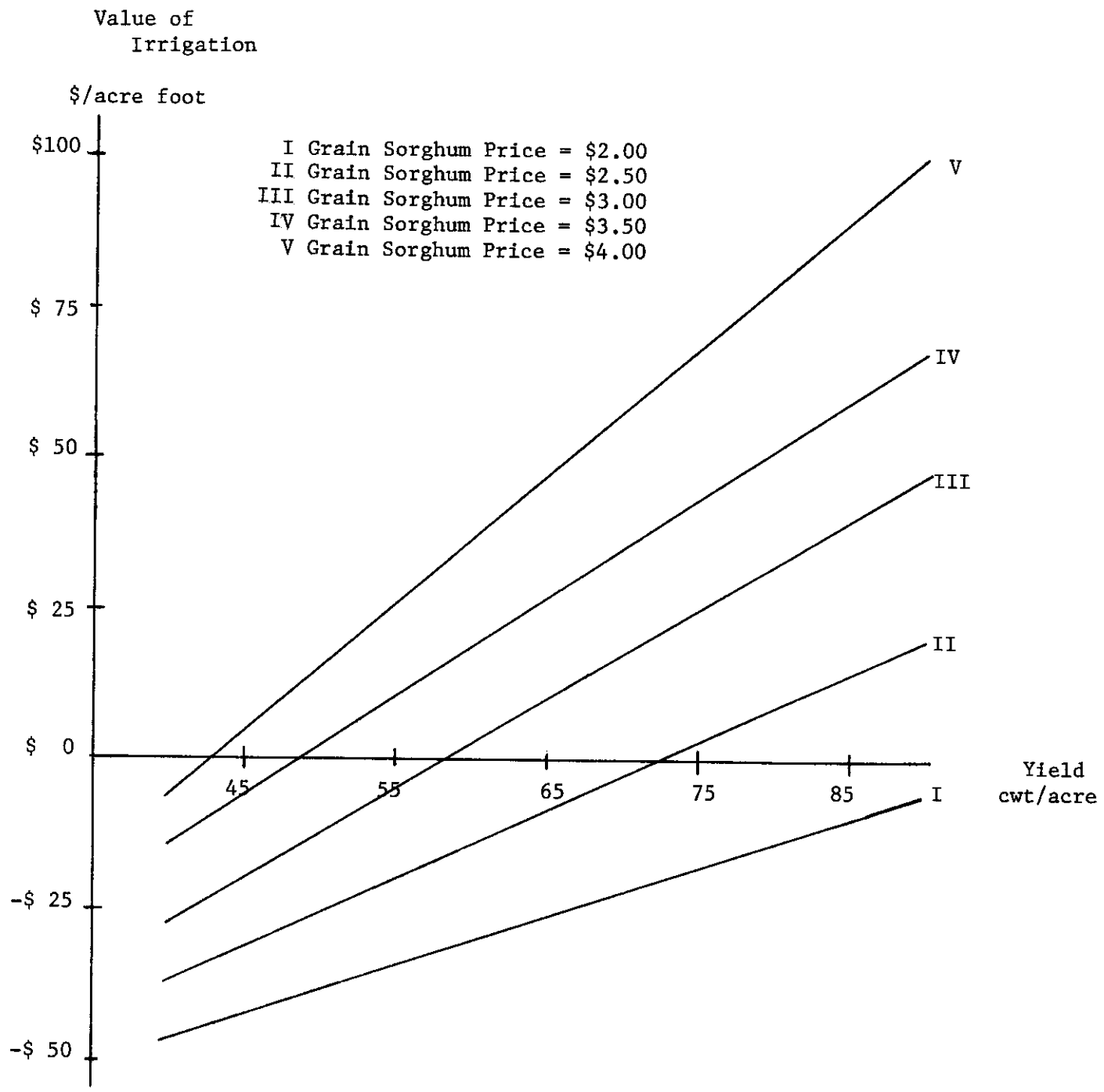
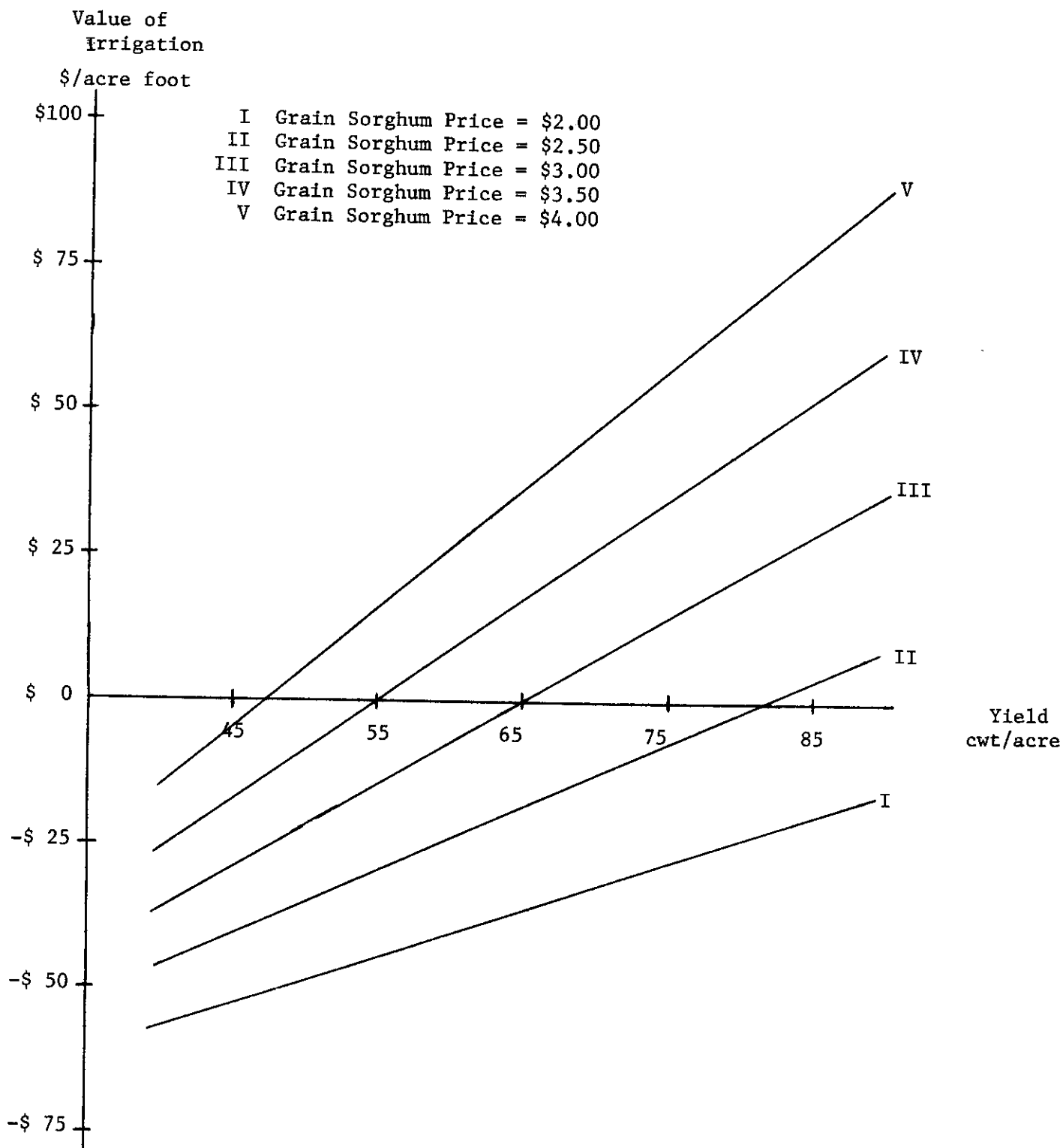


Figure Value of irrigation water applied to Grain Sorghum, furrow, in High Plains I for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.





Figure

Value of irrigation water applied to Grain Sorghum, furrow, in High Plains I for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
GRAIN SORGHUM  
SPRINKLER

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		40.0	50.0	60.0	70.0	80.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-42.401	-34.197	-25.993	-17.790	-9.586
2.500	*	-32.520	-21.472	-10.424	0.624	11.671
3.000	*	-22.640	-8.748	5.145	19.037	32.929
3.500	*	-12.759	3.977	20.714	37.450	54.187
4.000	*	-2.879	16.702	36.283	55.863	75.444
-----						
10% COST INFLATION	*					
PRICES	*					
2.000	*	-51.431	-43.605	-35.778	-27.952	-20.126
2.500	*	-41.760	-31.105	-20.449	-9.793	0.863
3.000	*	-32.089	-18.604	-5.119	8.366	21.851
3.500	*	-22.419	-6.104	10.210	26.525	42.839
4.000	*	-12.748	6.396	25.540	44.683	63.827
-----						
20% COST INFLATION	*					
PRICES	*					
2.000	*	-60.462	-53.012	-45.563	-38.114	-30.665
2.500	*	-51.000	-40.737	-30.473	-20.210	-9.946
3.000	*	-41.539	-28.461	-15.383	-2.305	10.772
3.500	*	-32.078	-16.186	-0.293	15.599	31.491
4.000	*	-22.617	-3.910	14.797	33.503	52.210
-----						

A DRYLAND YIELD OF 15.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

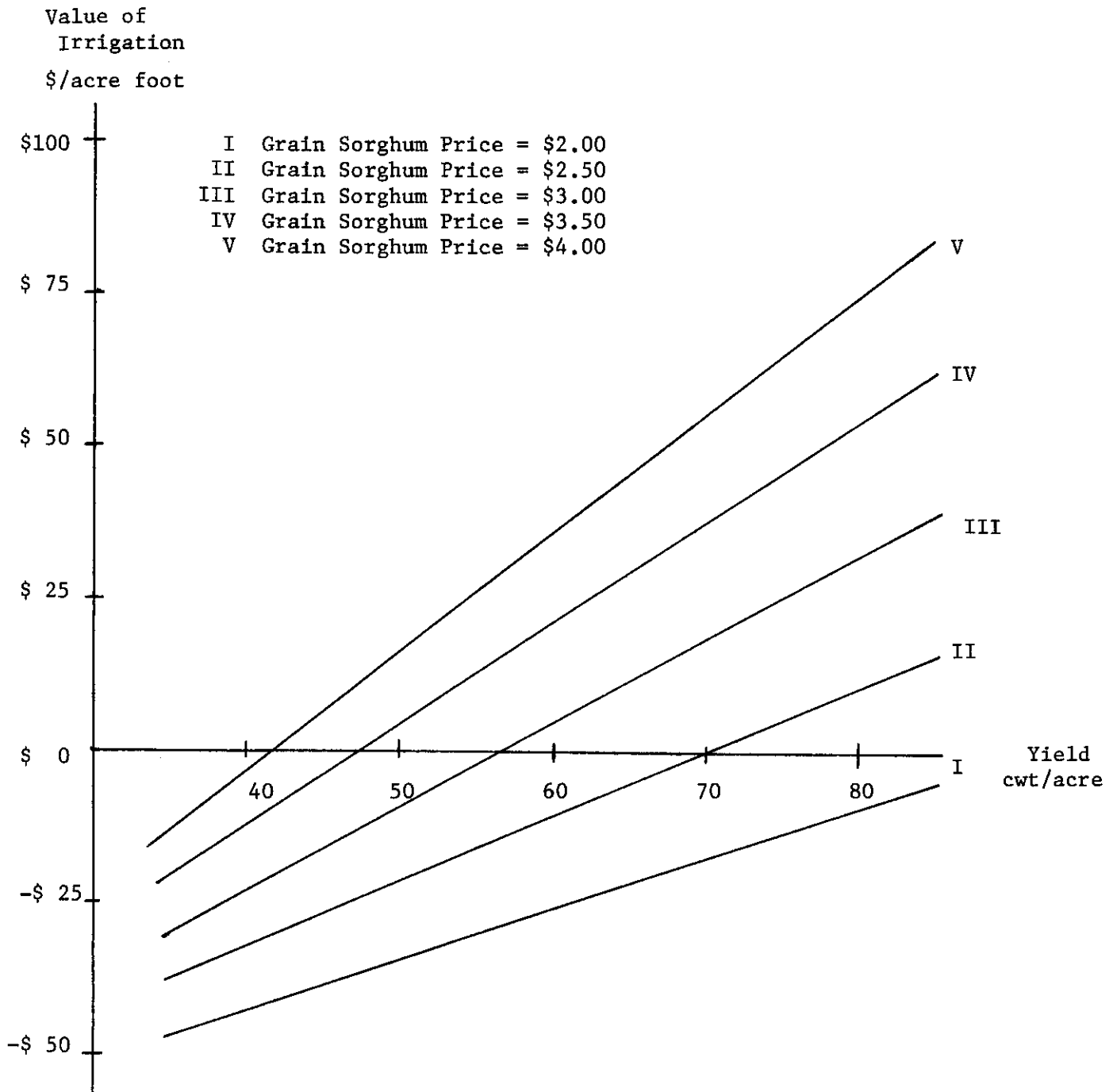


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, in High Plains I for alternative Grain Sorghum prices and yields with expected 1974 costs.

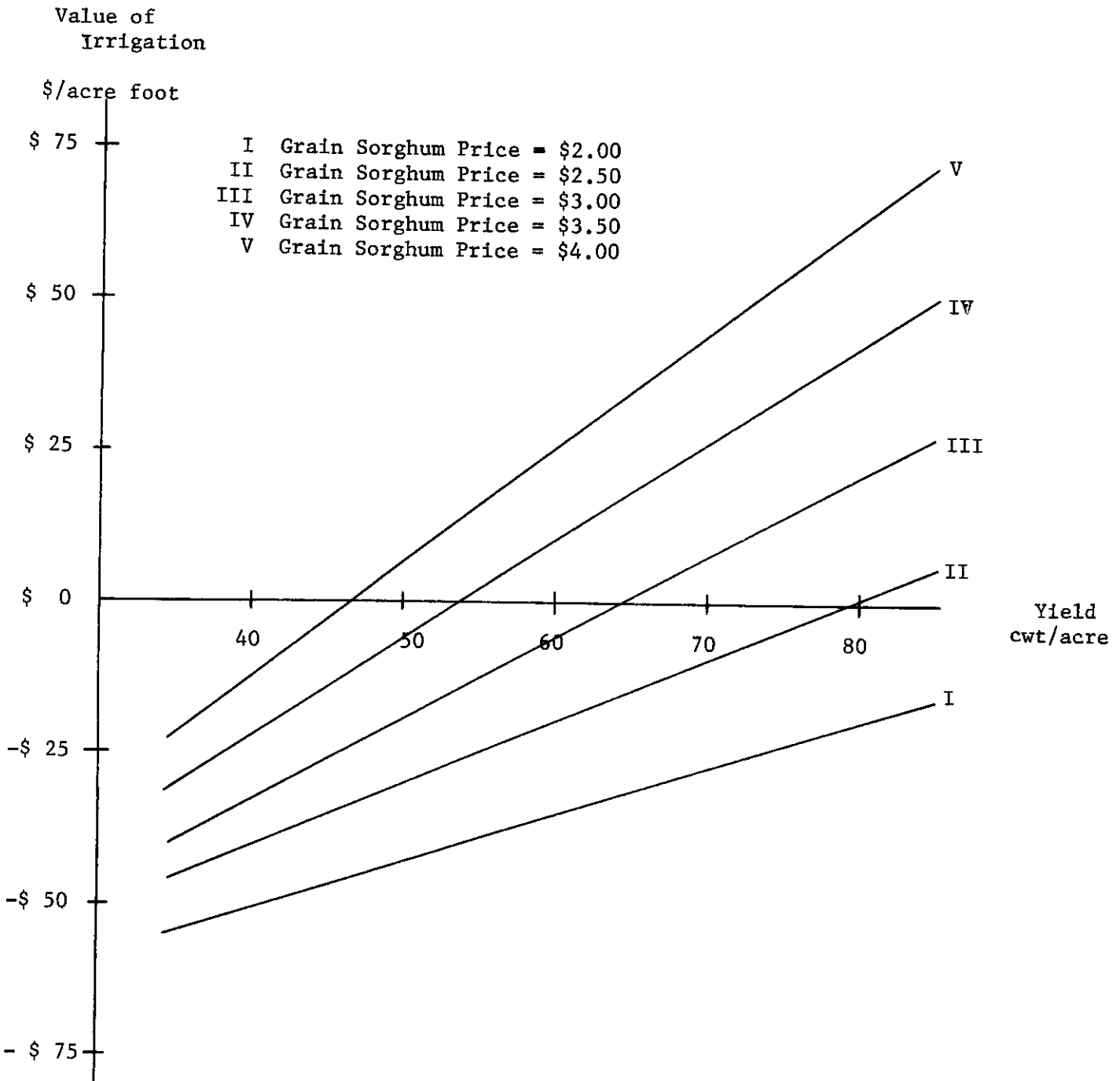


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, in High Plains I for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

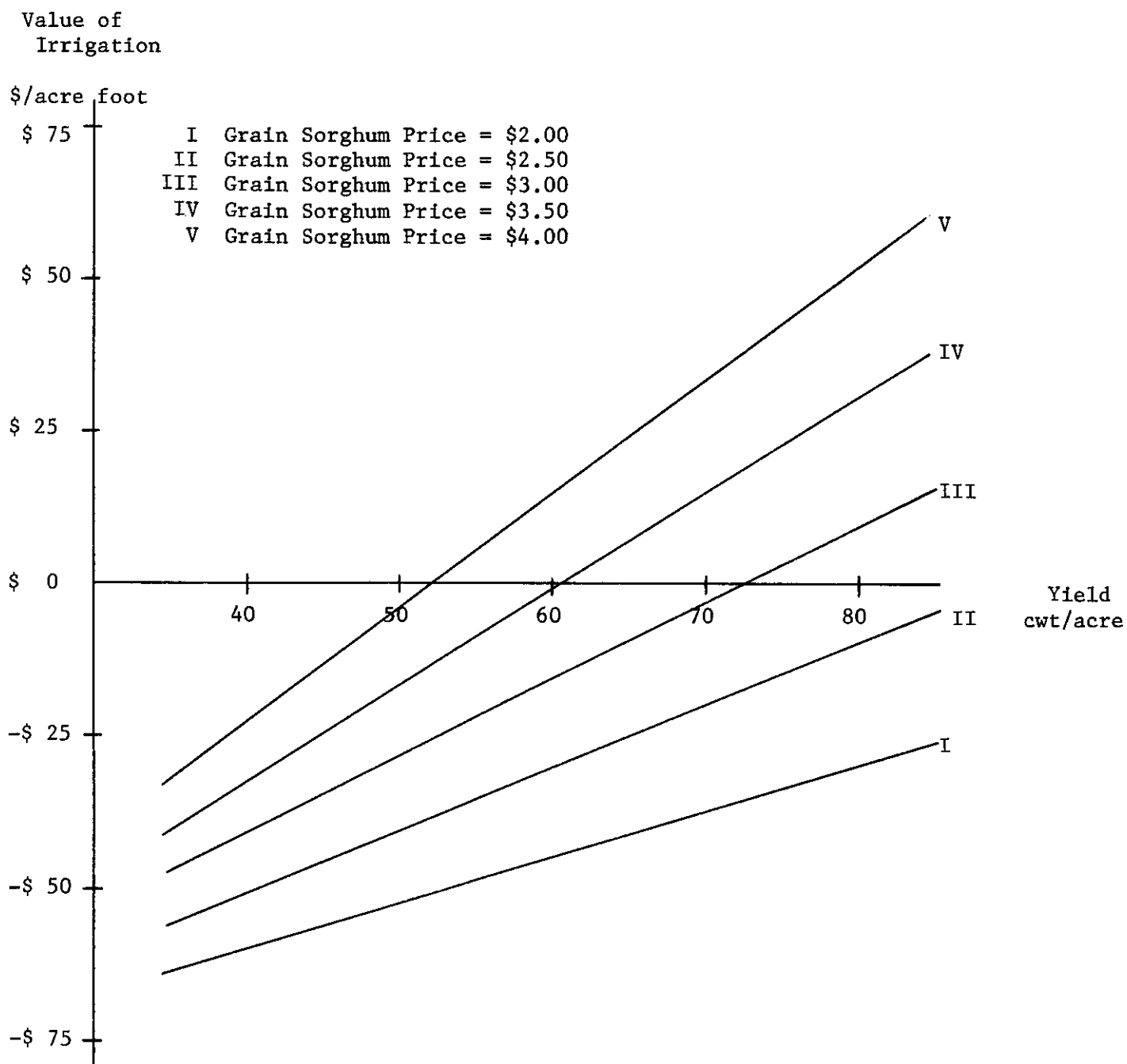


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, in High Plains I for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
WHEAT  
FURROW

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		30.0	35.0	40.0	45.0	50.0
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-23.169	-11.944	-0.719	10.506	21.731
2.500	*	0.331	16.306	32.281	48.256	64.231
3.500	*	23.832	44.557	65.282	86.007	106.732
4.500	*	47.332	72.807	98.282	123.757	149.232
5.500	*	70.833	101.058	131.283	161.508	191.733
10% COST INFLATION	*					
PRICES	*					
1.500	*	-32.986	-21.889	-10.791	0.306	11.404
2.500	*	-10.136	5.687	21.509	37.332	53.154
3.500	*	12.715	33.262	53.810	74.357	94.905
4.500	*	35.565	60.838	86.110	111.383	136.655
5.500	*	58.416	88.414	118.411	148.408	178.406
20% COST INFLATION	*					
PRICES	*					
1.500	*	-42.803	-31.833	-20.863	-9.893	1.077
2.500	*	-20.603	-4.933	10.737	26.407	42.077
3.500	*	1.598	21.968	42.338	62.708	83.078
4.500	*	23.799	48.869	73.939	99.009	124.078
5.500	*	45.999	75.769	105.539	135.309	165.079

A DRYLAND YIELD OF 15.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

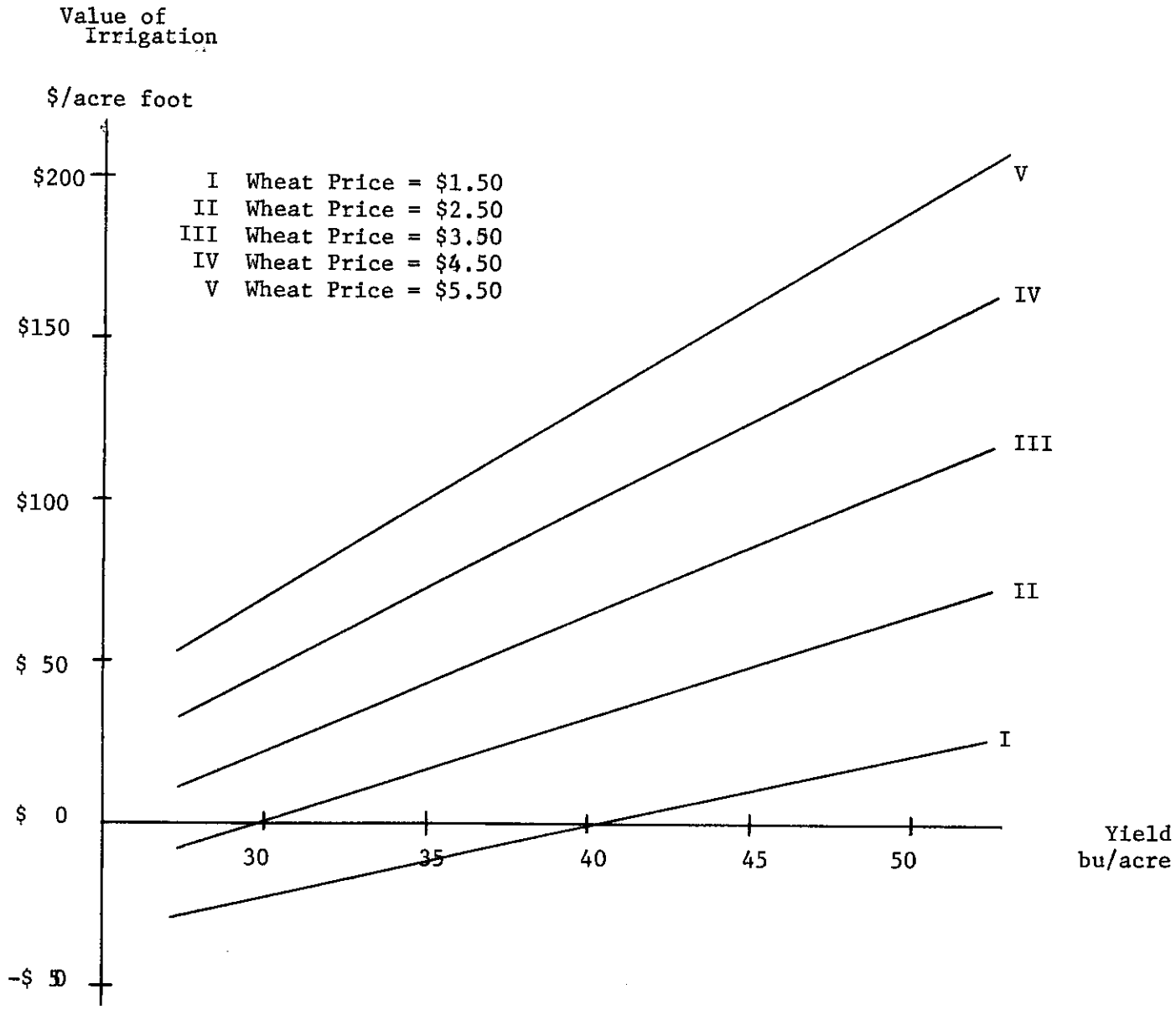


Figure Value of irrigation water applied to Wheat, furrow, in High Plains I for alternative Wheat prices and yields with expected 1974 costs.

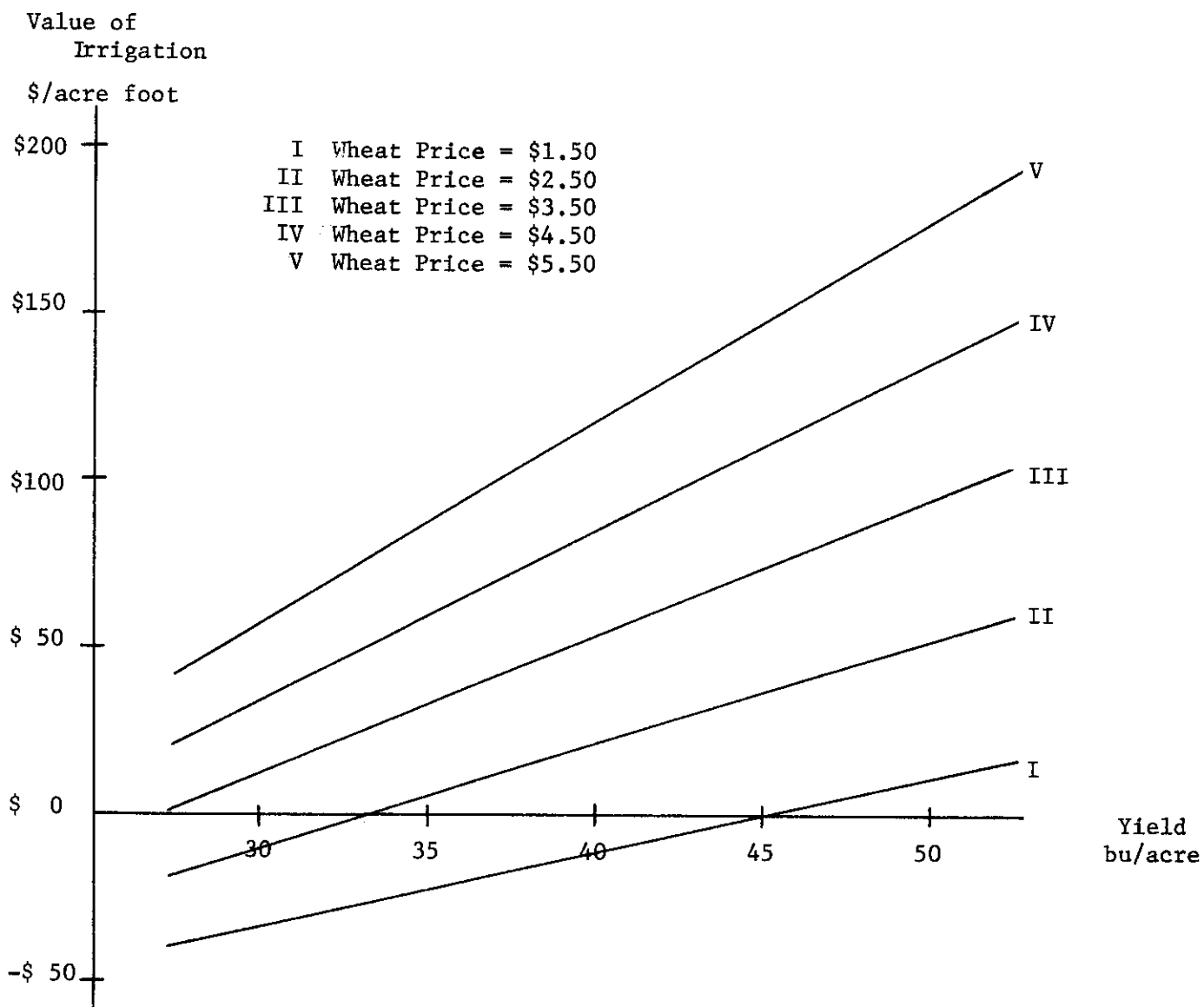


Figure Value of irrigation water applied to Wheat, furrow, in High Plains I for alternative Wheat prices and yields with expected 1974 costs inflated 10 percent.



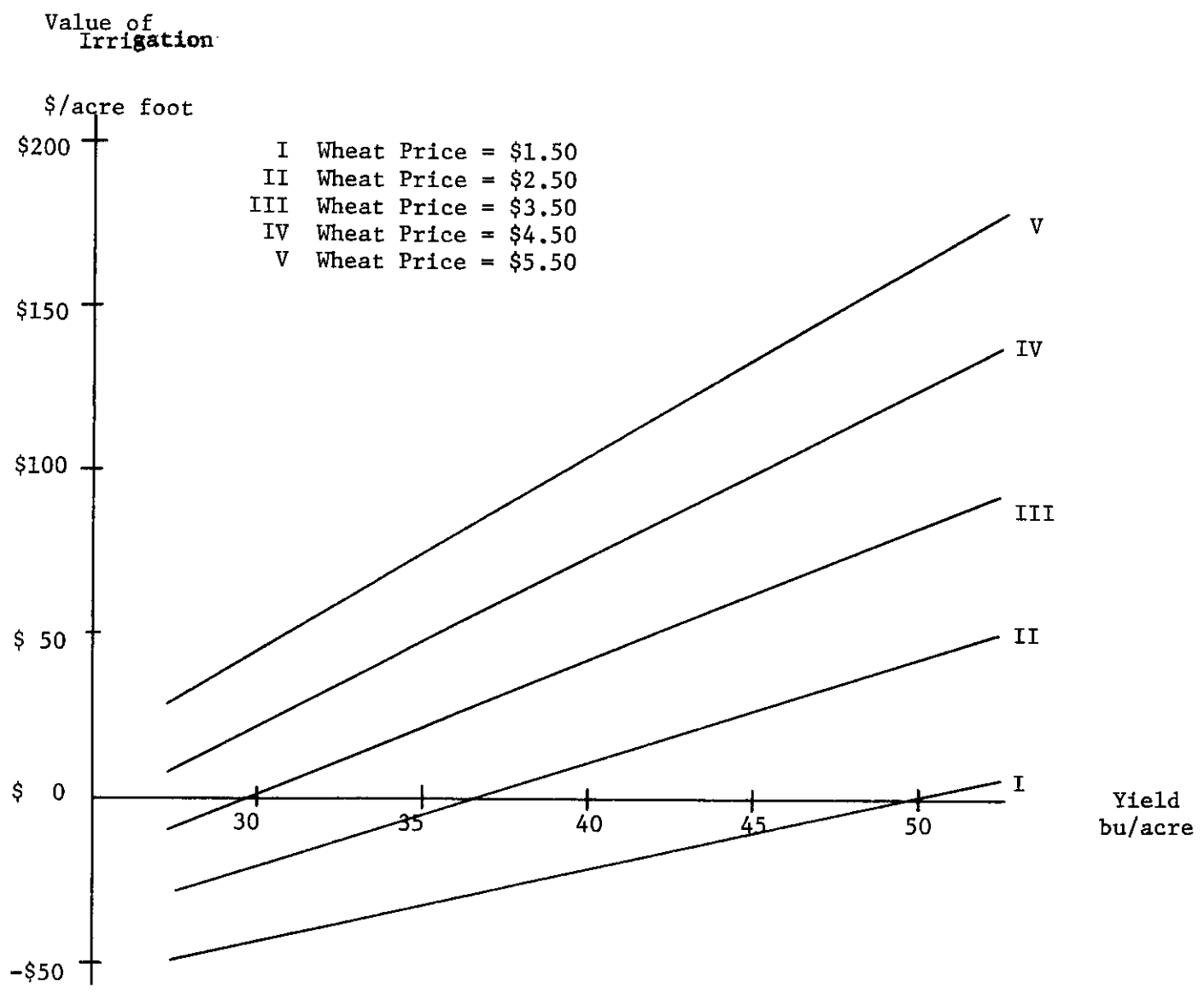


Figure Value of irrigation water applied to Wheat, furrow, in High Plains I for alternative Wheat prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS I  
WHEAT  
SPRINKLER

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		30.0	35.0	40.0	45.0	50.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-37.014	-28.575	-20.135	-11.695	-3.255
2.500	*	-19.345	-7.334	4.678	16.689	28.700
3.500	*	-1.675	13.907	29.490	45.073	60.655
4.500	*	15.994	35.148	54.302	73.457	92.611
5.500	*	33.664	56.389	79.115	101.840	124.566
-----						
10% COST INFLATION	*					
PRICES	*					
1.500	*	-46.355	-38.011	-29.667	-21.323	-12.979
2.500	*	-29.174	-17.278	-5.381	6.516	18.412
3.500	*	-11.993	3.456	18.905	34.354	49.804
4.500	*	5.188	24.189	43.191	62.193	81.195
5.500	*	22.368	44.923	67.477	90.032	112.586
-----						
20% COST INFLATION	*					
PRICES	*					
1.500	*	-55.696	-47.447	-39.199	-30.951	-22.703
2.500	*	-39.003	-27.221	-15.439	-3.658	8.124
3.500	*	-22.311	-6.995	8.320	23.636	38.952
4.500	*	-5.619	13.231	32.080	50.930	69.779
5.500	*	11.073	33.457	55.840	78.223	100.607
-----						

A DRYLAND YIELD OF 15.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

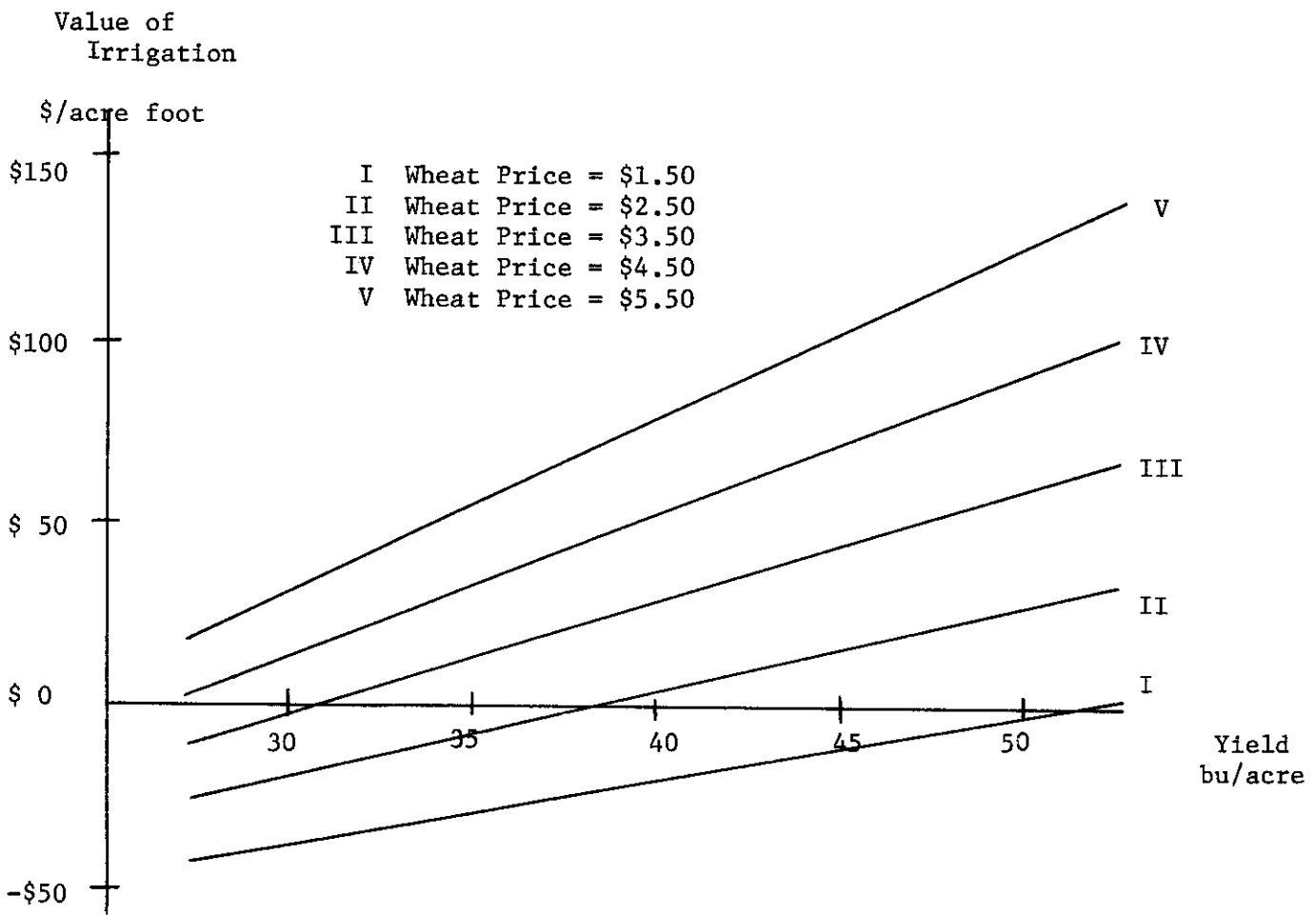


Figure Value of irrigation water applied to Wheat, sideroll sprinkler, in High Plains I for alternative Wheat prices and yields with expected 1974 costs.

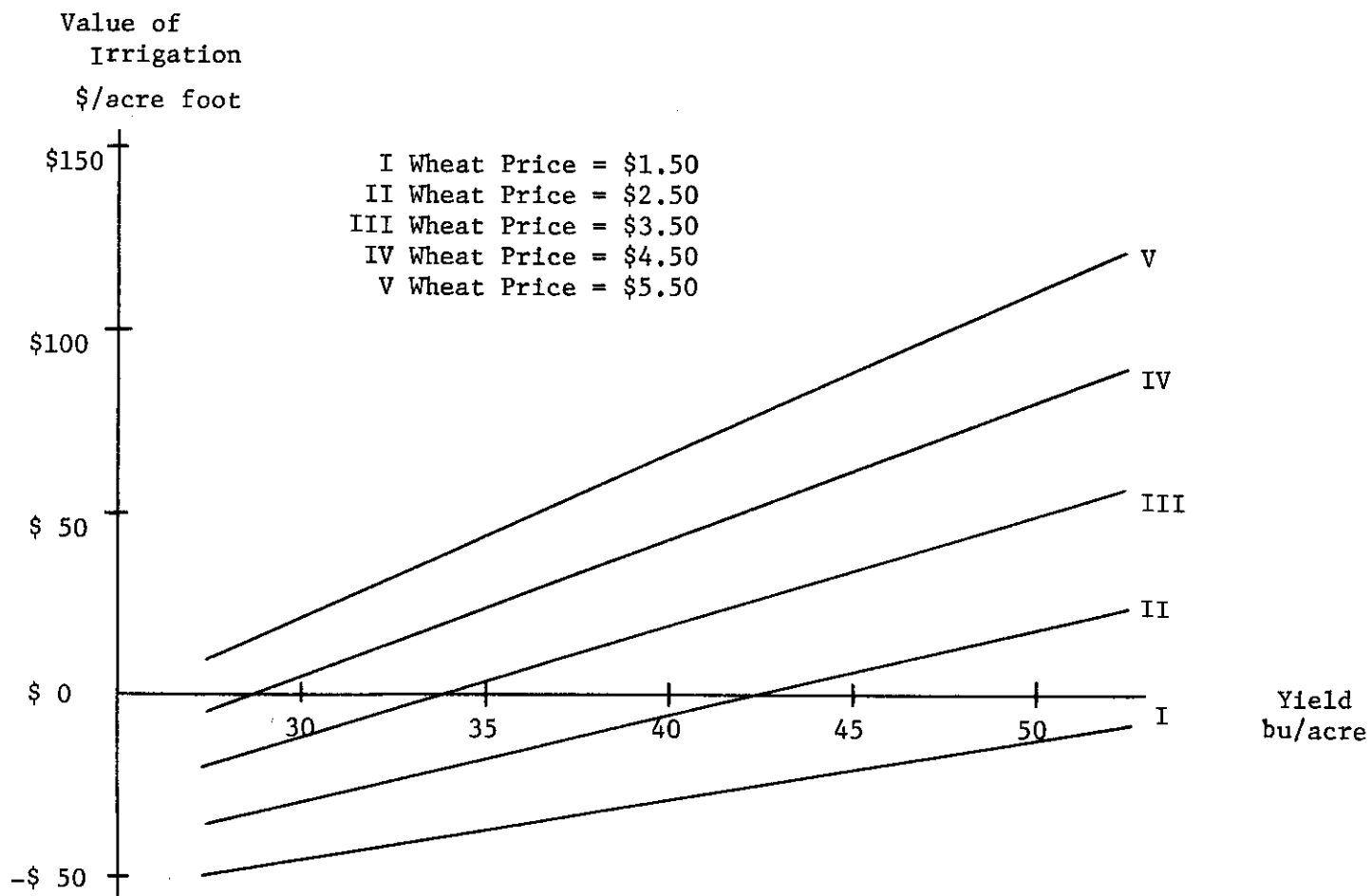


Figure Value of irrigation water applied to Wheat, sideroll sprinkler, in High Plains I for alternative Wheat prices and yields with expected 1974 costs inflated 10 percent.

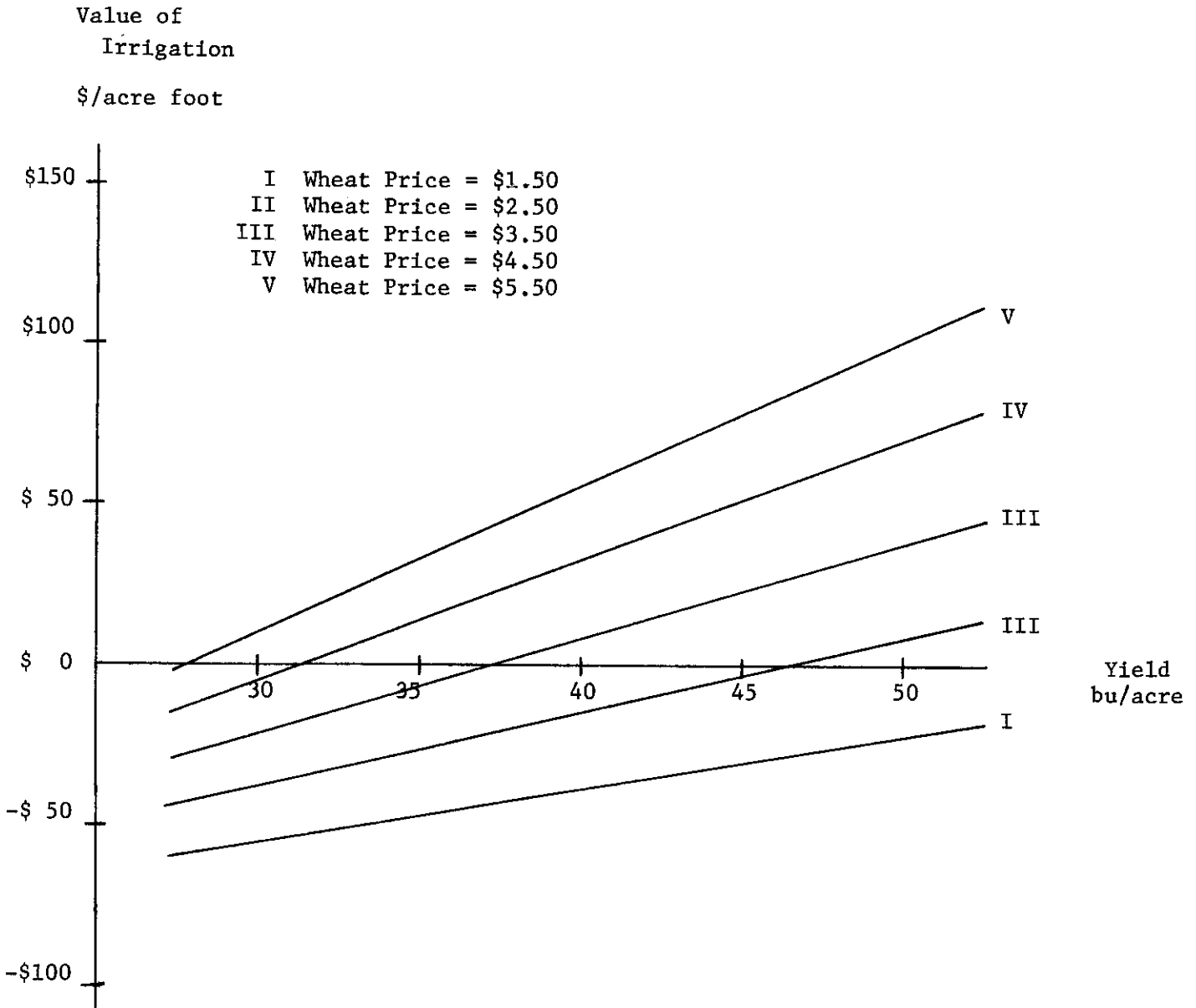
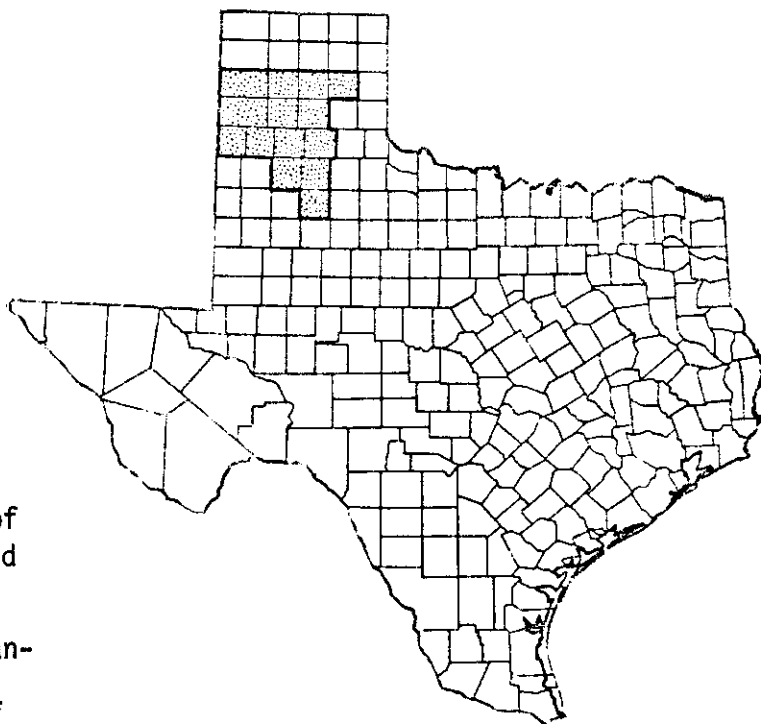


Figure Value of irrigation water applied to Wheat, sideroll sprinkler, in High Plains I for alternative Wheat prices and yields with expected 1974 costs inflated 20 percent.

# **Texas High Plains II**

## Texas High Plains II

This area includes the "hard-lands" or the Pullman Clay Soils south of the Canadian River in the Texas Panhandle.



A land charge was estimated as: (1) grain sorghum and wheat --  $\frac{1}{3}$  of the gross revenue from grain produced dryland, (2) cotton --  $\frac{1}{4}$  of gross revenue from lint produced dryland and (3) for all other crops which cannot be produced dryland, the cotton land charge based on a lint price of \$0.40 was applied. Expected dryland yields were 150 pounds of lint for cotton, 15 hundredweight for grain sorghum and 15 bushels for wheat.

The alternative yields and prices used in this analysis are presented in the following table.

Crop	Unit	Yields					Prices				
		5	6	7	8	9	20.00	30.00	40.00	50.00	60.00
Alfalfa	ton	5	6	7	8	9	20.00	30.00	40.00	50.00	60.00
Corn Grain	bu.	80	100	120	140	160	1.50	2.00	2.50	3.00	3.50
Corn Silage	ton	15	20	25	30	35	6.00	8.00	10.00	12.00	14.00
Cotton	lbs.	400	500	600	700	800	0.20	0.30	0.40	0.50	0.60
Grain sorghum	cwt.	50	60	70	80	90	2.00	2.50	3.00	3.50	4.00
Soybeans	bu.	30	35	40	45	50	3.00	4.00	5.00	6.00	7.00
Sugarbeets	ton	16	18	20	22	24	8.00	10.00	12.00	14.00	16.00
Wheat	bu.	35	40	45	50	55	1.50	2.00	2.50	3.00	3.50

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
ALFALFA

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION TONS PER ACRE				
		5.0	6.0	7.0	8.0	9.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
20.000	*	-43.485	-41.960	-40.435	-38.910	-37.385
	*					
30.000	*	-19.735	-13.460	-7.185	-0.910	5.365
	*					
40.000	*	4.015	15.040	26.065	37.090	48.115
	*					
50.000	*	27.765	43.540	59.315	75.090	90.865
	*					
60.000	*	51.515	72.040	92.565	113.090	133.615
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
20.000	*	-52.833	-52.156	-51.478	-50.801	-50.123
	*					
30.000	*	-29.208	-23.806	-18.403	-13.001	-7.598
	*					
40.000	*	-5.583	4.544	14.672	24.799	34.927
	*					
50.000	*	18.042	32.894	47.747	62.599	77.452
	*					
60.000	*	41.667	61.244	80.822	100.399	119.977
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
20.000	*	-62.182	-62.352	-62.522	-62.692	-62.862
	*					
30.000	*	-38.682	-34.152	-29.622	-25.092	-20.562
	*					
40.000	*	-15.182	-5.952	3.278	12.508	21.738
	*					
50.000	*	8.318	22.248	36.178	50.108	64.038
	*					
60.000	*	31.818	50.448	69.078	87.708	106.338
	*					
-----						

A DRYLAND RETURN OF 15.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



Value of  
Irrigation  
\$/acre foot

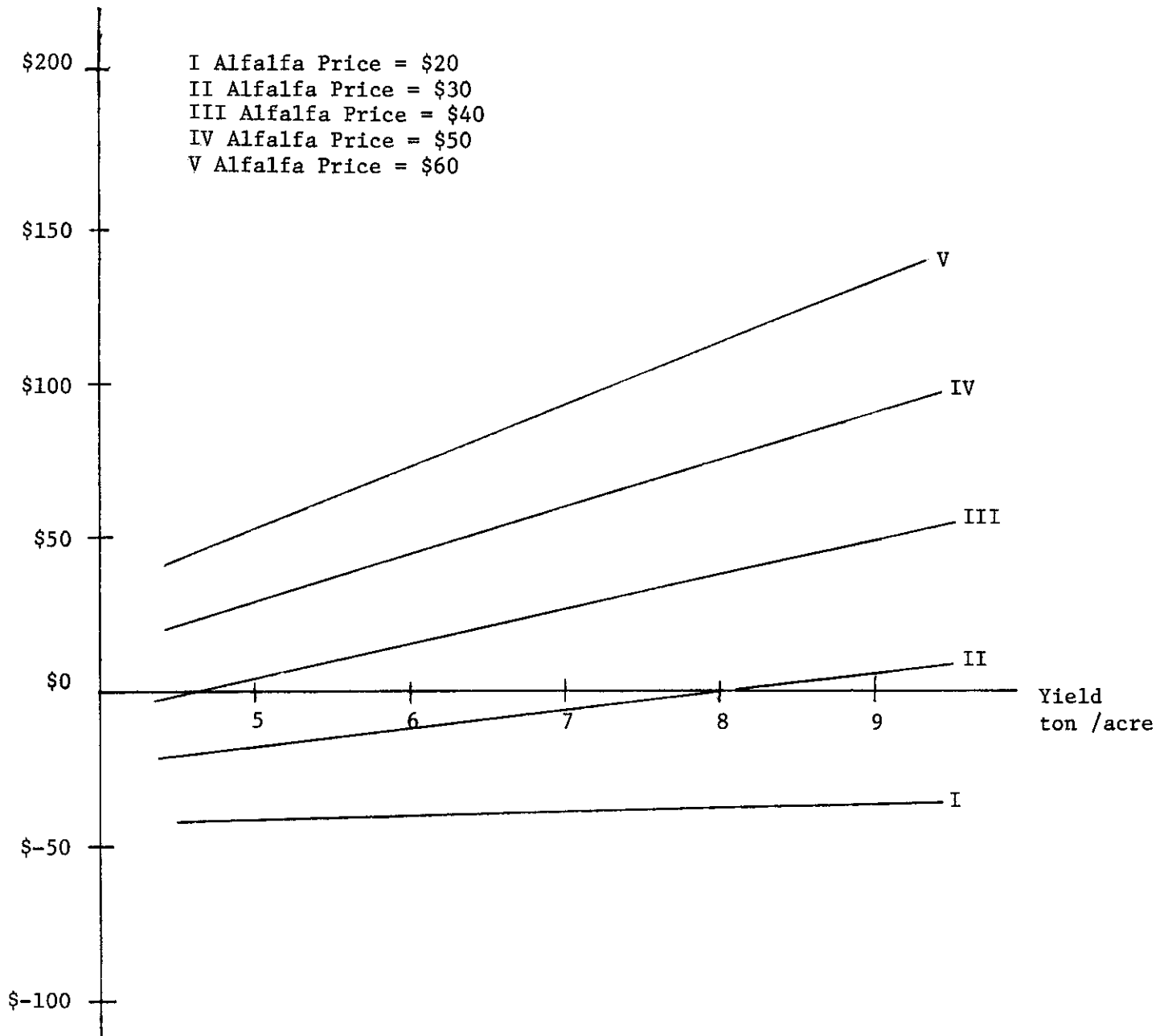


Figure . Value of irrigation water applied to Alfalfa in High Plains II for alternative Alfalfa prices and yields with expected 1974 costs.

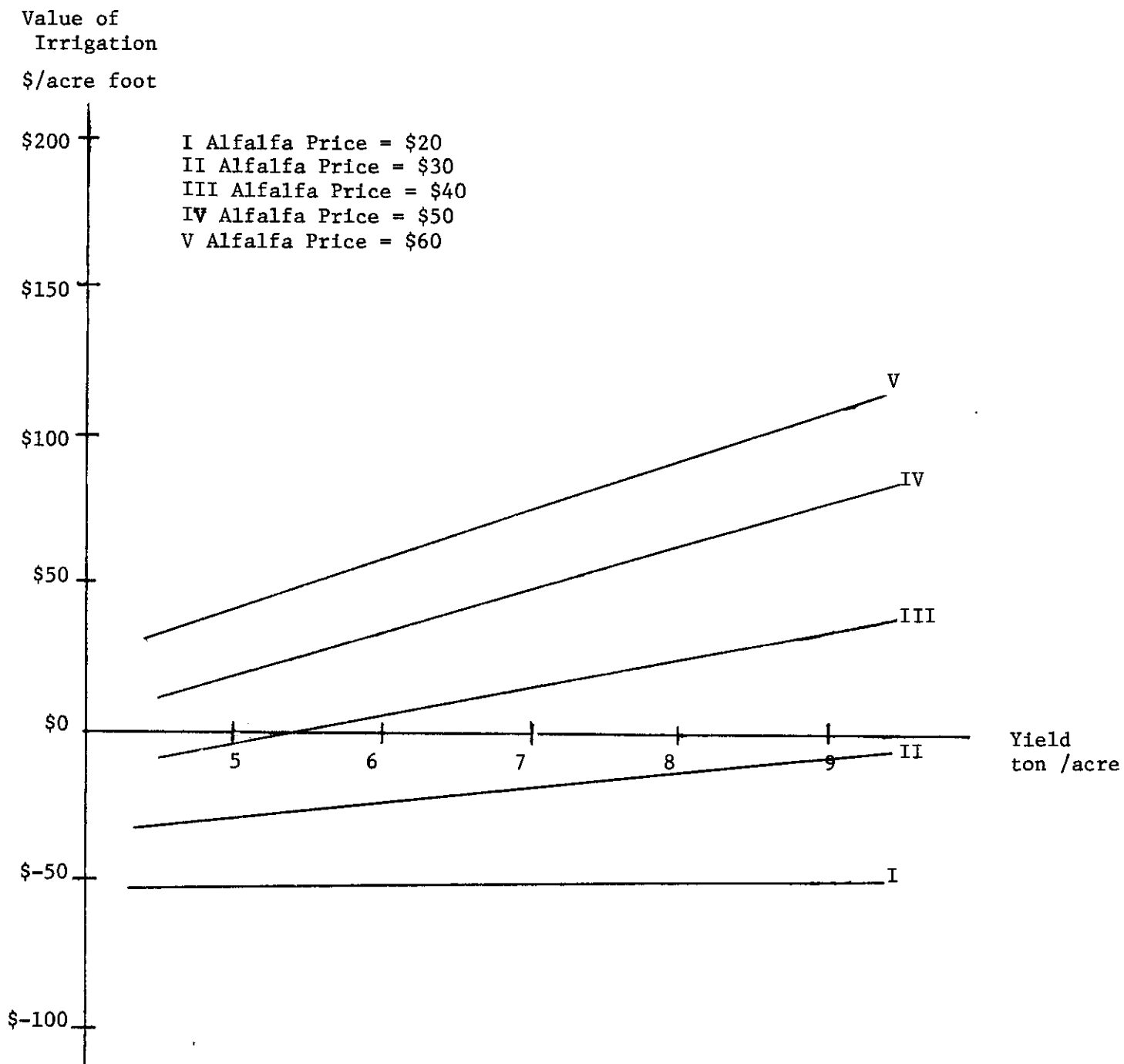


Figure . Value of irrigation water applied to Alfalfa in High Plains II for alternative Alfalfa prices and yields with expected 1974 costs inflated 10 percent.

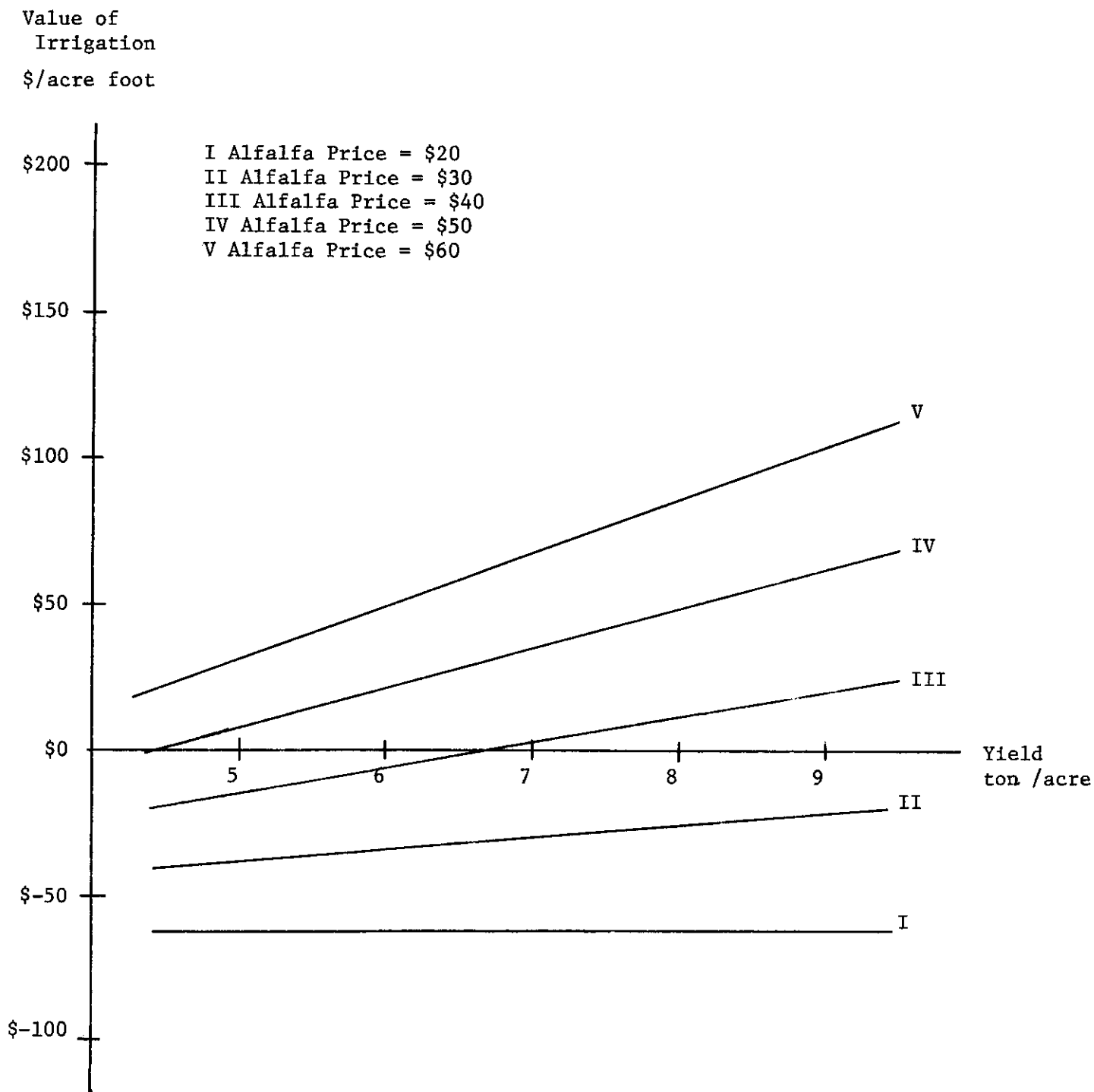


Figure . Value of irrigation water applied to Alfalfa in High Plains II for alternative Alfalfa prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
CORN GRAIN

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		80.0	100.0	120.0	140.0	160.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-35.987	-22.987	-9.987	3.013	16.013
2.000	*	-10.653	8.680	28.013	47.347	66.680
2.500	*	14.680	40.347	66.013	91.680	117.347
3.000	*	40.013	72.013	104.013	136.013	168.013
3.500	*	65.347	103.680	142.013	180.347	218.680
-----						
10% COST INFLATION	*					
PRICES	*					
1.500	*	-47.585	-35.285	-22.985	-10.685	1.615
2.000	*	-22.385	-3.785	14.815	33.415	52.015
2.500	*	2.815	27.715	52.615	77.515	102.415
3.000	*	28.015	59.215	90.415	121.615	152.815
3.500	*	53.215	90.715	128.215	165.715	203.215
-----						
20% COST INFLATION	*					
PRICES	*					
1.500	*	-59.184	-47.584	-35.984	-24.384	-12.784
2.000	*	-34.117	-16.251	1.616	19.483	37.349
2.500	*	-9.051	15.083	39.216	63.349	87.483
3.000	*	16.016	46.416	76.816	107.216	137.616
3.500	*	41.083	77.749	114.416	151.083	187.750

A DRYLAND RETURN OF 15.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of  
Irrigation  
\$/acre foot

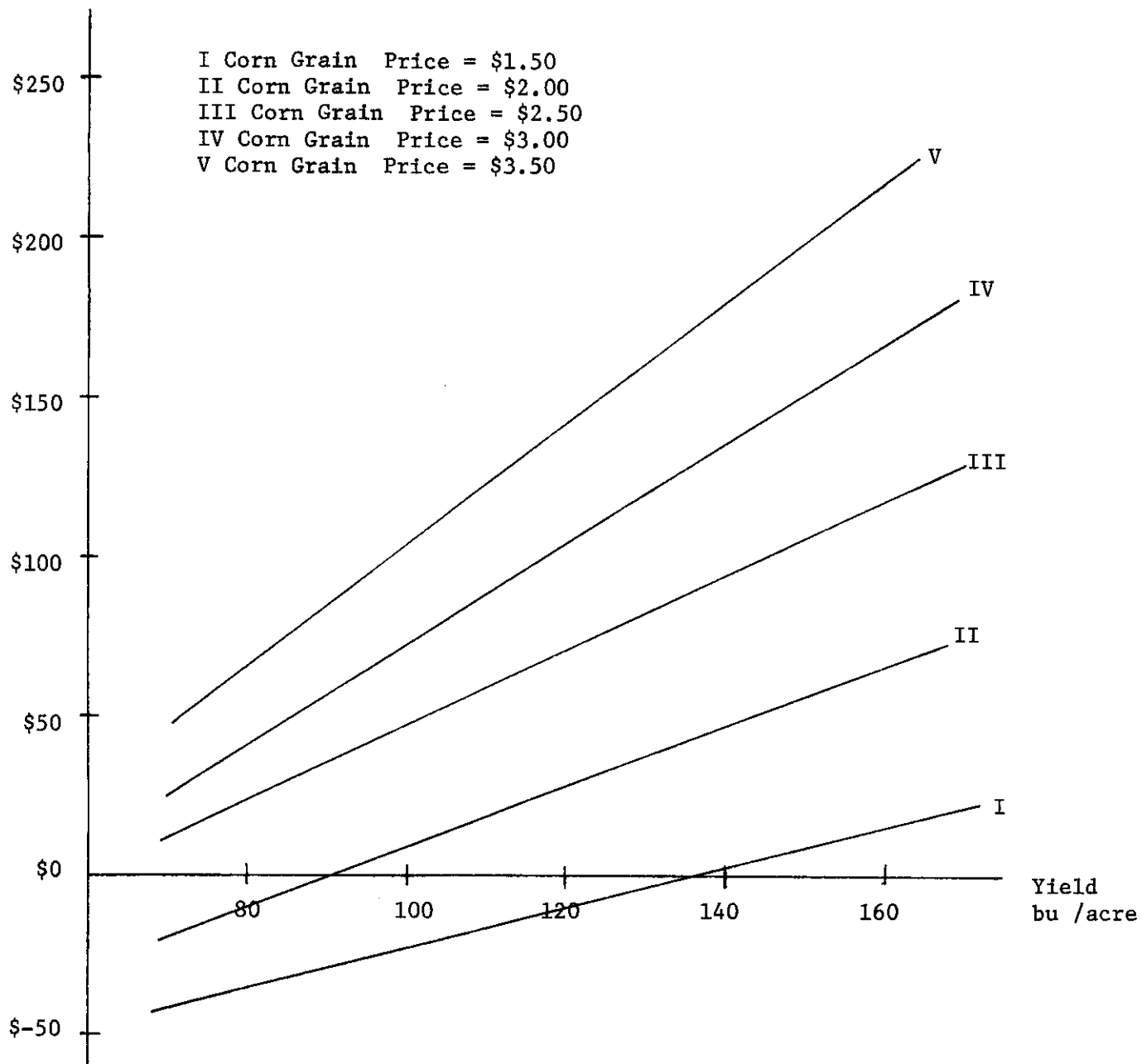


Figure Value of irrigation water applied to Corn for Grain in High Plains II for alternative Corn prices and yields with expected 1974 costs.

Value of  
Irrigation  
\$/acre foot

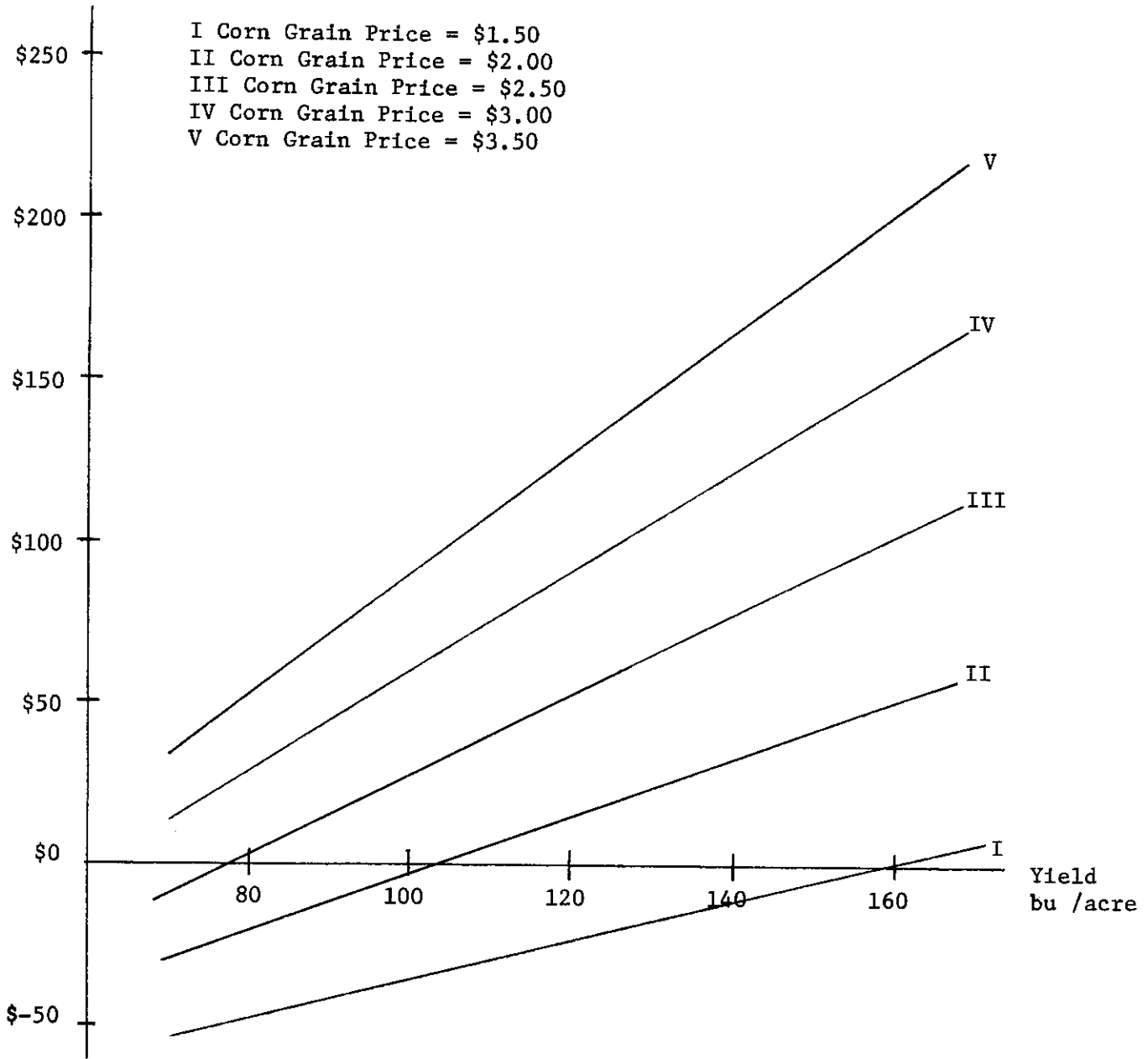


Figure Value of irrigation water applied to Corn for Grain in High Plains II for alternative Corn prices and yields with expected 1974 costs inflated 10 percent.

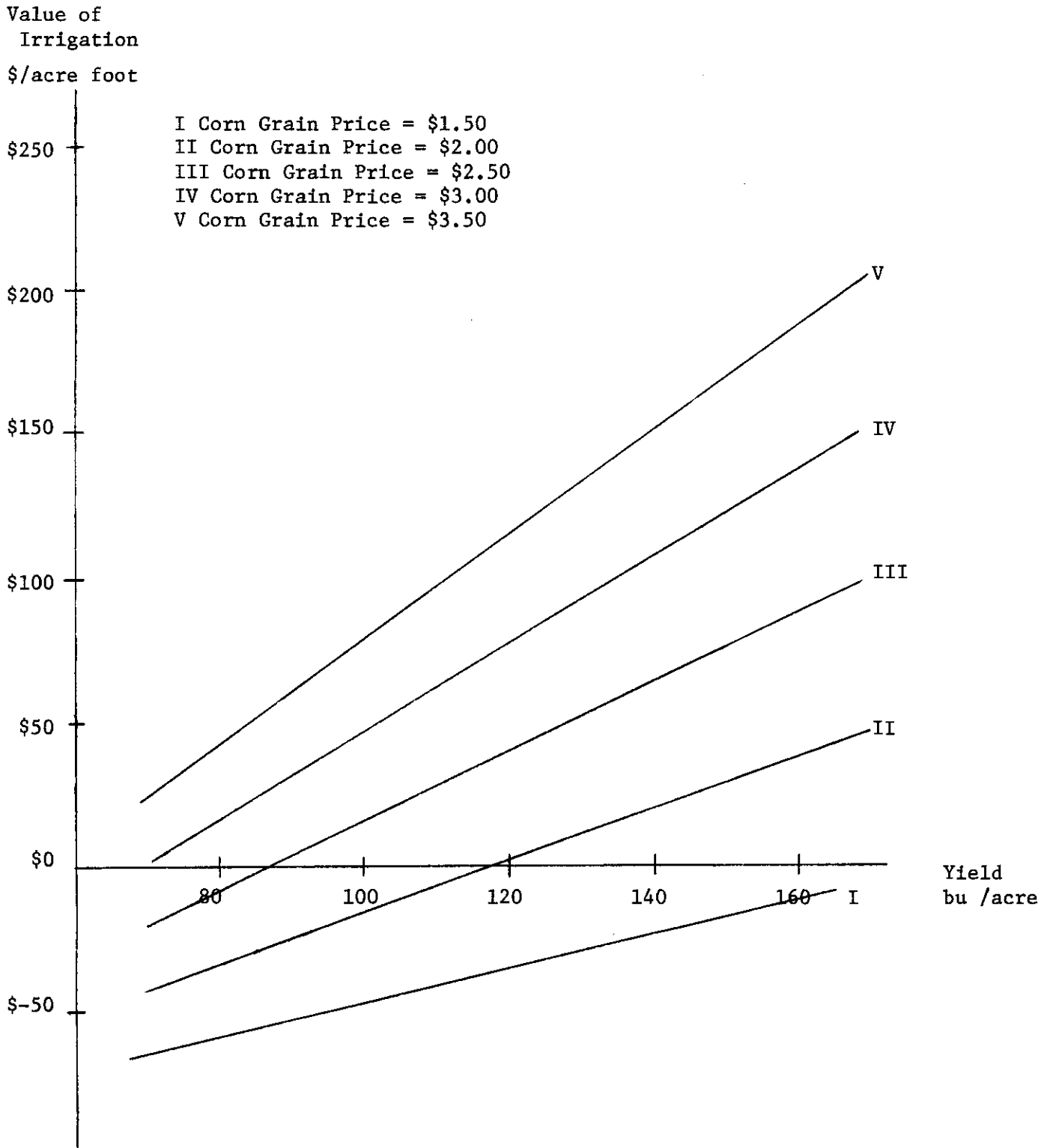


Figure Value of irrigation water applied to Corn for Grain in High Plains II for alternative Corn prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
CORN SILAGE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		15.0	20.0	25.0	30.0	35.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
6.000	*	-27.933	-8.933	10.067	29.067	48.067
8.000	*	-8.933	16.400	41.733	67.067	92.400
10.000	*	10.067	41.733	73.400	105.067	136.733
12.000	*	29.067	67.067	105.067	143.067	181.067
14.000	*	48.067	92.400	136.733	181.067	225.400
-----						
10% COST INFLATION	*					
PRICES	*					
6.000	*	-36.727	-17.827	1.073	19.973	38.873
8.000	*	-17.827	7.373	32.573	57.773	82.973
10.000	*	1.073	32.573	64.073	95.573	127.073
12.000	*	19.973	57.773	95.573	133.373	171.173
14.000	*	38.873	82.973	127.073	171.173	215.273
-----						
20% COST INFLATION	*					
PRICES	*					
6.000	*	-45.520	-26.720	-7.920	10.880	29.680
8.000	*	-26.720	-1.653	23.413	48.480	73.547
10.000	*	-7.920	23.413	54.747	86.080	117.413
12.000	*	10.880	48.480	86.080	123.680	161.280
14.000	*	29.680	73.547	117.413	161.280	205.147
-----						

A DRYLAND RETURN OF 15.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



Value of  
Irrigation  
\$/acre foot

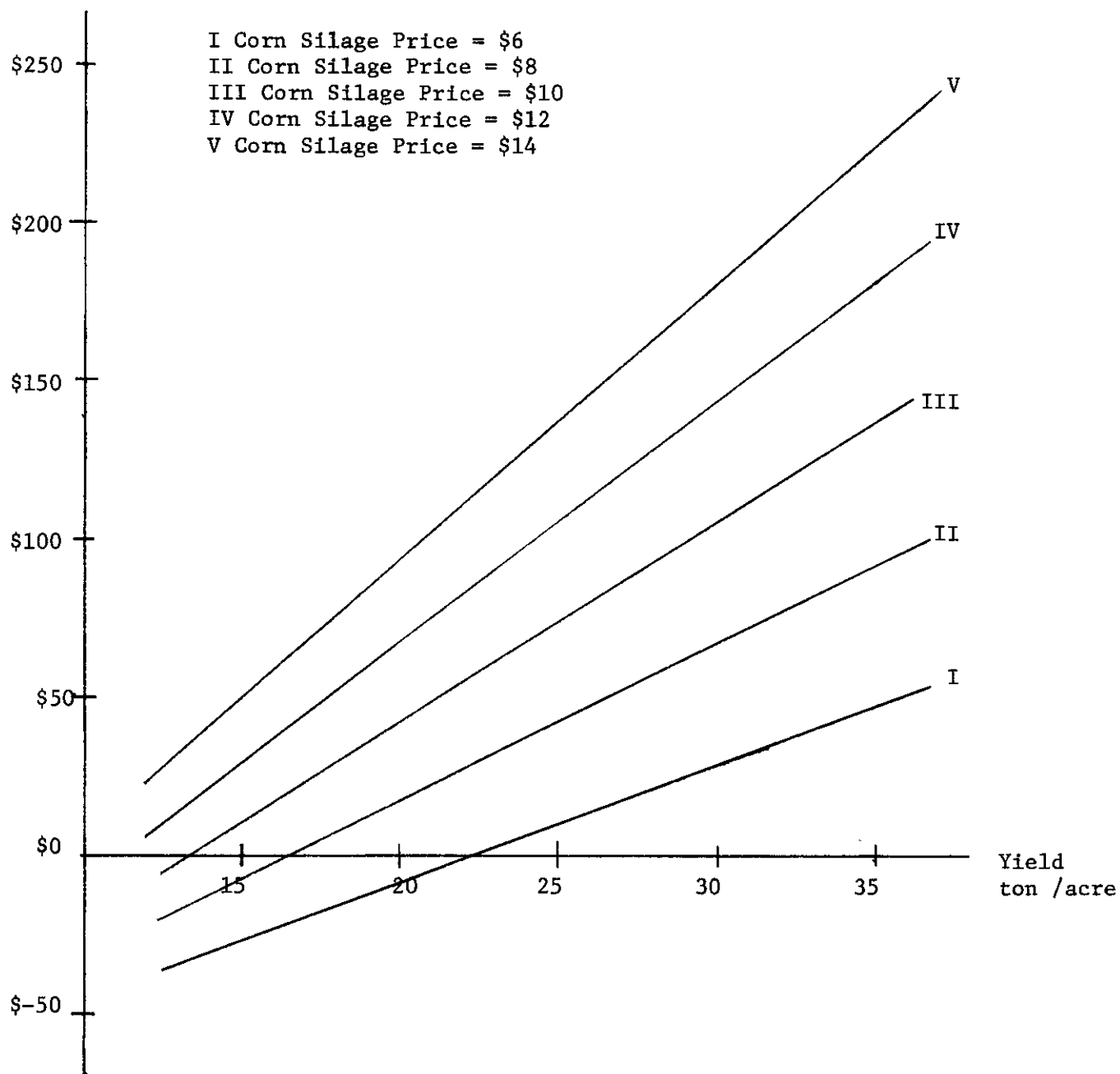


Figure . Value of irrigation water applied to Corn Silage in High Plains II for alternative Corn Silage prices and yields with expected 1974 costs.

Value of  
Irrigation  
\$/acre foot

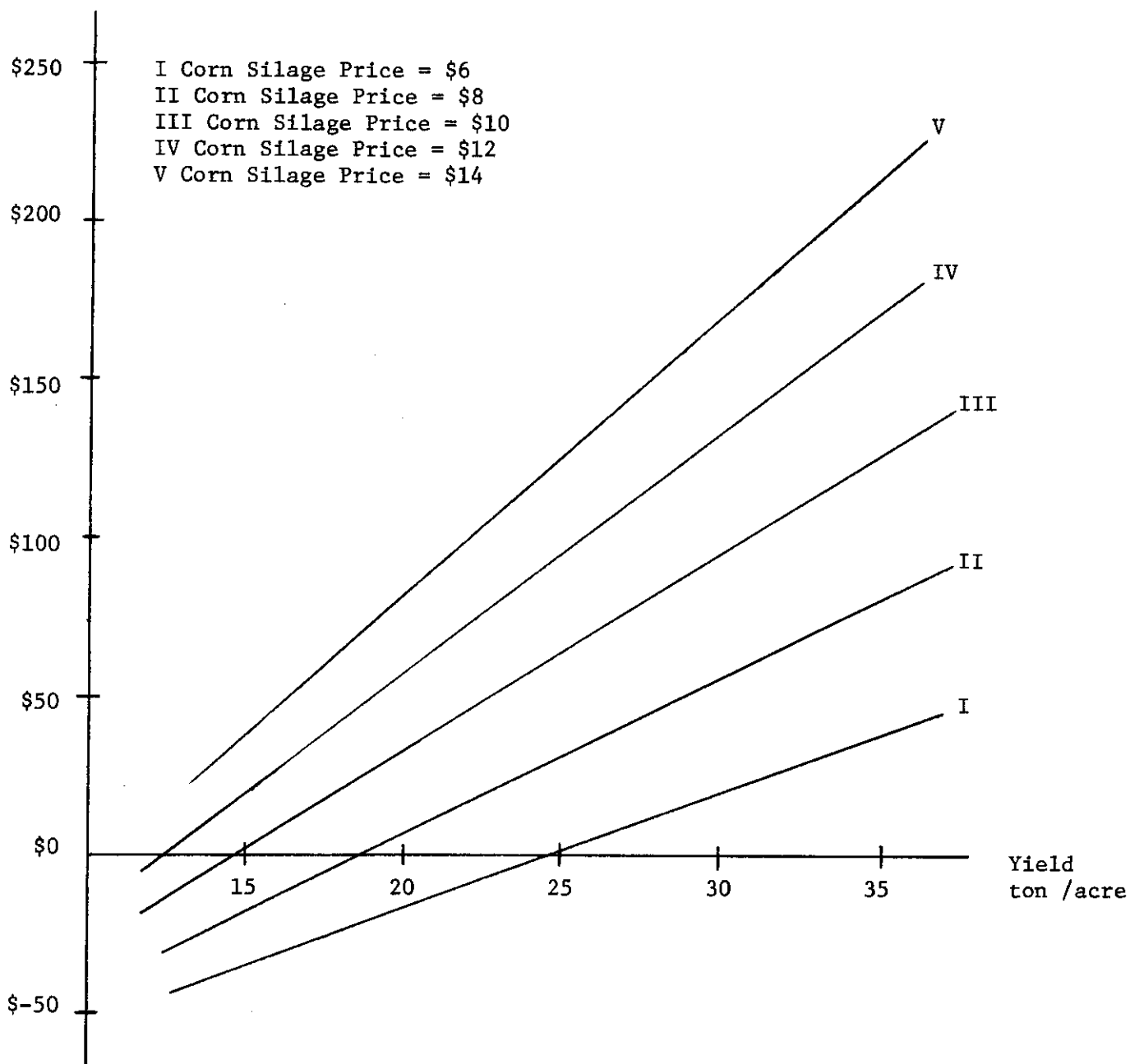


Figure . Value of irrigation water applied to Corn Silage in High Plains II for alternative Corn Silage prices and yields with expected 1974 costs inflated 10 percent.

Value of  
Irrigation  
\$/ acre foot

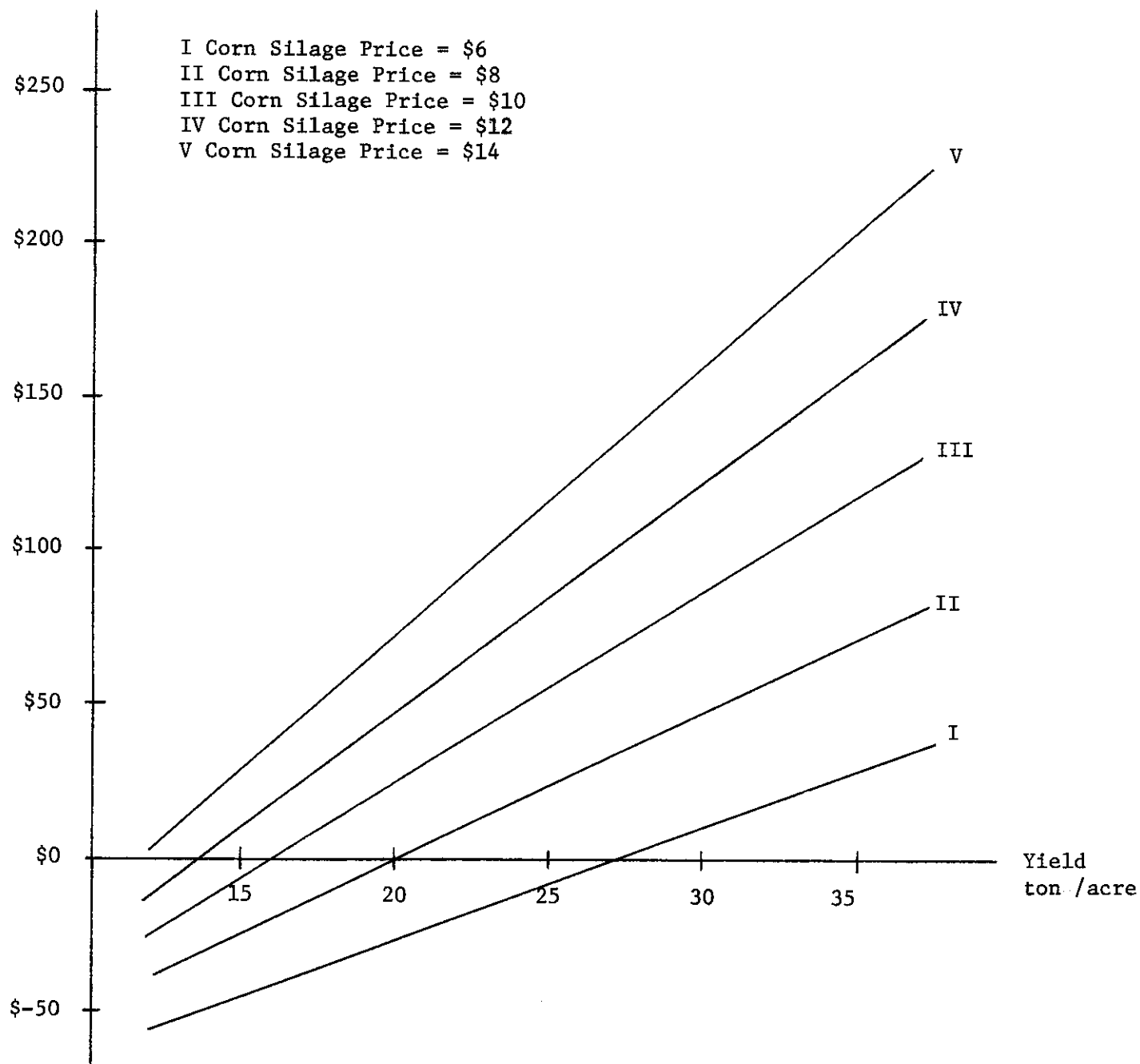


Figure . Value of irrigation water applied to Corn Silage in High Plains II for alternative Corn Silage prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
COTTON

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		400.0	500.0	600.0	700.0	800.0
	*					
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-40.538	-27.615	-14.692	-1.769	11.154
0.300	*	-11.265	9.778	30.821	51.863	72.906
0.400	*	18.009	47.171	76.333	105.496	134.658
0.500	*	47.282	84.564	121.846	159.128	196.410
0.600	*	76.556	121.957	167.359	212.761	258.162
	*					
10% COST INFLATION	*					
PRICES	*					
0.200	*	-53.071	-40.975	-28.879	-16.784	-4.688
0.300	*	-24.289	-4.116	16.056	36.229	56.402
0.400	*	4.493	32.743	60.992	89.242	117.491
0.500	*	33.275	69.602	105.928	142.255	178.581
0.600	*	62.057	106.461	150.864	195.267	239.671
	*					
20% COST INFLATION	*					
PRICES	*					
0.200	*	-65.603	-54.335	-43.067	-31.798	-20.530
0.300	*	-37.313	-18.010	1.292	20.595	39.897
0.400	*	-9.022	18.315	45.651	72.988	100.325
0.500	*	19.268	54.639	90.010	125.381	160.752
0.600	*	47.559	90.964	134.369	177.774	221.179
	*					

A DRYLAND YIELD OF 150.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

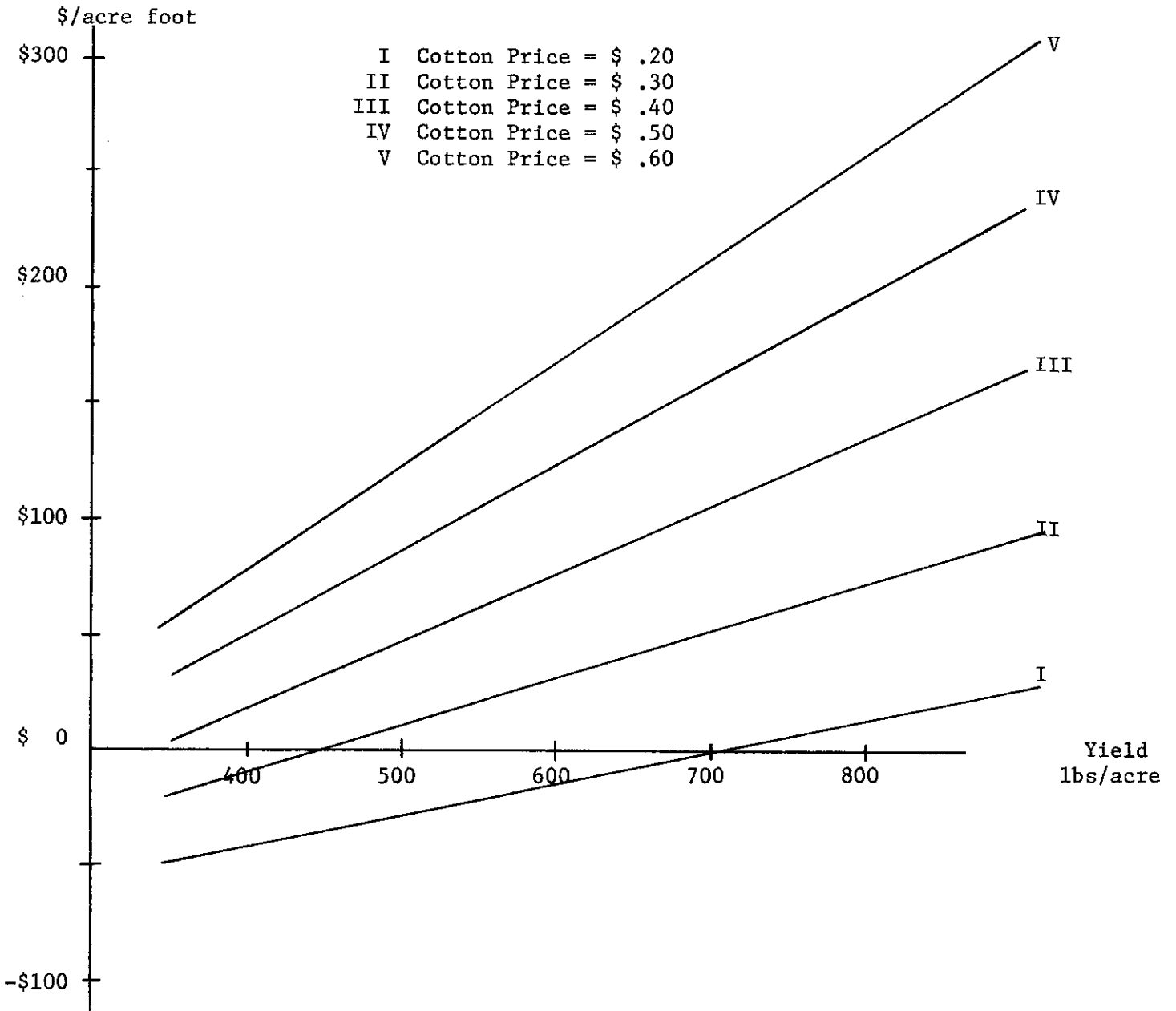


Figure Value of irrigation water applied to Cotton in High Plains II for alternative Cotton prices and yields with expected 1974 costs.

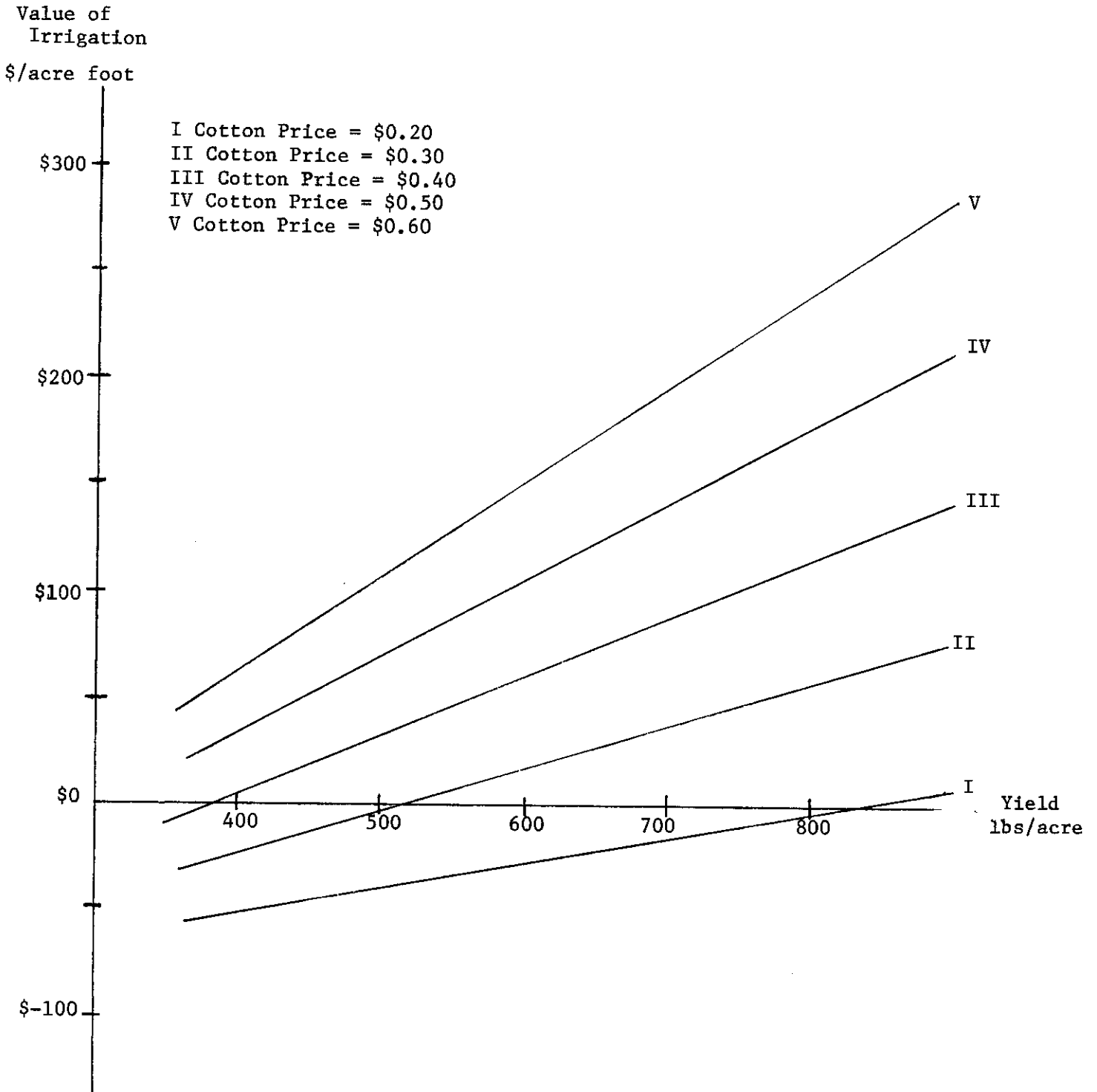


Figure . Value of irrigation water applied to Cotton in High Plains II for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

Value of  
Irrigation  
\$/acre foot

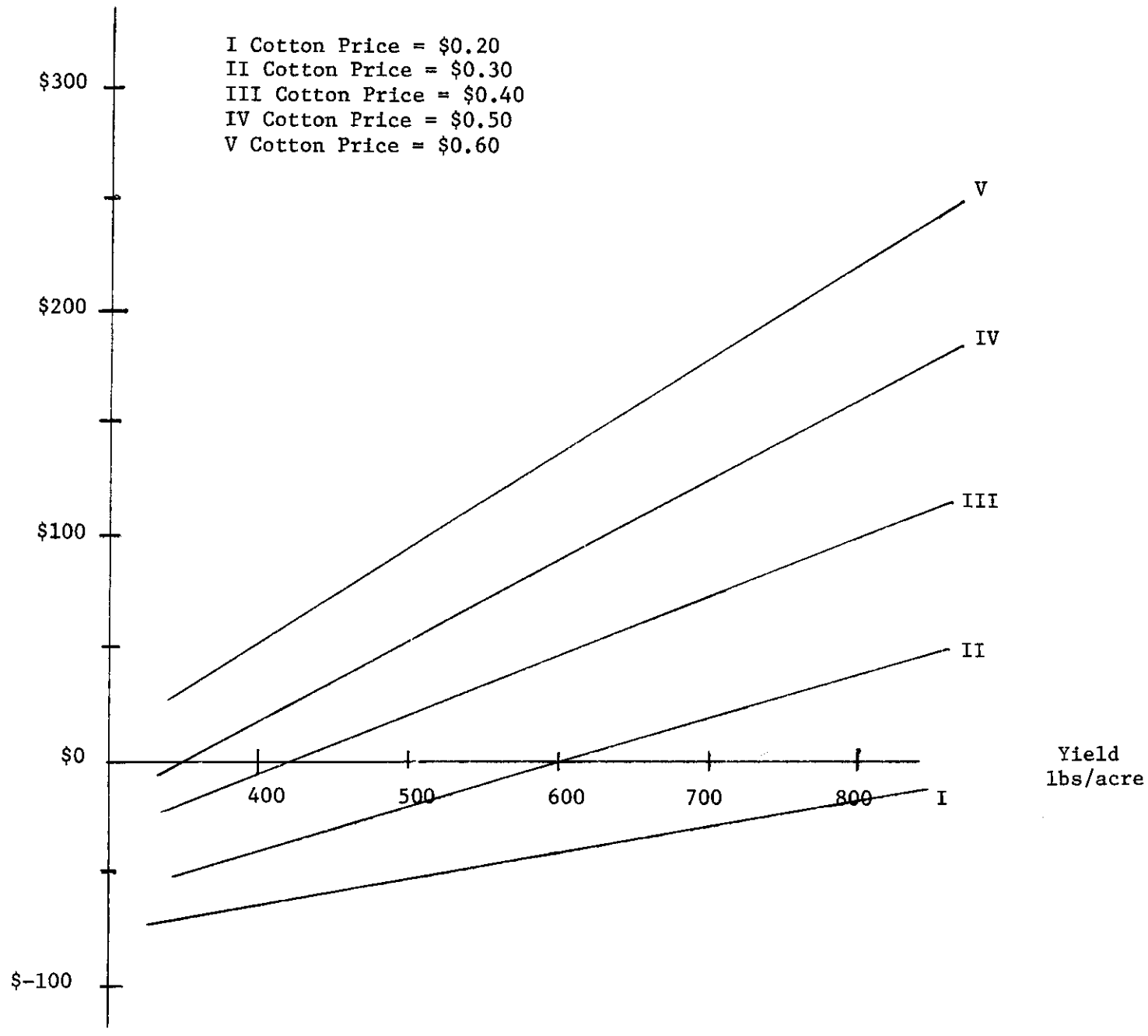


Figure . Value of irrigation water applied to Cotton in High Plains II for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
GRAIN SORGHUM

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		50.0	60.0	70.0	80.0	90.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-33.800	-24.267	-14.733	-5.200	4.333
2.500	*	-19.617	-6.917	5.783	18.483	31.183
3.000	*	-5.433	10.433	26.300	42.167	58.033
3.500	*	8.750	27.783	46.817	65.850	84.883
4.000	*	22.933	45.133	67.333	89.533	111.733
-----						
10% COST INFLATION	*					
PRICES	*					
2.000	*	-43.847	-34.693	-25.540	-16.387	-7.233
2.500	*	-29.912	-17.608	-5.305	6.998	19.302
3.000	*	-15.977	-0.523	14.930	30.383	45.837
3.500	*	-2.042	16.562	35.165	53.768	72.372
4.000	*	11.893	33.647	55.400	77.153	98.907
-----						
20% COST INFLATION	*					
PRICES	*					
2.000	*	-53.893	-45.120	-36.347	-27.573	-18.800
2.500	*	-40.207	-28.300	-16.393	-4.487	7.420
3.000	*	-26.520	-11.480	3.560	18.600	33.640
3.500	*	-12.833	5.340	23.513	41.687	59.860
4.000	*	0.853	22.160	43.467	64.773	86.080
-----						

A DRYLAND YIELD OF 15.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



Value of  
Irrigation  
\$/acre foot

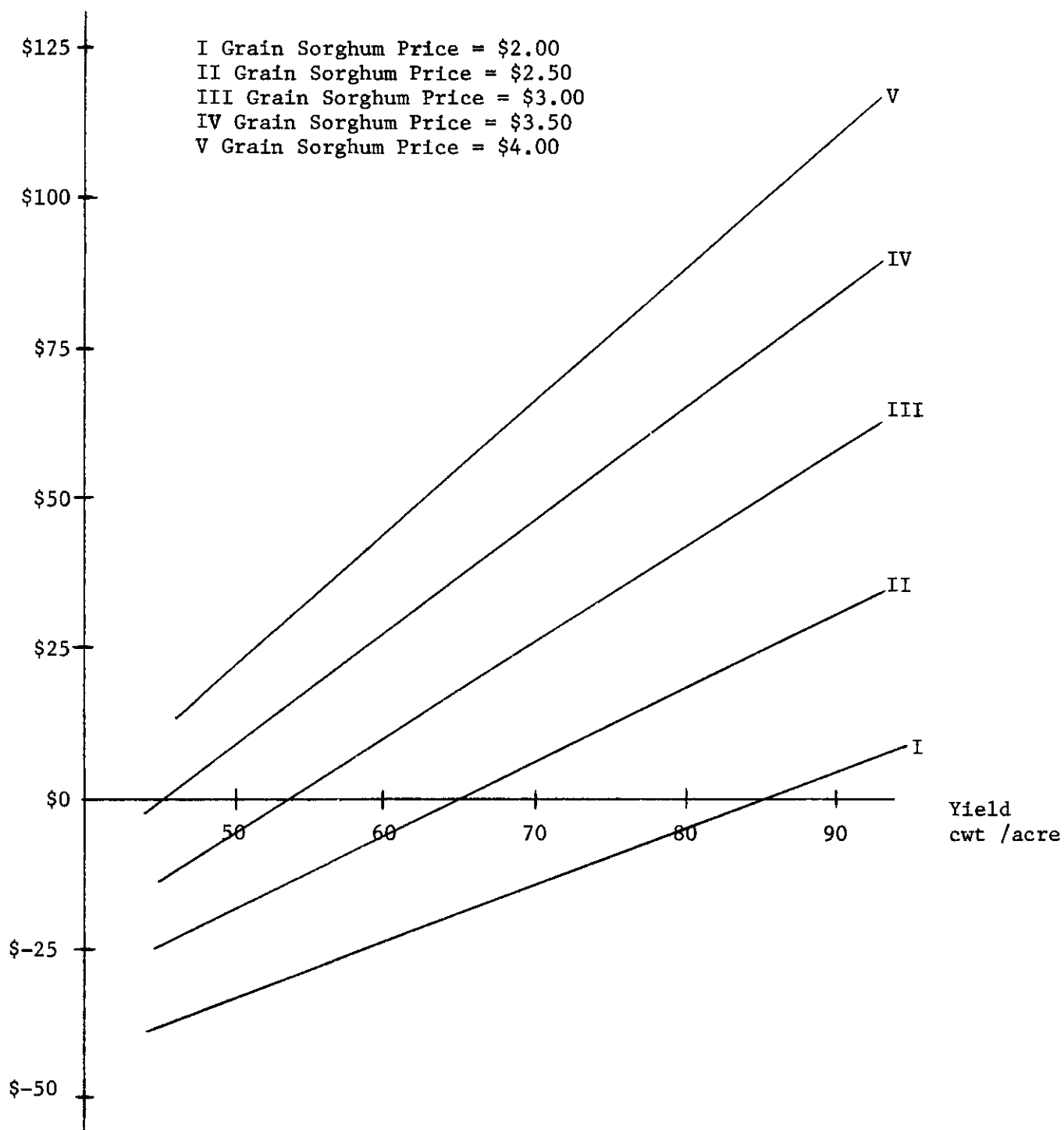


Figure . Value of irrigation water applied to Grain Sorghum in High Plains II for alternative Grain Sorghum prices and yields with expected 1974 costs.

Value of  
Irrigation  
\$/acre foot

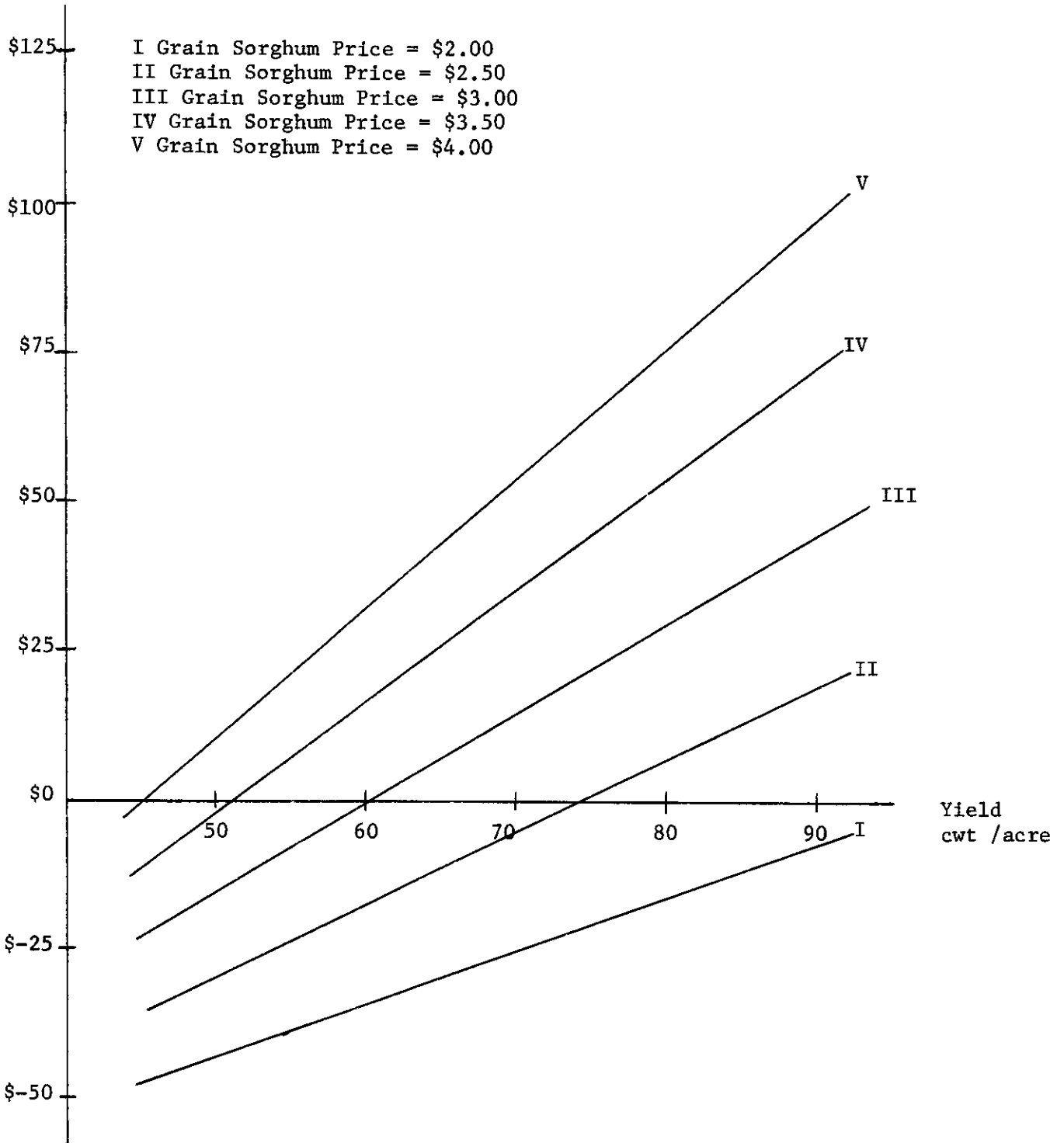


Figure . Value of irrigation water applied to Grain Sorghum in High Plains II for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

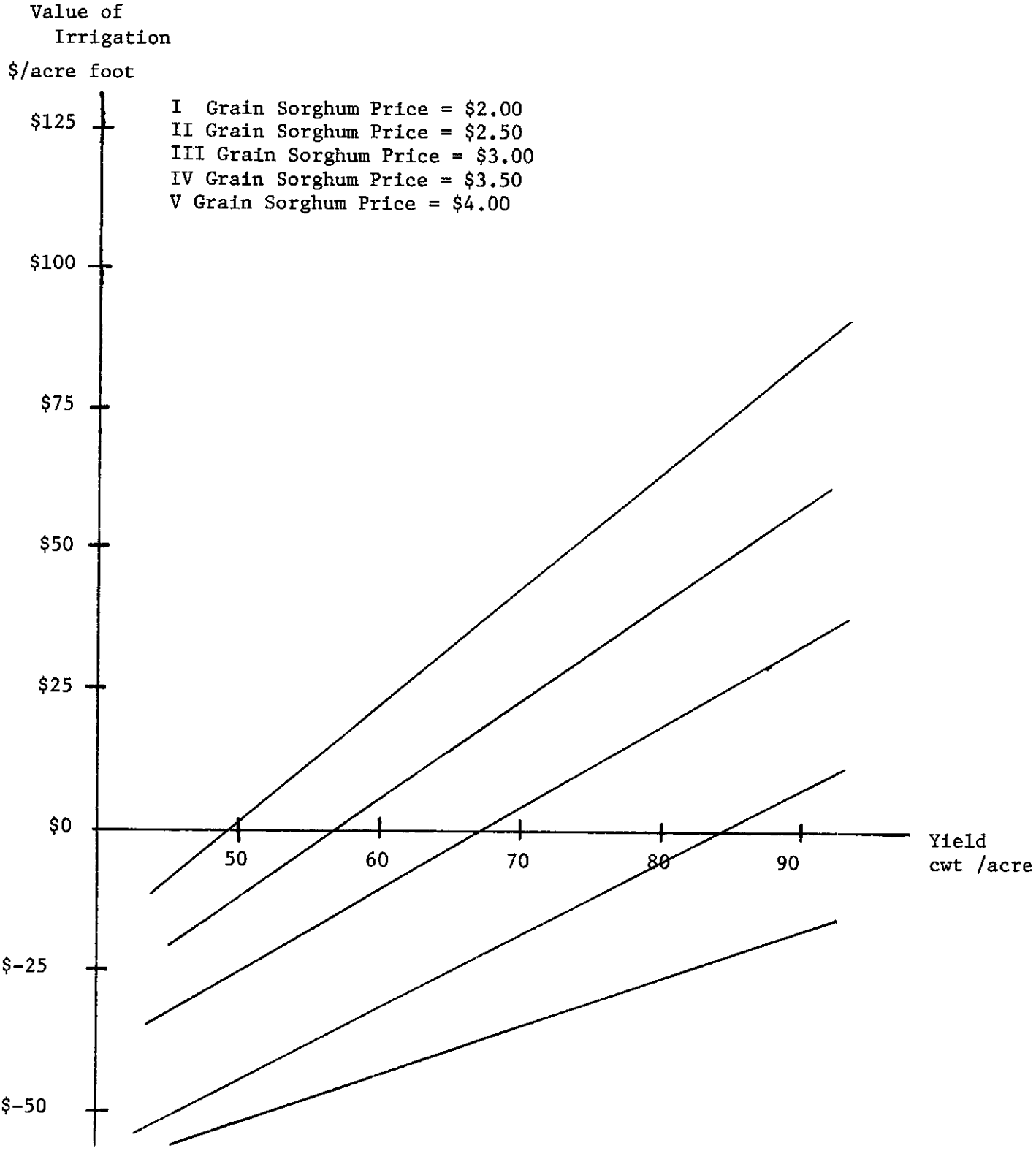


Figure . Value of irrigation water applied to Grain Sorghum in High Plains II for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS 11  
SOYBEANS

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		30.0	35.0	40.0	45.0	50.0
PRODUCTION COSTS 1974	*					
PRICES	*					
3.000	*	-18.188	-6.308	5.573	17.453	29.333
4.000	*	6.171	22.111	38.051	53.991	69.932
5.000	*	30.530	50.530	70.530	90.530	110.530
6.000	*	54.889	78.949	103.009	127.068	151.128
7.000	*	79.248	107.368	135.487	163.607	191.727
10% COST INFLATION	*					
PRICES	*					
3.000	*	-27.699	-15.913	-4.126	7.660	19.446
4.000	*	-3.468	12.356	28.181	44.006	59.831
5.000	*	20.762	40.626	60.489	80.352	100.215
6.000	*	44.993	68.895	92.797	116.698	140.600
7.000	*	69.224	97.164	125.104	153.044	180.985
20% COST INFLATION	*					
PRICES	*					
3.000	*	-37.210	-25.518	-13.826	-2.133	9.559
4.000	*	-13.108	2.602	18.311	34.021	49.730
5.000	*	10.995	30.721	50.448	70.174	89.901
6.000	*	35.097	58.841	82.585	106.328	130.072
7.000	*	59.200	86.961	114.721	142.482	170.243

A DRYLAND RETURN OF 15.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of  
Irrigation  
\$/acre foot

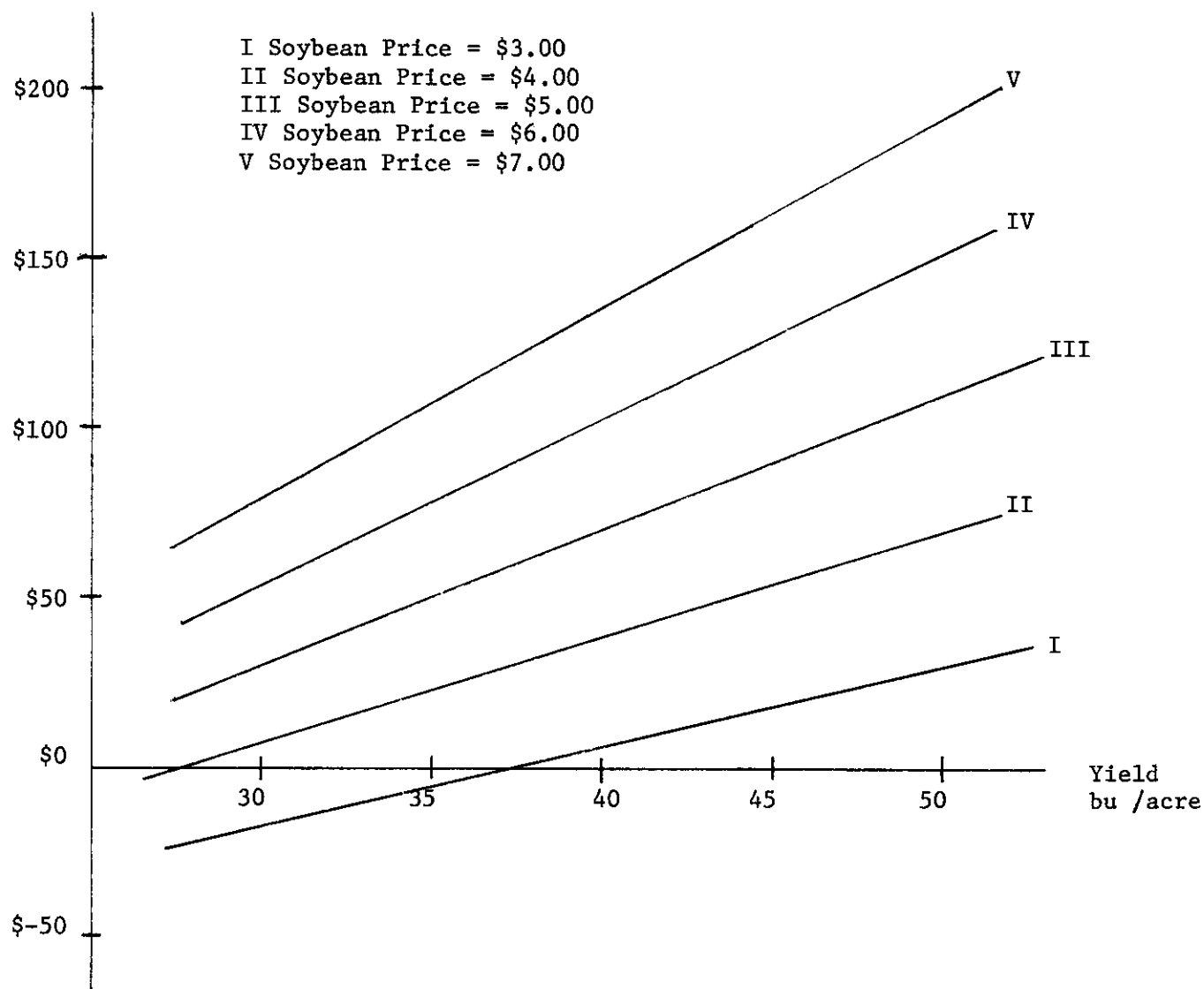


Figure . Value of irrigation water applied to Soybeans in High Plains II for alternative Soybean prices and yields with expected 1974 costs.

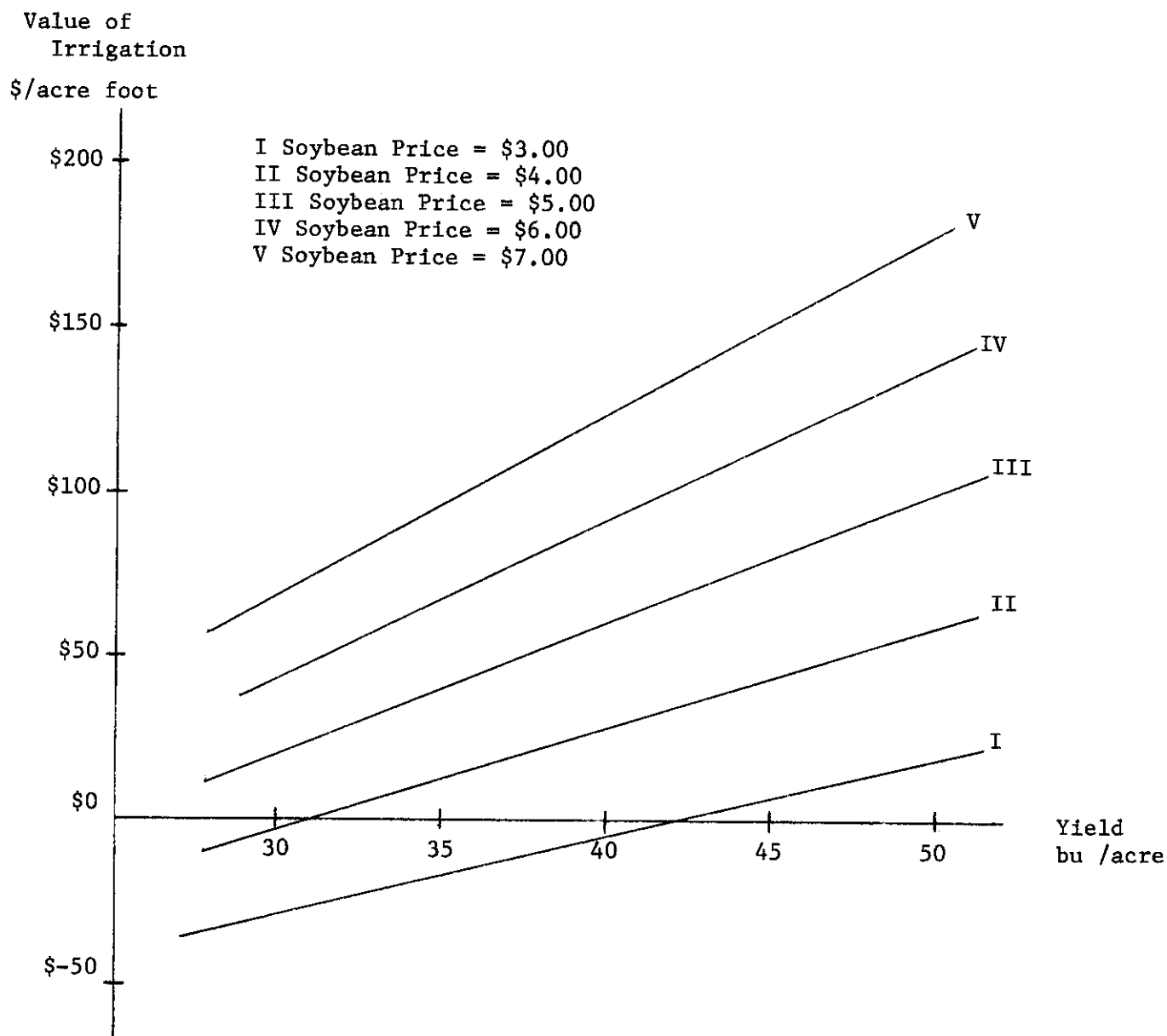


Figure . Value of irrigation water applied to Soybeans in High Plains II for alternative Soybean prices and yields with expected 1974 costs inflated 10 percent.

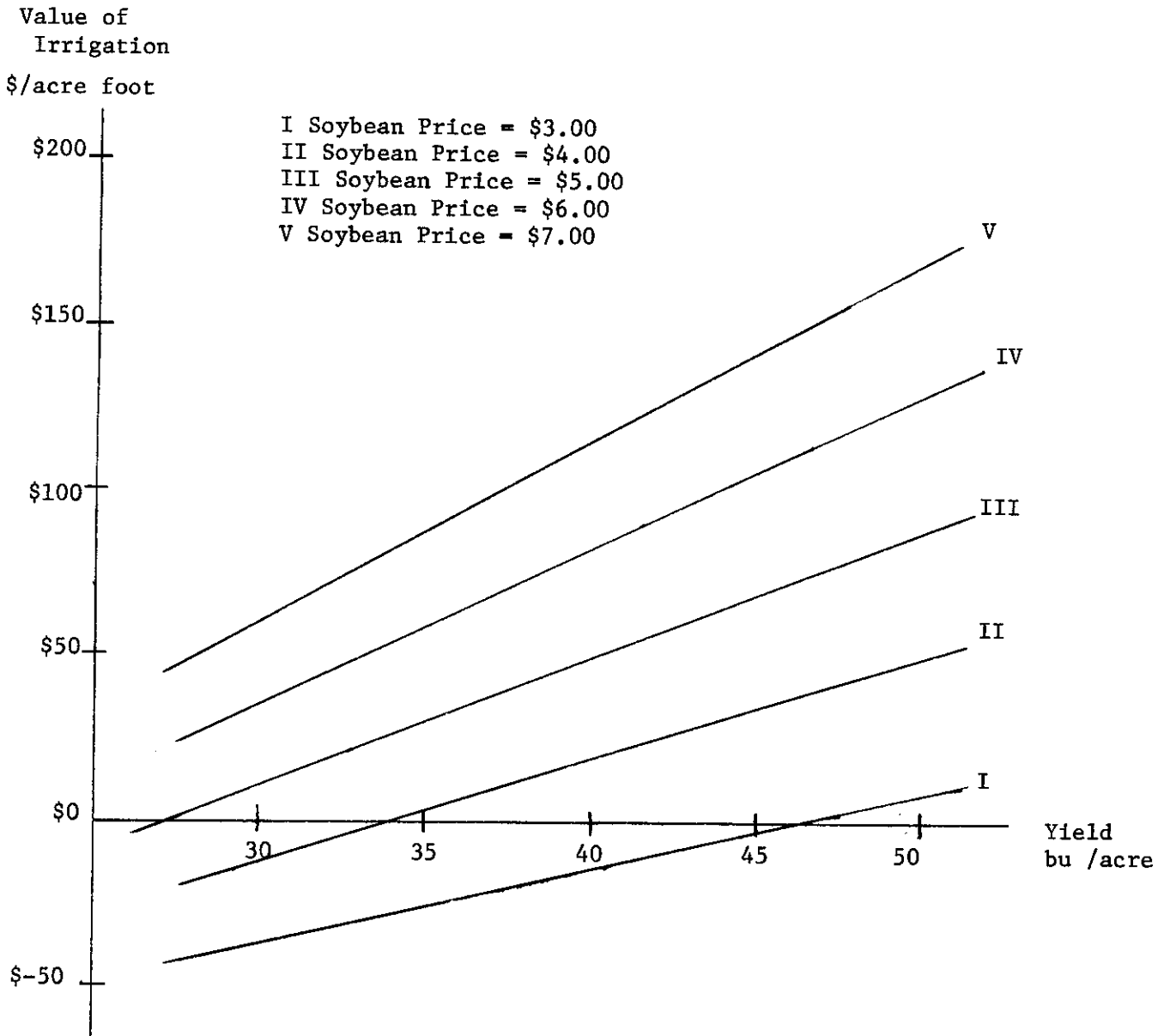


Figure . Value of irrigation water applied to Soybeans in High Plains II for alternative Soybean prices and yields expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
SUGARBEETS

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION TONS PER ACRE				
		16.0	18.0	20.0	22.0	24.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
8.000	*	-60.995	-55.495	-49.995	-44.495	-38.995
	*					
10.000	*	-45.795	-38.395	-30.995	-23.595	-16.195
	*					
12.000	*	-30.595	-21.295	-11.995	-2.695	6.605
	*					
14.000	*	-15.395	-4.195	7.005	18.205	29.405
	*					
16.000	*	-0.195	12.905	26.005	39.105	52.205
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
8.000	*	-74.994	-69.744	-64.494	-59.244	-53.994
	*					
10.000	*	-59.874	-52.734	-45.594	-38.454	-31.314
	*					
12.000	*	-44.754	-35.724	-26.694	-17.664	-8.634
	*					
14.000	*	-29.634	-18.714	-7.794	3.126	14.046
	*					
16.000	*	-14.514	-1.704	11.106	23.916	36.726
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
8.000	*	-88.994	-83.994	-78.994	-73.994	-68.994
	*					
10.000	*	-73.954	-67.074	-60.194	-53.314	-46.434
	*					
12.000	*	-58.914	-50.154	-41.394	-32.634	-23.874
	*					
14.000	*	-43.874	-33.234	-22.594	-11.954	-1.314
	*					
16.000	*	-28.834	-16.314	-3.794	8.726	21.246
	*					

A DRYLAND RETURN OF 15.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



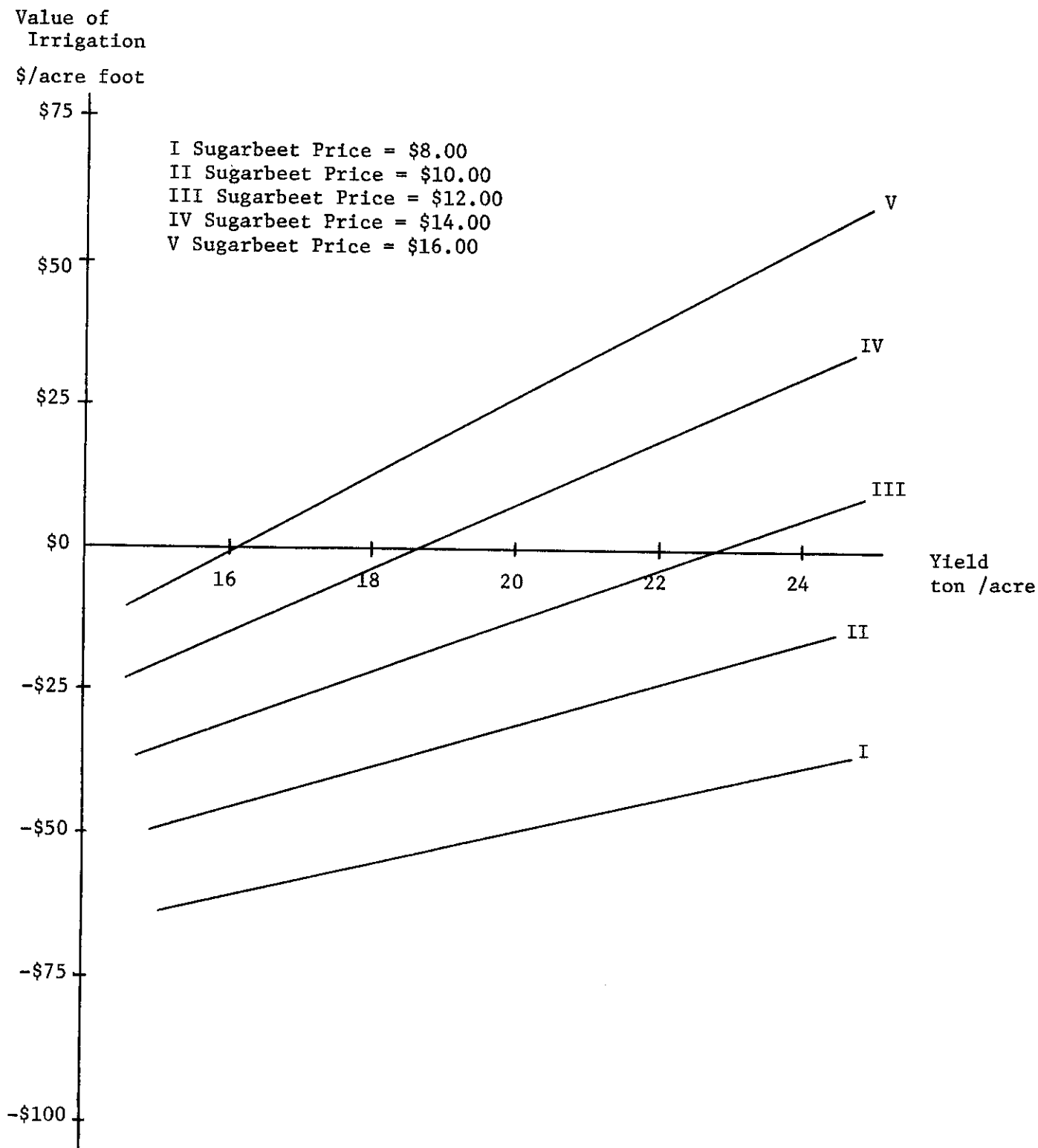


Figure Value of irrigation water applied to Sugarbeets in High Plains II for alternative Sugarbeet prices and yields with expected 1974 costs.

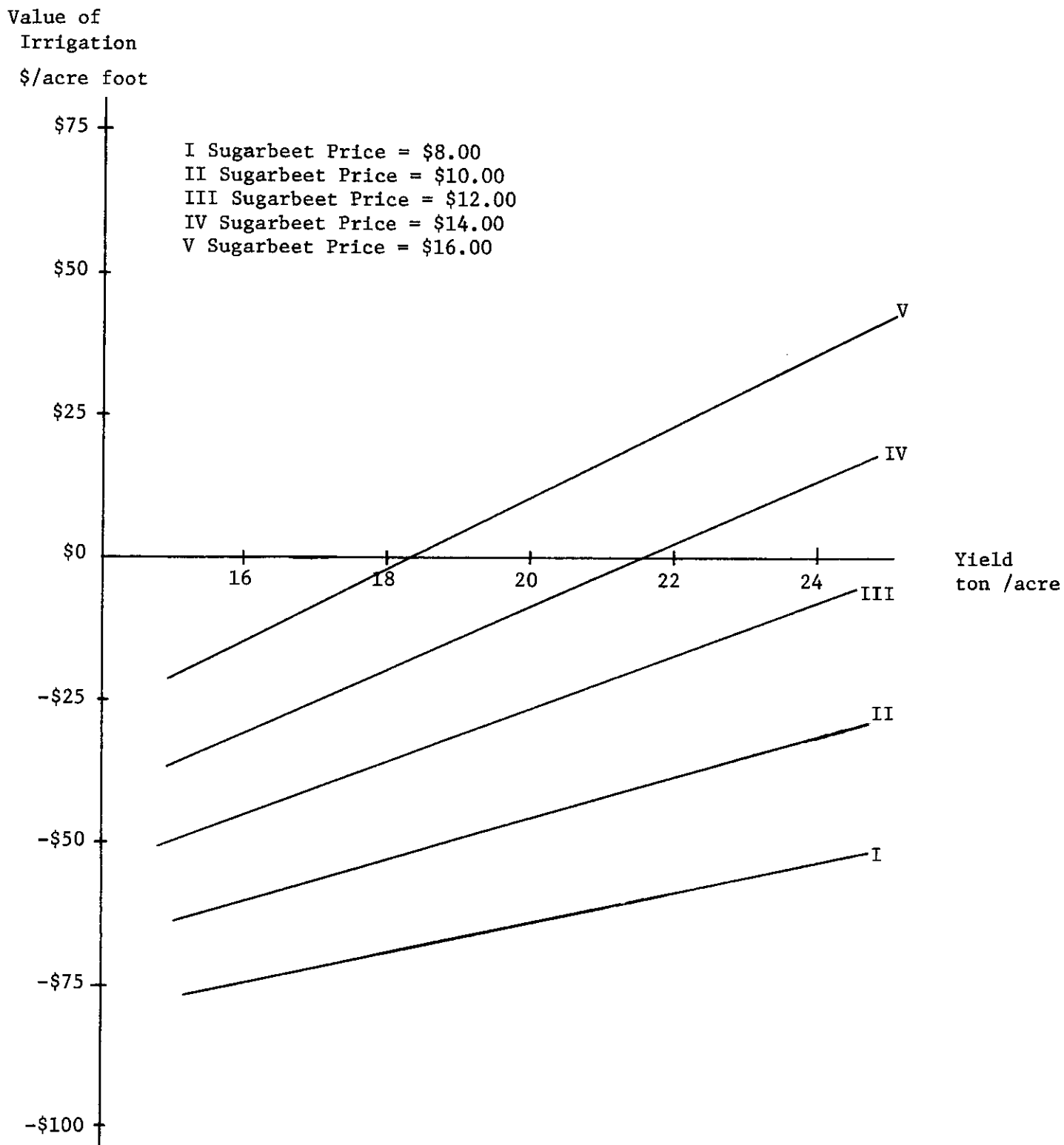


Figure Value of irrigation water applied to Sugarbeets in High Plains II for alternative Sugarbeet prices and yields with expected 1974 costs inflated 10 percent.

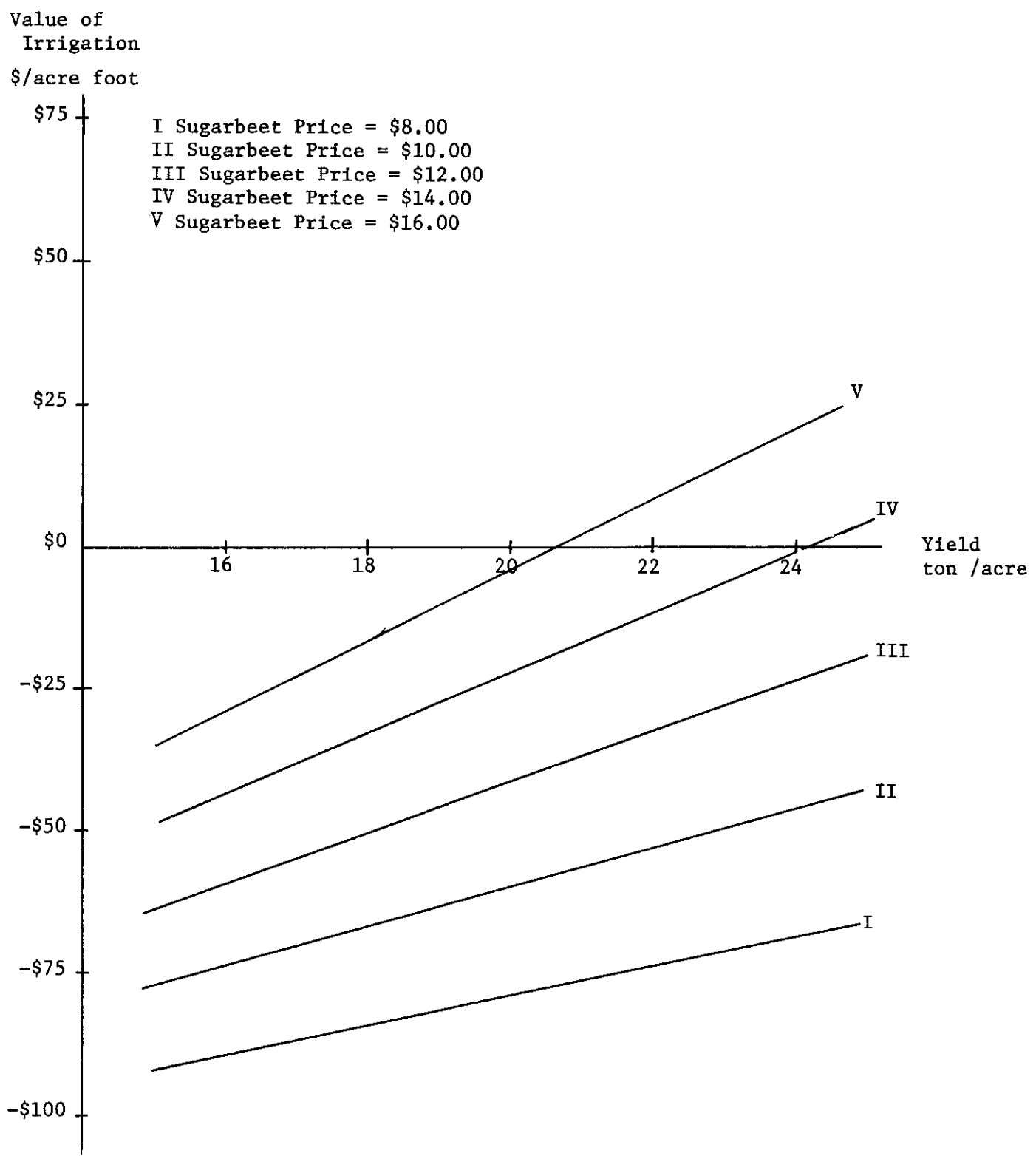


Figure Value of irrigation water applied to Sugarbeets in High Plains II for alternative Sugarbeet prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS 11  
WHEAT

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		35.0	40.0	45.0	50.0	55.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-9.830	1.695	13.220	24.745	36.270
2.500	*	18.470	34.745	51.020	67.295	83.570
3.500	*	46.770	67.795	88.820	109.845	130.870
4.500	*	75.070	100.845	126.620	152.395	178.170
5.500	*	103.370	133.895	164.420	194.945	225.470
-----						
10% COST INFLATION	*					
PRICES	*					
1.500	*	-19.563	-8.136	3.292	14.719	26.147
2.500	*	8.067	24.219	40.372	56.524	72.677
3.500	*	35.697	56.574	77.452	98.329	119.207
4.500	*	63.327	88.929	114.532	140.134	165.737
5.500	*	90.957	121.284	151.612	181.939	212.267
-----						
20% COST INFLATION	*					
PRICES	*					
1.500	*	-29.296	-17.966	-6.636	4.694	16.024
2.500	*	-2.336	13.694	29.724	45.754	61.784
3.500	*	24.624	45.354	66.084	86.814	107.544
4.500	*	51.584	77.014	102.444	127.874	153.304
5.500	*	78.544	108.674	138.804	168.934	199.064
-----						

A DRYLAND YIELD OF 15.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

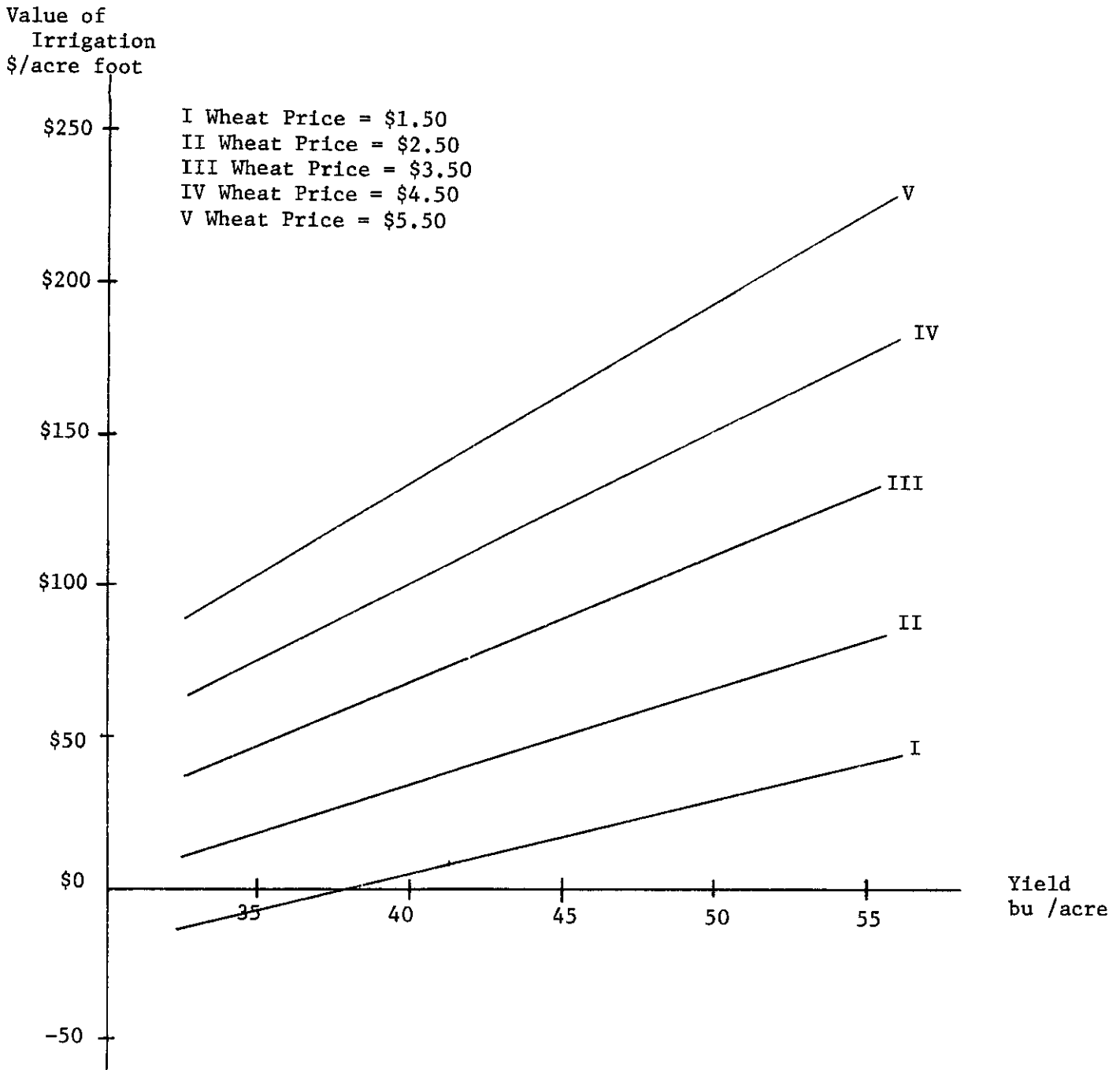


Figure . Value of irrigation water applies to Wheat in the High Plains II for alternative Wheat prices and yields with expected 1974 costs.

Value of  
Irrigation  
\$/acre foot

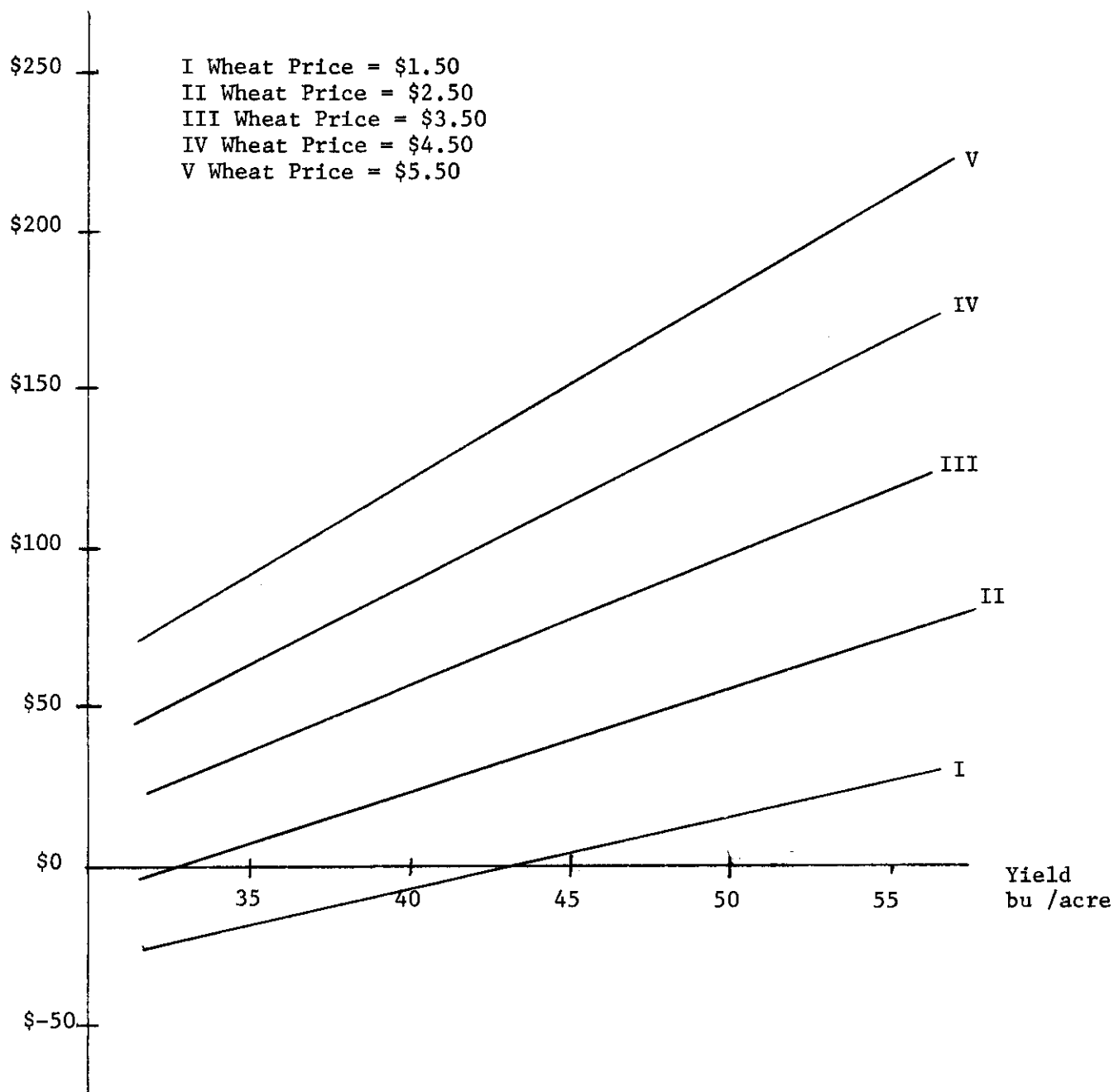


Figure . Value of irrigation water applied to Wheat in High Plains II for alternative Wheat prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

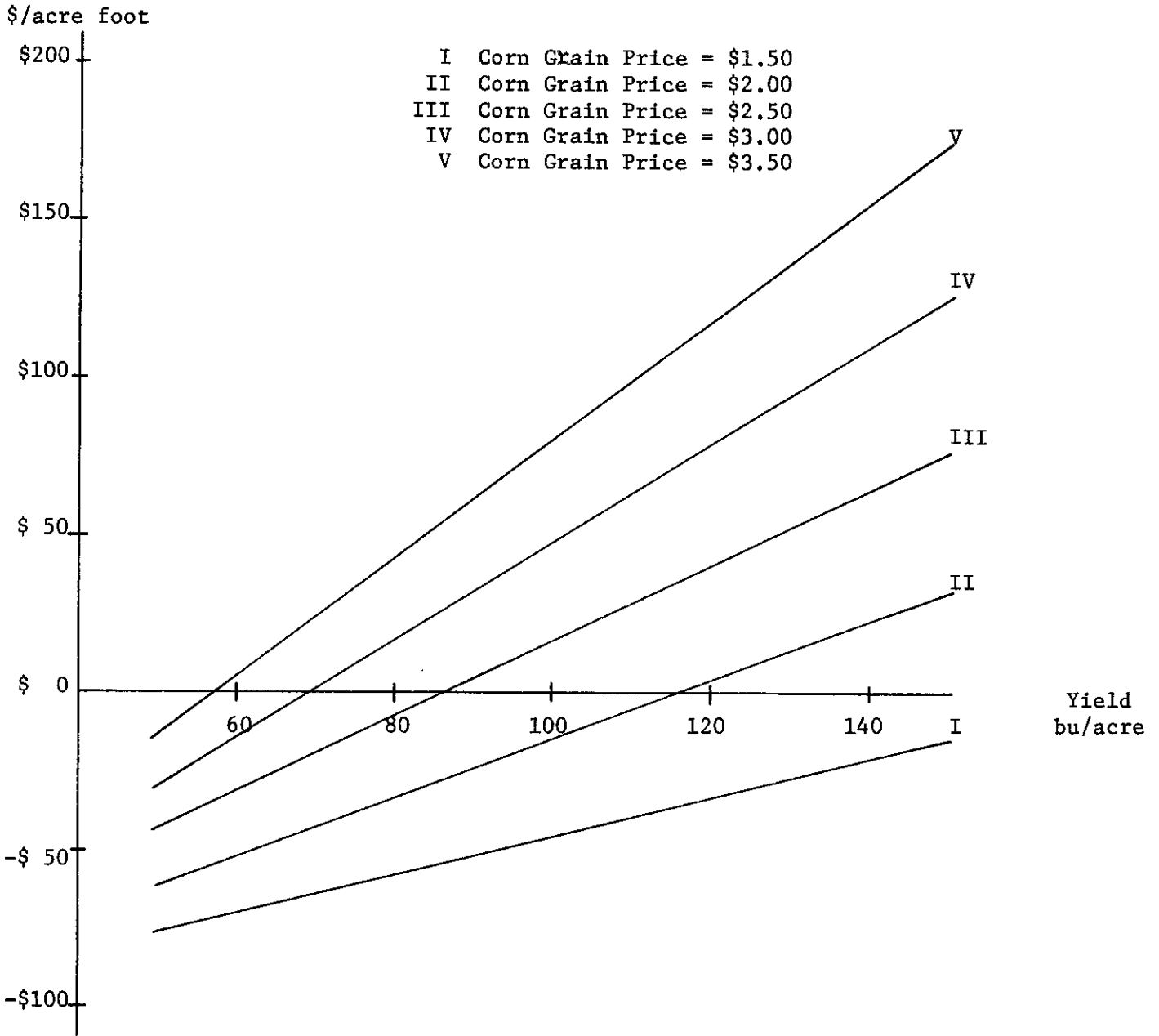


Figure Value of irrigation water applied to Corn Grain in High Plains III for alternative Corn Grain prices and yields with expected 1974 costs inflated 10 percent.

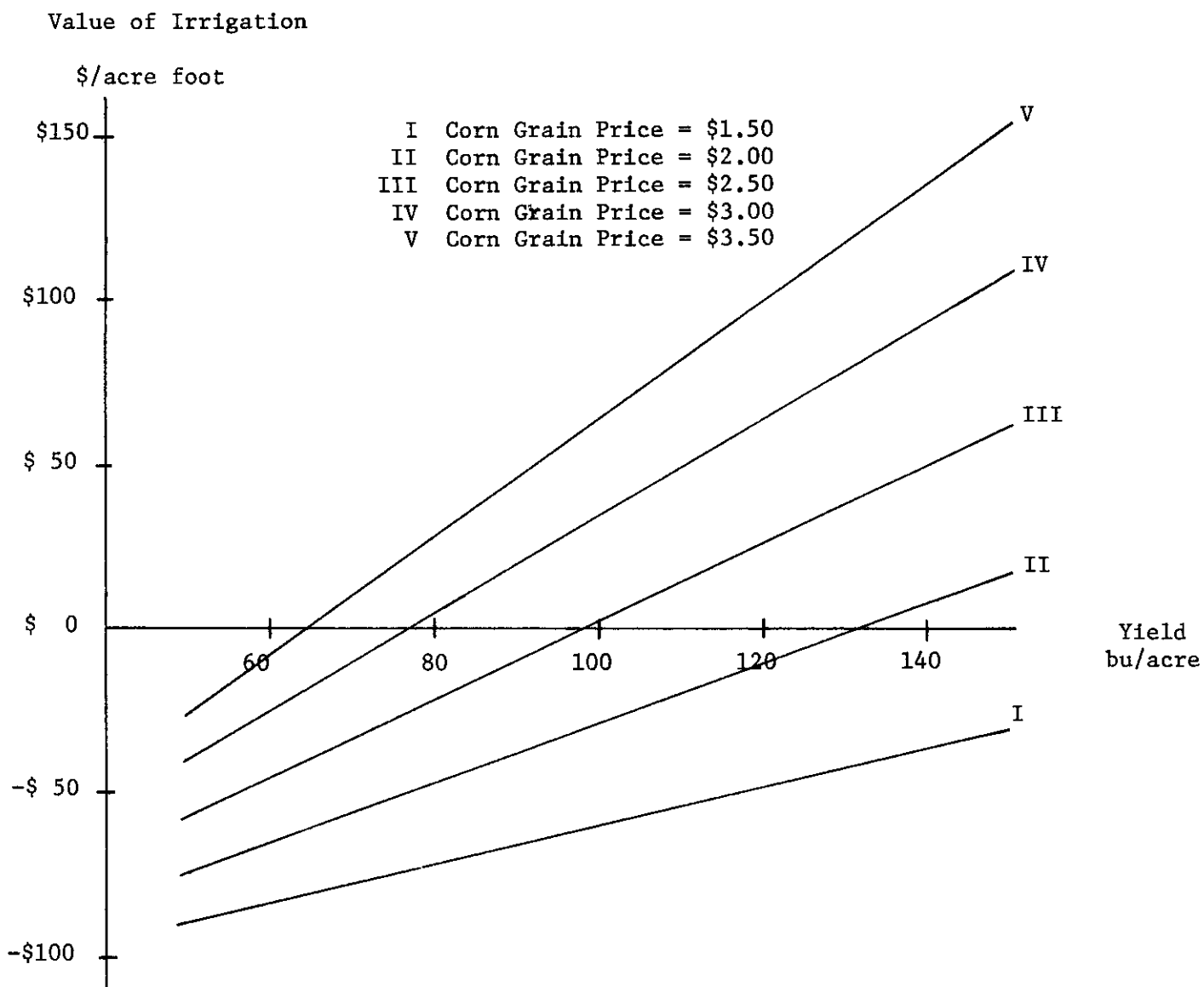


Figure Value of irrigation water applied to Corn Grain in High Plains III for alternative Corn Grain prices and yields with expected 1974 costs inflated 20 percent.



Value of  
Irrigation  
\$/acre foot

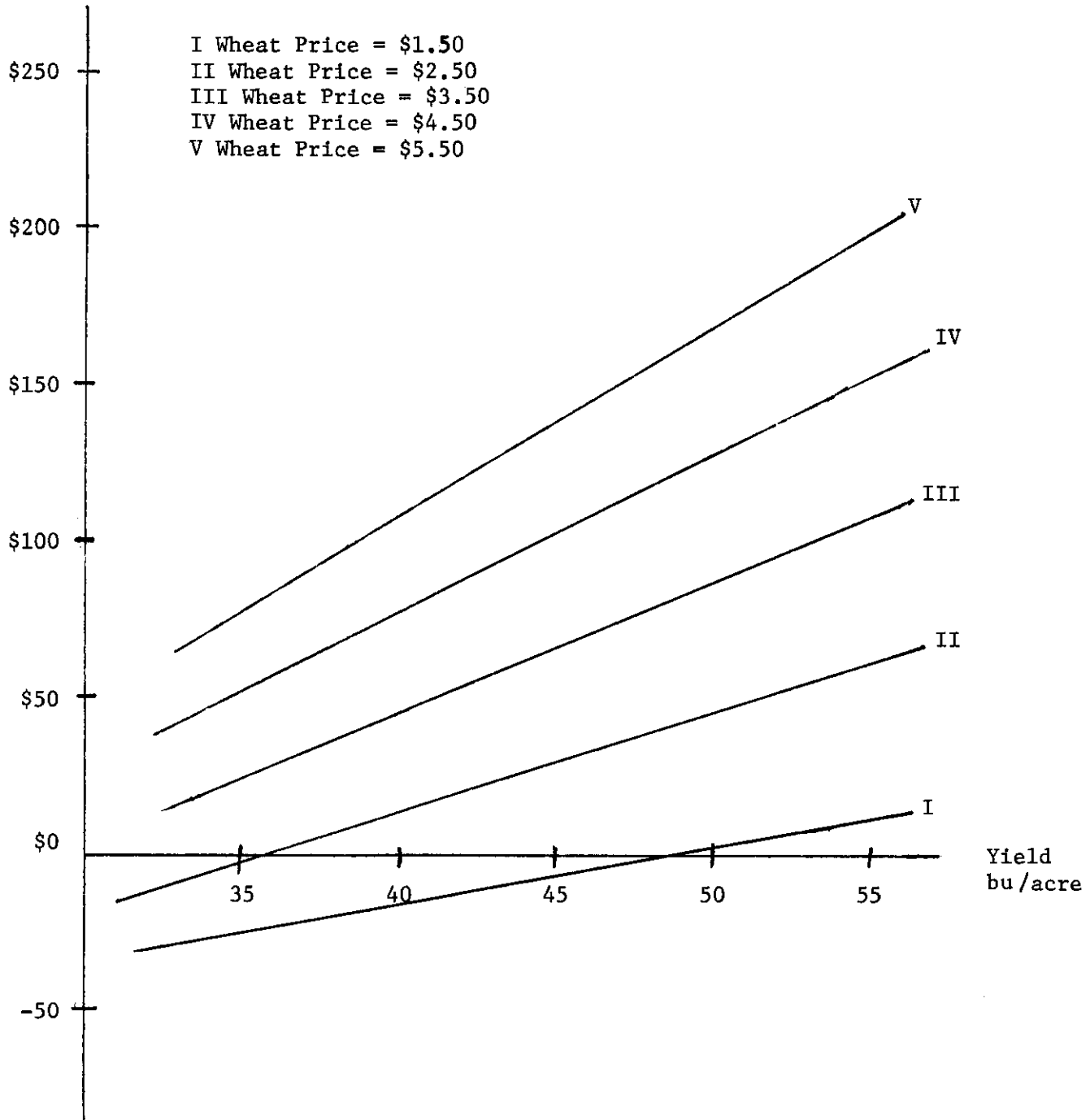


Figure . Value of irrigation water applied to Wheat in High Plains II for alternative Wheat prices and yields with expected 1974 costs inflated 20 percent.

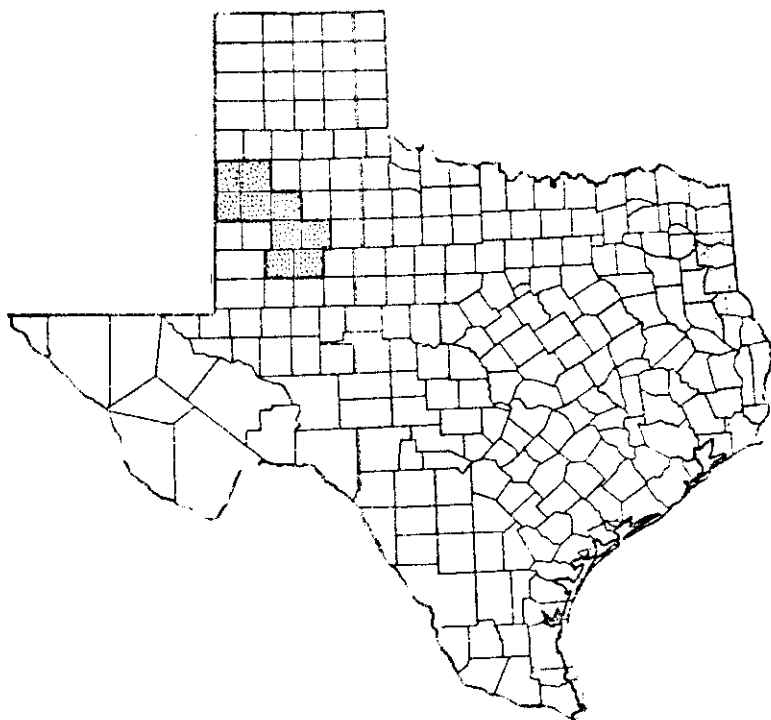
# **Texas High Plains III**

### Texas High Plains III

This area includes Bailey, Borden, Cochran, Dawson, Garza, Hockley, Lamb, Lubbock and Lynn Counties. Principal irrigation systems used in the region are furrow (gravity flow) and sprinkler. For the analysis, alternative irrigation levels were evaluated for cotton and grain sorghum. The irrigation level is identified as PP for a pre-plant irrigation and as PP+2, for example, with a preplant and two post-plant irrigations.

A land charge was estimated as: (1) grain sorghum and wheat-- $\frac{1}{3}$  of gross revenue from grain produced dryland, (2) cotton-- $\frac{1}{4}$  of gross revenue from lint produced dryland and (3) for all other crops, the cotton land charge based on a lint price of \$0.40 was applied. Expected dryland yields were 325 pounds of lint for cotton, 15.5 hundredweight for grain sorghum and 18 bushels for wheat.

The alternative yields and prices used in this analysis are presented in the following table.



Crop	Unit	Yield @ Acre					Price				
		5	6	7	8	9	20.00	30.00	40.00	50.00	60.00
Alfalfa	ton	5	6	7	8	9	20.00	30.00	40.00	50.00	60.00
Corn Grain	bu.	60	80	100	120	140	1.50	2.00	2.50	3.00	3.50
Corn Silage	ton	10	15	20	25	30	6.00	8.00	10.00	12.00	14.00
Cotton											
Furrow											
PP	lbs.	275	325	375	425	475	.20	.30	.40	.50	.60
PP+1	lbs.	350	400	450	500	550	.20	.30	.40	.50	.60
PP+2	lbs.	450	500	550	600	650	.20	.30	.40	.50	.60
PP+3	lbs.	550	600	650	700	750	.20	.30	.40	.50	.60
Sprinkler											
PP	lbs.	275	325	375	425	475	.20	.30	.40	.50	.60
PP+1	lbs.	350	400	450	500	550	.20	.30	.40	.50	.60
PP+2	lbs.	450	500	550	600	650	.20	.30	.40	.50	.60
PP+3	lbs.	550	600	650	700	750	.20	.30	.40	.50	.60
Grain Sorghum											
Furrow											
PP+1	cwt.	10	20	30	40	50	2.00	2.50	3.00	3.50	4.00
PP+2	cwt.	20	30	40	50	60	2.00	2.50	3.00	3.50	4.00
PP+3	cwt.	30	40	50	60	70	2.00	2.50	3.00	3.50	4.00
PP+4	cwt.	40	50	60	70	80	2.00	2.50	3.00	3.50	4.00
Sprinkler											
PP+1	cwt.	5	15	25	35	45	2.00	2.50	3.00	3.50	4.00
PP+2	cwt.	15	25	35	45	55	2.00	2.50	3.00	3.50	4.00
PP+3	cwt.	25	35	45	55	65	2.00	2.50	3.00	3.50	4.00
PP+4	cwt.	35	45	55	65	75	2.00	2.50	3.00	3.50	4.00
Soybeans	bu.	30	35	40	45	50	3.00	4.00	5.00	6.00	7.00
Wheat	bu.	15	25	35	45	55	1.50	2.50	3.50	4.50	5.50

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
ALFALFA

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION TONS PER ACRE				
		5.0	6.0	7.0	8.0	9.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
20.000	*	-12.360	-2.860	6.640	16.140	25.640
30.000	*	11.390	25.640	39.890	54.140	68.390
40.000	*	35.140	54.140	73.140	92.140	111.140
50.000	*	58.890	82.640	106.390	130.140	153.890
60.000	*	82.640	111.140	139.640	168.140	196.640
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
20.000	*	-18.596	-9.146	0.304	9.754	19.204
30.000	*	5.029	19.204	33.379	47.554	61.729
40.000	*	28.654	47.554	66.454	85.354	104.254
50.000	*	52.279	75.904	99.529	123.154	146.779
60.000	*	75.904	104.254	132.604	160.954	189.304
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
20.000	*	-24.832	-15.432	-6.032	3.368	12.768
30.000	*	-1.332	12.768	26.868	40.968	55.068
40.000	*	22.168	40.968	59.768	78.568	97.368
50.000	*	45.668	69.168	92.668	116.168	139.668
60.000	*	69.168	97.368	125.568	153.768	181.968
	*					
-----						

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

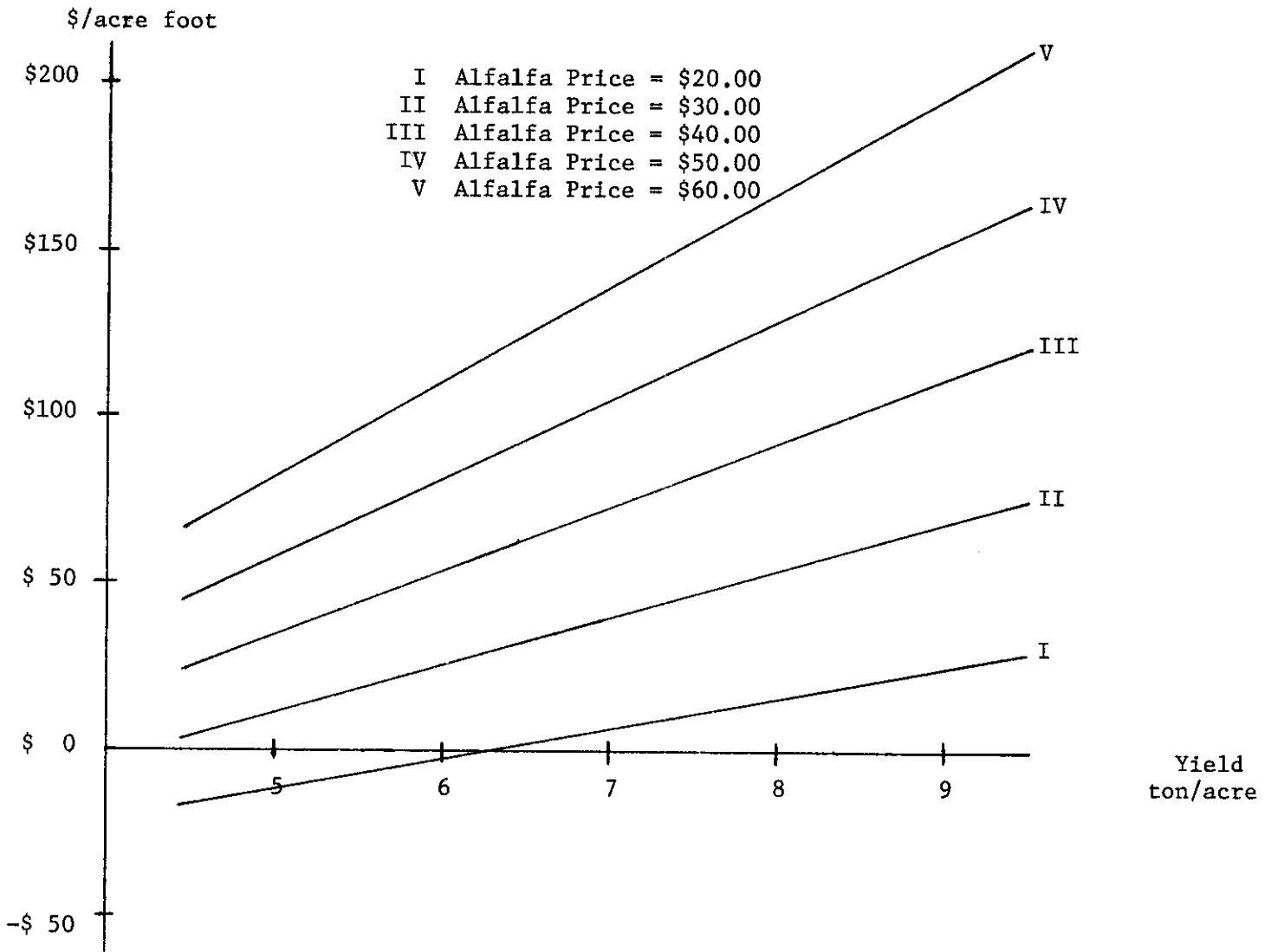


Figure Value of irrigation water applied to Alfalfa in High Plains III for alternative Alfalfa prices and yields with expected 1974 costs.

## Value of Irrigation

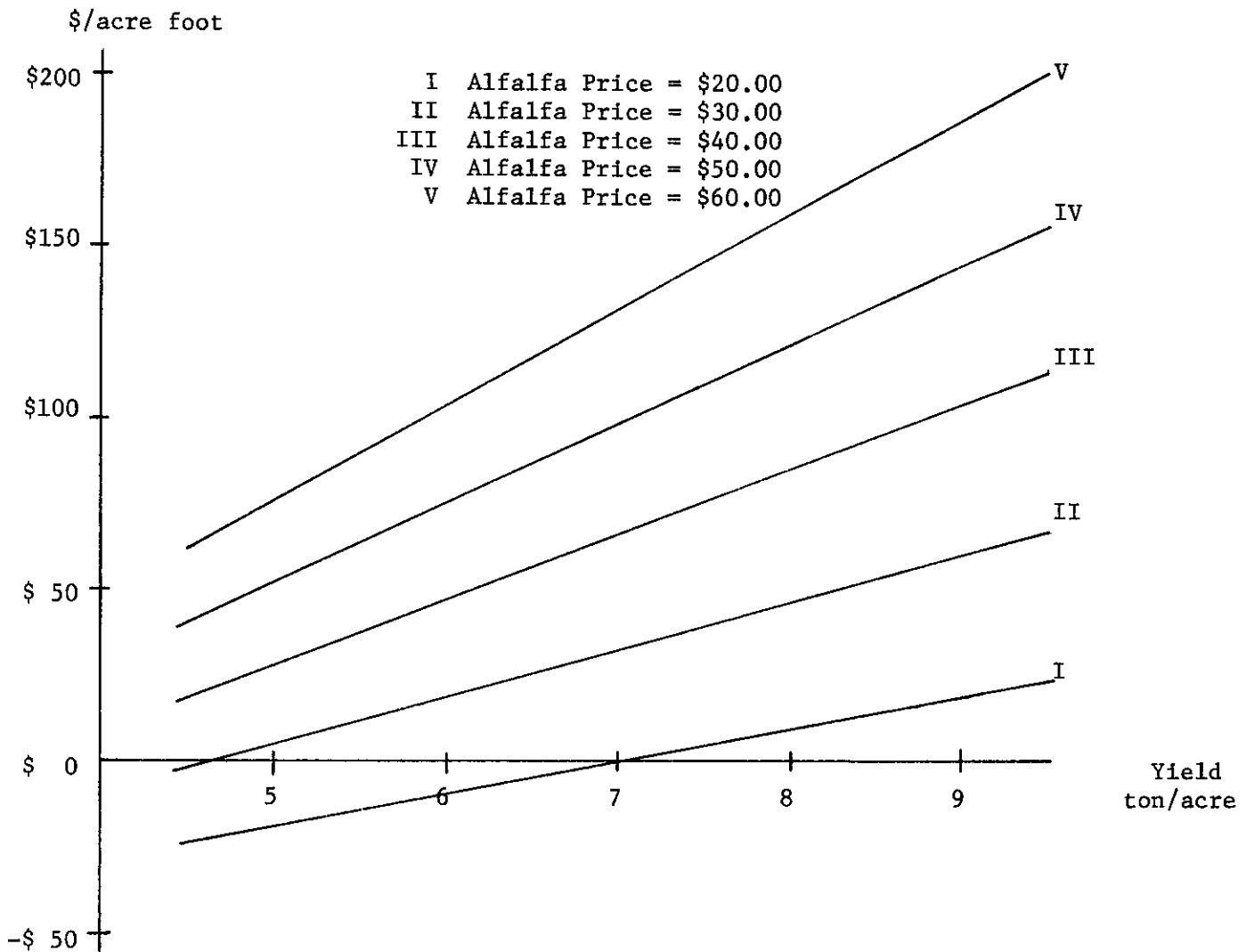


Figure Value of irrigation water applied to Alfalfa in High Plains III for alternative Alfalfa prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

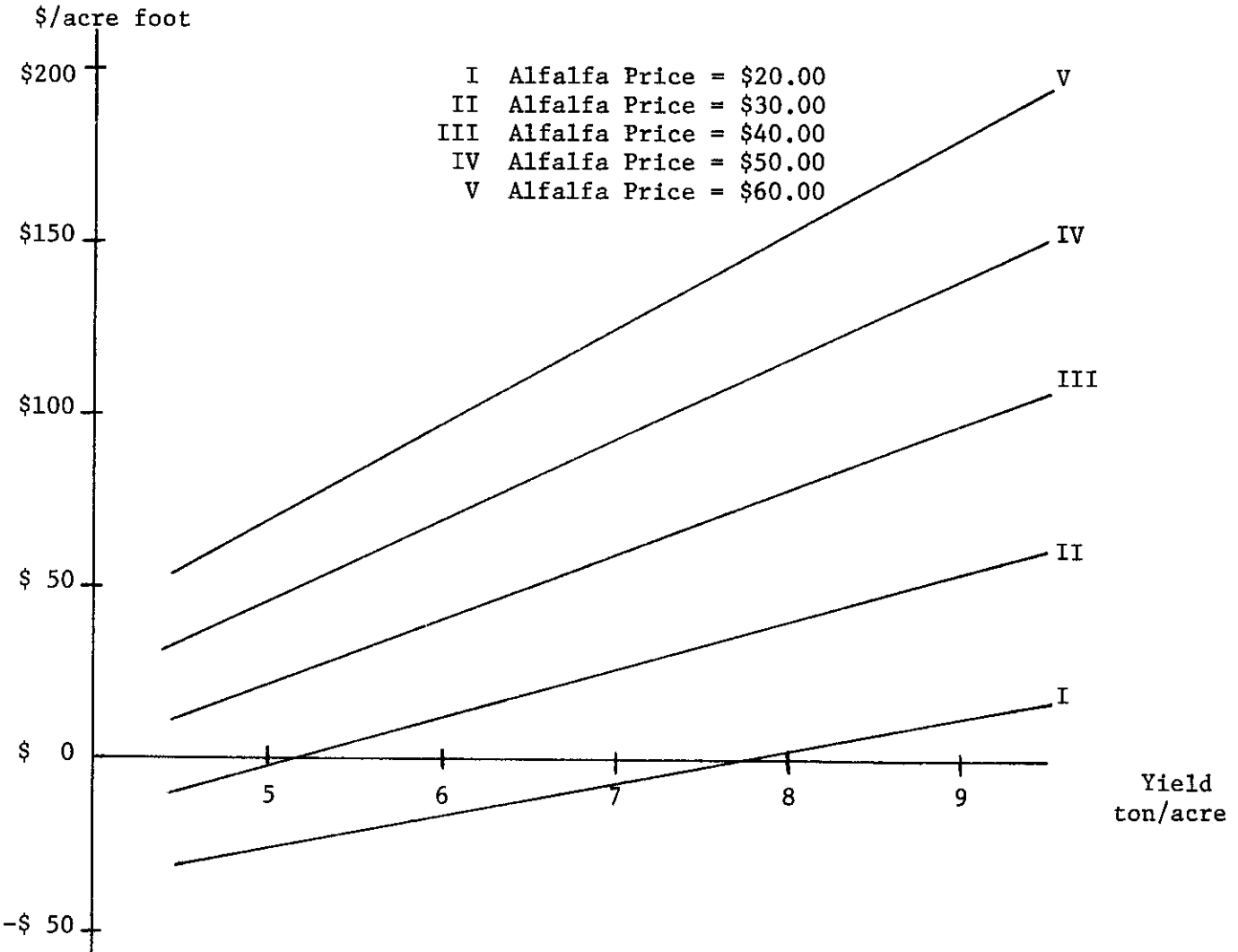


Figure Value of irrigation water applied to Alfalfa in High Plains III for alternative Alfalfa prices and yields with expected 1974 costs inflated 20 percent.



## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
CORN GRAIN

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		60.0	80.0	100.0	120.0	140.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-59.260	-46.260	-33.260	-20.260	-7.260
2.000	*	-40.260	-20.927	-1.593	17.740	37.073
2.500	*	-21.260	4.407	30.073	55.740	81.407
3.000	*	-2.260	29.740	61.740	93.740	125.740
3.500	*	16.740	55.073	93.407	131.740	170.073
-----						
10% COST INFLATION	*					
PRICES	*					
1.500	*	-71.186	-58.886	-46.586	-34.286	-21.986
2.000	*	-52.286	-33.686	-15.086	3.514	22.114
2.500	*	-33.386	-8.486	16.414	41.314	66.214
3.000	*	-14.486	16.714	47.914	79.114	110.314
3.500	*	4.414	41.914	79.414	116.914	154.414
-----						
20% COST INFLATION	*					
PRICES	*					
1.500	*	-83.112	-71.512	-59.912	-48.312	-36.712
2.000	*	-64.312	-46.445	-28.579	-10.712	7.155
2.500	*	-45.512	-21.379	2.755	26.888	51.021
3.000	*	-26.712	3.688	34.088	64.488	94.888
3.500	*	-7.912	28.755	65.421	102.088	138.755
-----						

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

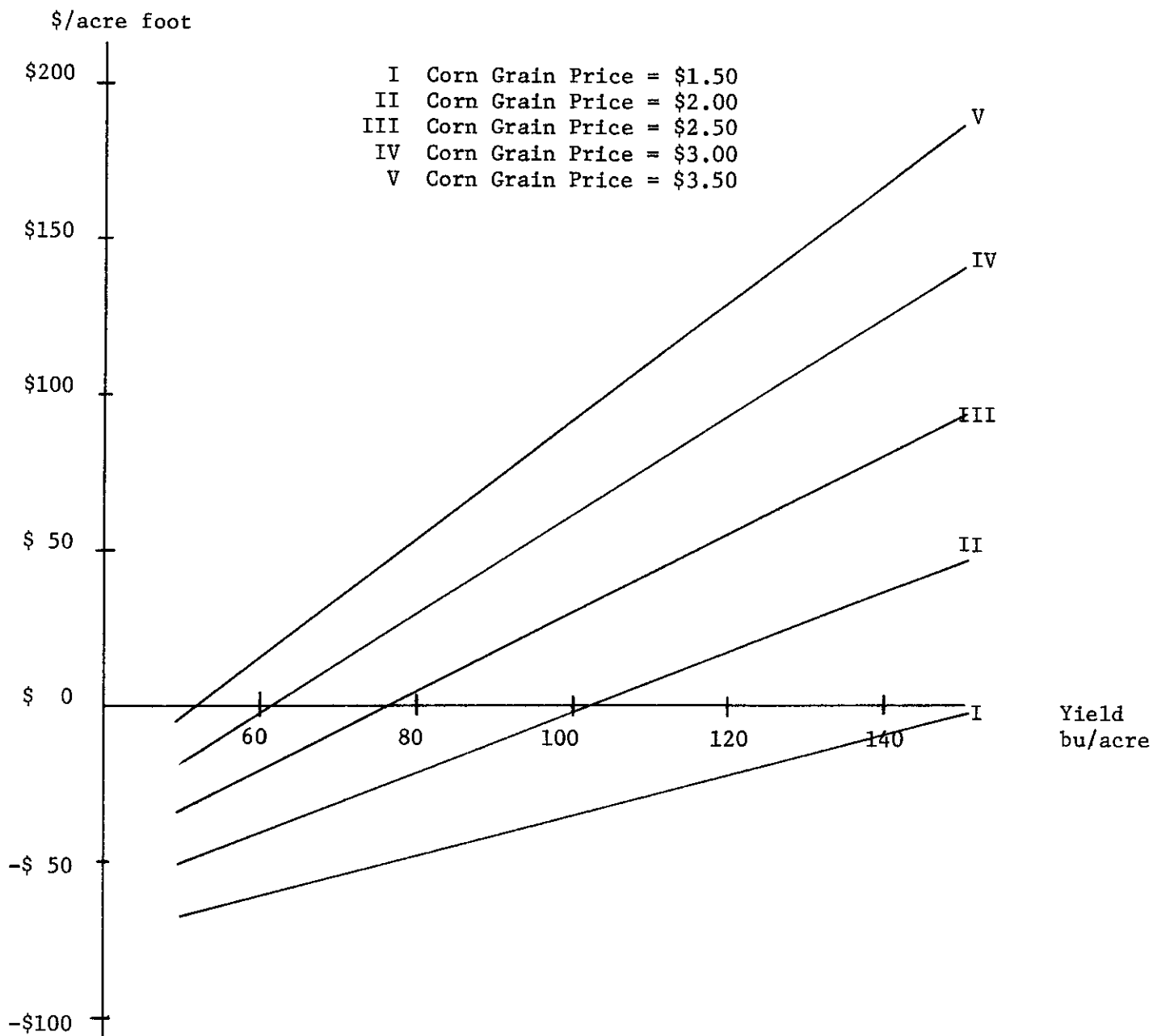


Figure Value of irrigation water applied to Corn Grain in High Plains III for alternative Corn Grain prices and yields with expected 1974 costs.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
CORN SILAGE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		10.0	15.0	20.0	25.0	30.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
6.000	*	-72.100	-53.100	-34.100	-15.100	3.900
8.000	*	-59.433	-34.100	-8.767	16.567	41.900
10.000	*	-46.767	-15.100	16.567	48.233	79.900
12.000	*	-34.100	3.900	41.900	79.900	117.900
14.000	*	-21.433	22.900	67.233	111.567	155.900
-----						
10% COST INFLATION	*					
PRICES	*					
6.000	*	-83.310	-64.410	-45.510	-26.610	-7.710
8.000	*	-70.710	-45.510	-20.310	4.890	30.090
10.000	*	-58.110	-26.610	4.890	36.390	67.890
12.000	*	-45.510	-7.710	30.090	67.890	105.690
14.000	*	-32.910	11.190	55.290	99.390	143.490
-----						
20% COST INFLATION	*					
PRICES	*					
6.000	*	-94.520	-75.720	-56.920	-38.120	-19.320
8.000	*	-81.987	-56.920	-31.853	-6.787	18.280
10.000	*	-69.453	-38.120	-6.787	24.547	55.880
12.000	*	-56.920	-19.320	18.280	55.880	93.480
14.000	*	-44.387	-0.520	43.347	87.213	131.080
-----						

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

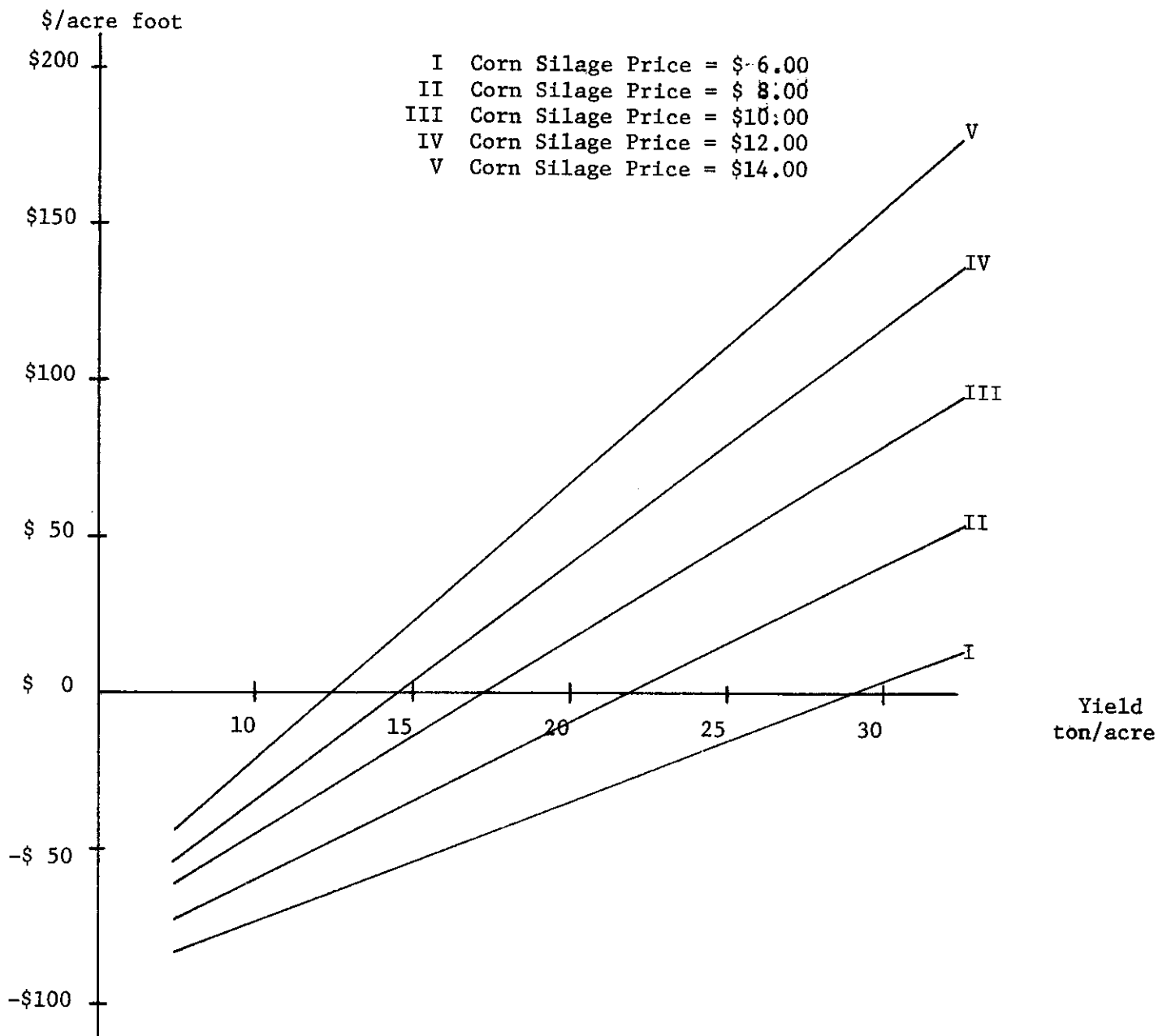


Figure Value of irrigation water applied to Corn Silage in High Plains III for alternative Corn Silage prices and yields with expected 1974 costs.

## Value of Irrigation

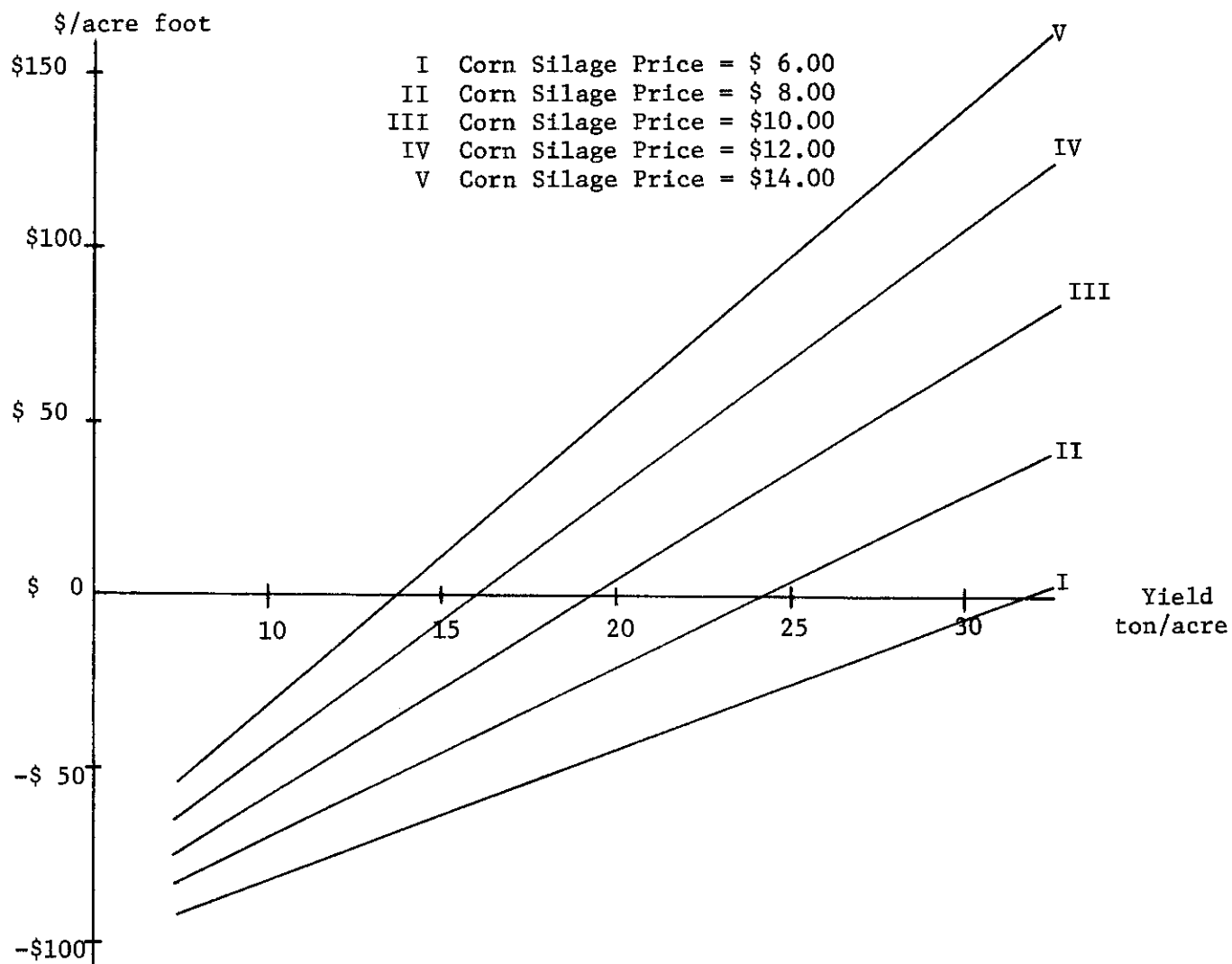
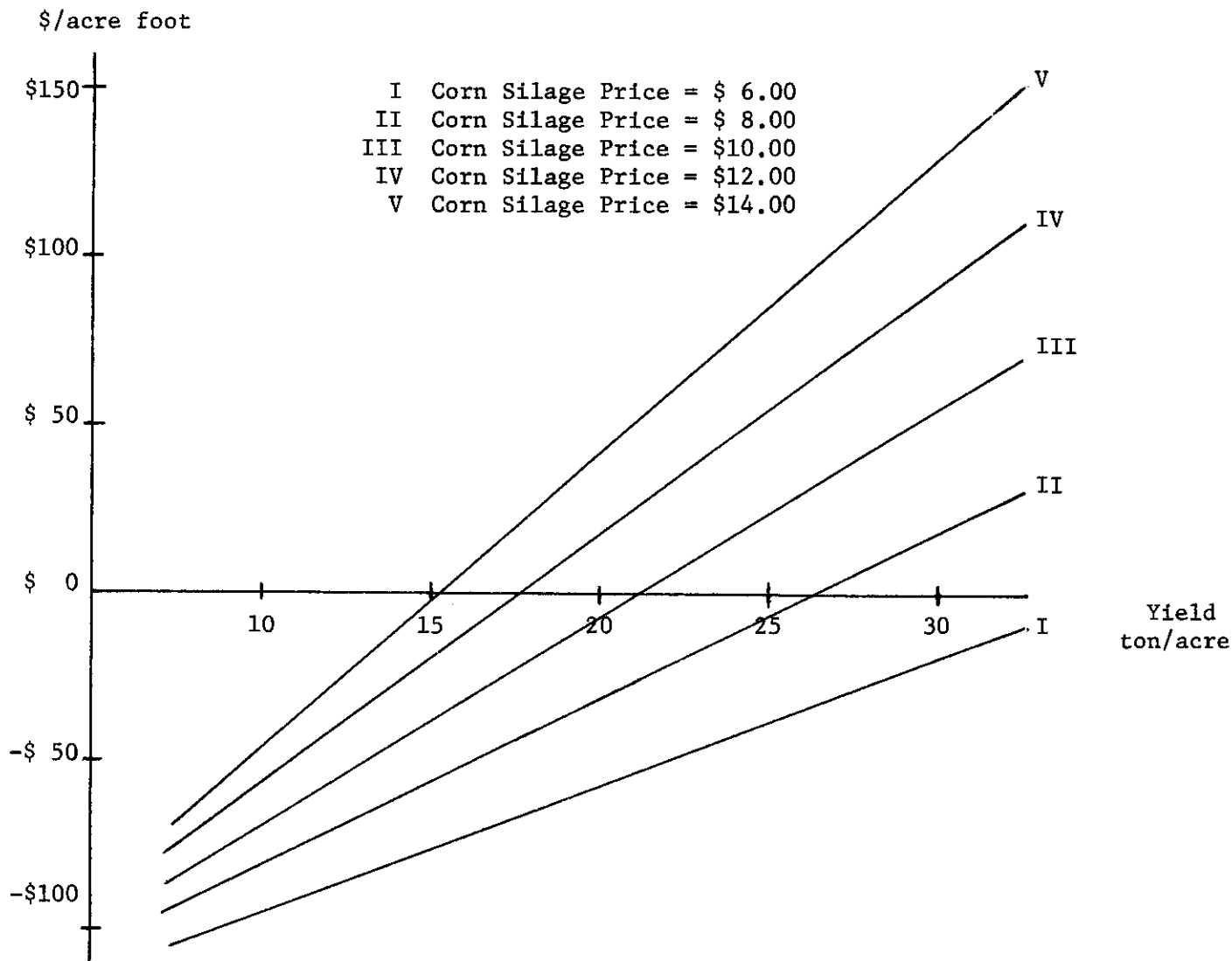


Figure Value of irrigation water applied to Corn Silage in High Plains III for alternative Corn Silage prices and yields with expected 1974 costs inflated 10 percent.

## Value of Irrigation



Figure

Value of irrigation water applied to Corn Silage in High Plains III for alternative Corn Silage prices and yields for expected 1974 costs inflated 20 percent.

RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
FURROW PP

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER ACRE			
	*	275.0	325.0	375.0	425.0	475.0
-----						
PRODUCTION COSTS 1974						
PRICES	*					
0.200	*	-84.040	-66.280	-48.520	-30.760	-13.000
0.300	*	-48.040	-20.780	6.480	33.740	61.000
0.400	*	-12.040	24.720	61.480	98.240	135.000
0.500	*	23.960	70.220	116.480	162.740	209.000
0.600	*	59.960	115.720	171.480	227.240	283.000
-----						
10% COST INFLATION						
PRICES	*					
0.200	*	-106.084	-89.028	-71.972	-54.916	-37.860
0.300	*	-71.984	-45.478	-18.972	7.534	34.040
0.400	*	-37.884	-1.928	34.028	69.984	105.940
0.500	*	-3.784	41.622	87.028	132.434	177.840
0.600	*	30.316	85.172	140.028	194.884	249.740
-----						
20% COST INFLATION						
PRICES	*					
0.200	*	-128.128	-111.776	-95.424	-79.072	-62.720
0.300	*	-95.928	-70.176	-44.424	-18.672	7.080
0.400	*	-63.728	-28.576	6.576	41.728	76.880
0.500	*	-31.528	13.024	57.576	102.128	146.680
0.600	*	0.672	54.624	108.576	162.528	216.480

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

\$/acre foot

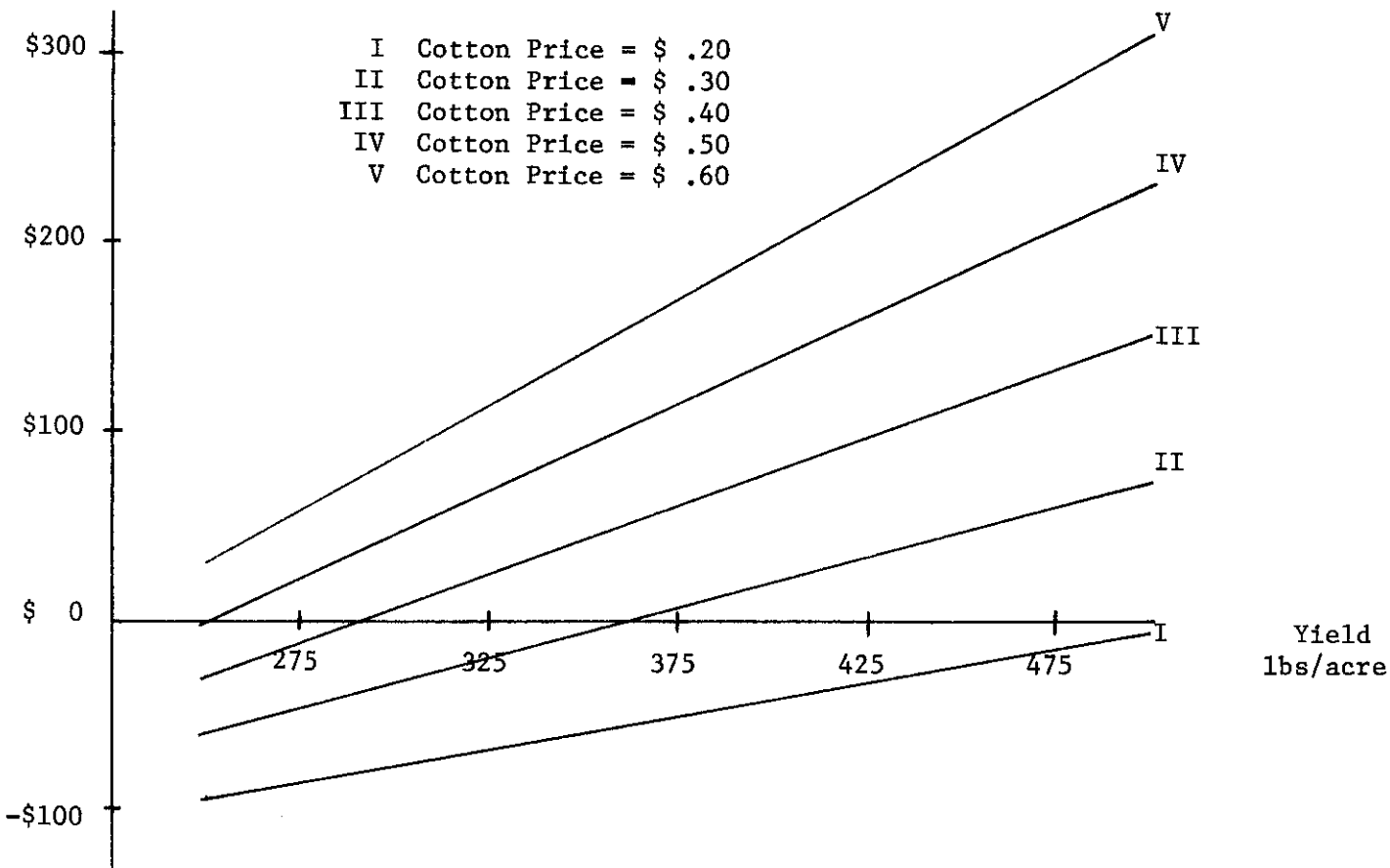


Figure Value of irrigation water applied to Cotton, furrow, preplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.



Value of Irrigation

\$/acre foot

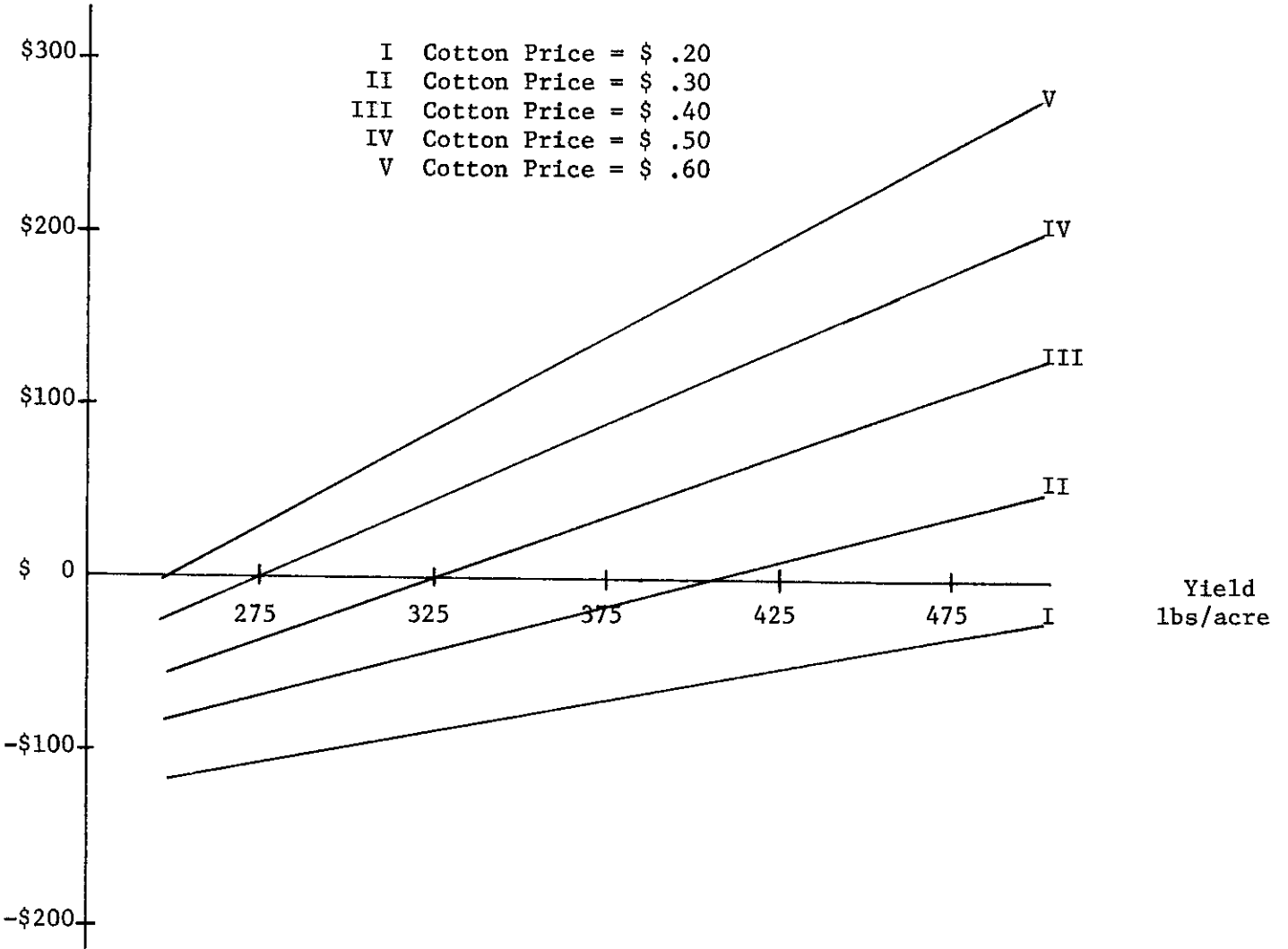


Figure Value of irrigation water applied to Cotton, furrow, preplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

## Value of Irrigation

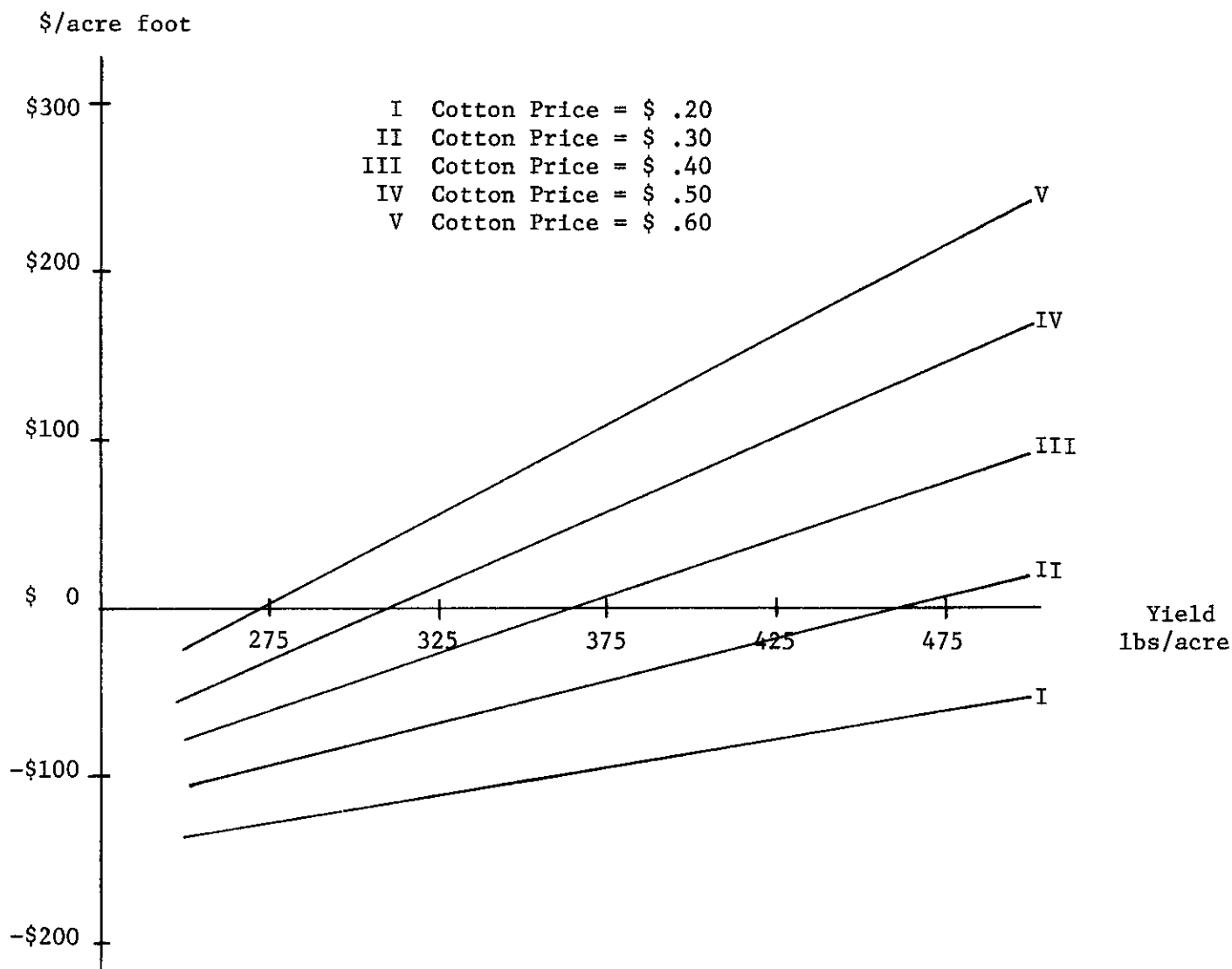


Figure Value of irrigation water applied to Cotton, furrow, preplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
FURROW PP+1

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	350.0	400.0	450.0	500.0	550.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-50.940	-40.241	-29.542	-18.843	-8.145
0.300	*	-20.669	-4.247	12.175	28.596	45.018
0.400	*	9.602	31.747	53.892	76.036	98.181
0.500	*	39.873	67.741	95.608	123.476	151.343
0.600	*	70.145	103.735	137.325	170.916	204.506
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-66.492	-56.217	-45.942	-35.667	-25.393
0.300	*	-37.410	-21.443	-5.475	10.492	26.460
0.400	*	-8.329	13.331	34.992	56.652	78.312
0.500	*	20.752	48.105	75.458	102.811	130.164
0.600	*	49.834	82.879	115.925	148.971	182.017
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-82.043	-72.193	-62.342	-52.492	-42.641
0.300	*	-54.152	-38.639	-23.125	-7.612	7.901
0.400	*	-26.260	-5.084	16.092	37.267	58.443
0.500	*	1.631	28.470	55.308	82.147	108.985
0.600	*	29.523	62.024	94.525	127.027	159.528

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

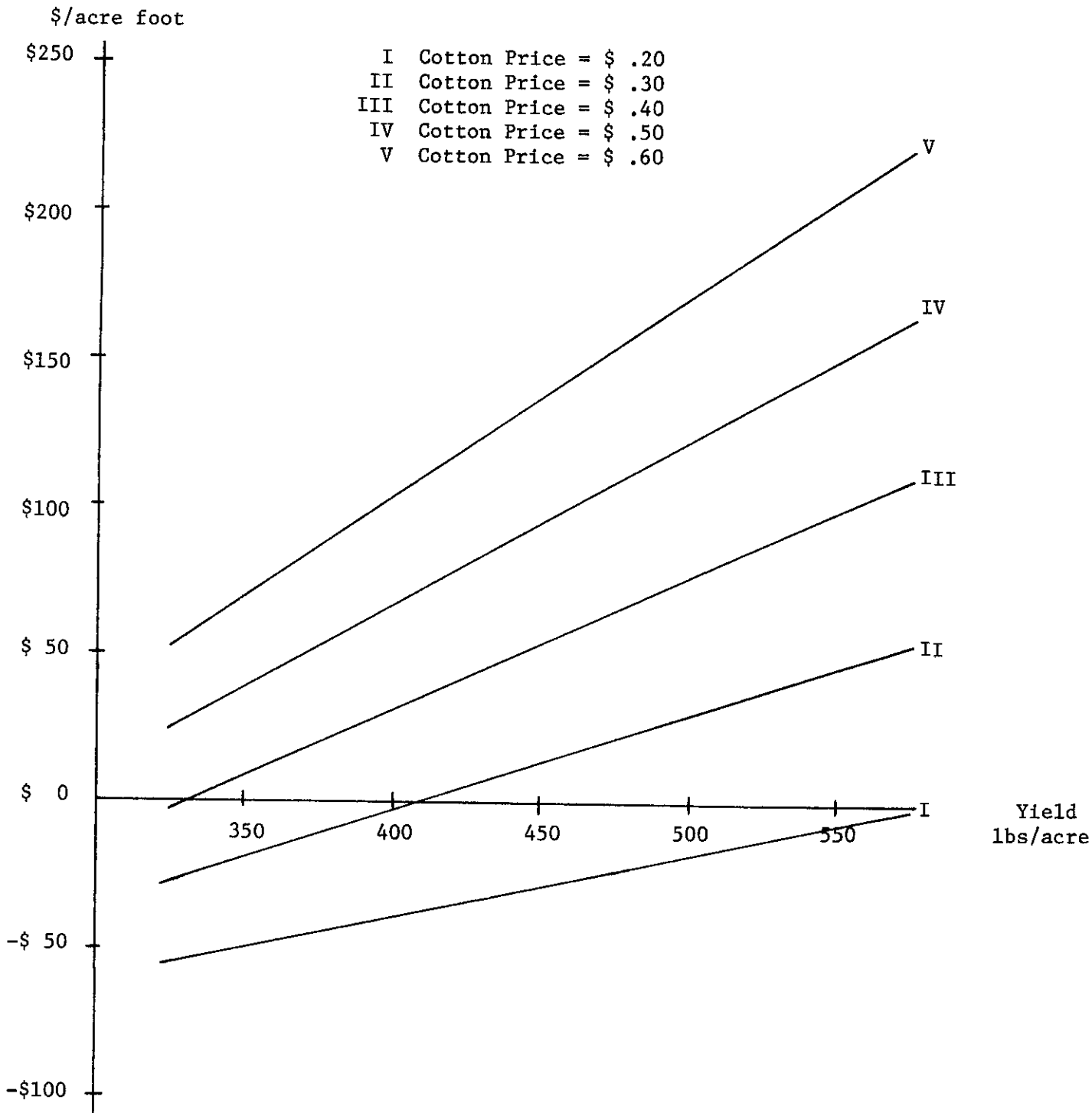


Figure Value of irrigation water applied to Cotton, furrow, preplant plus one postplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.

## Value of Irrigation

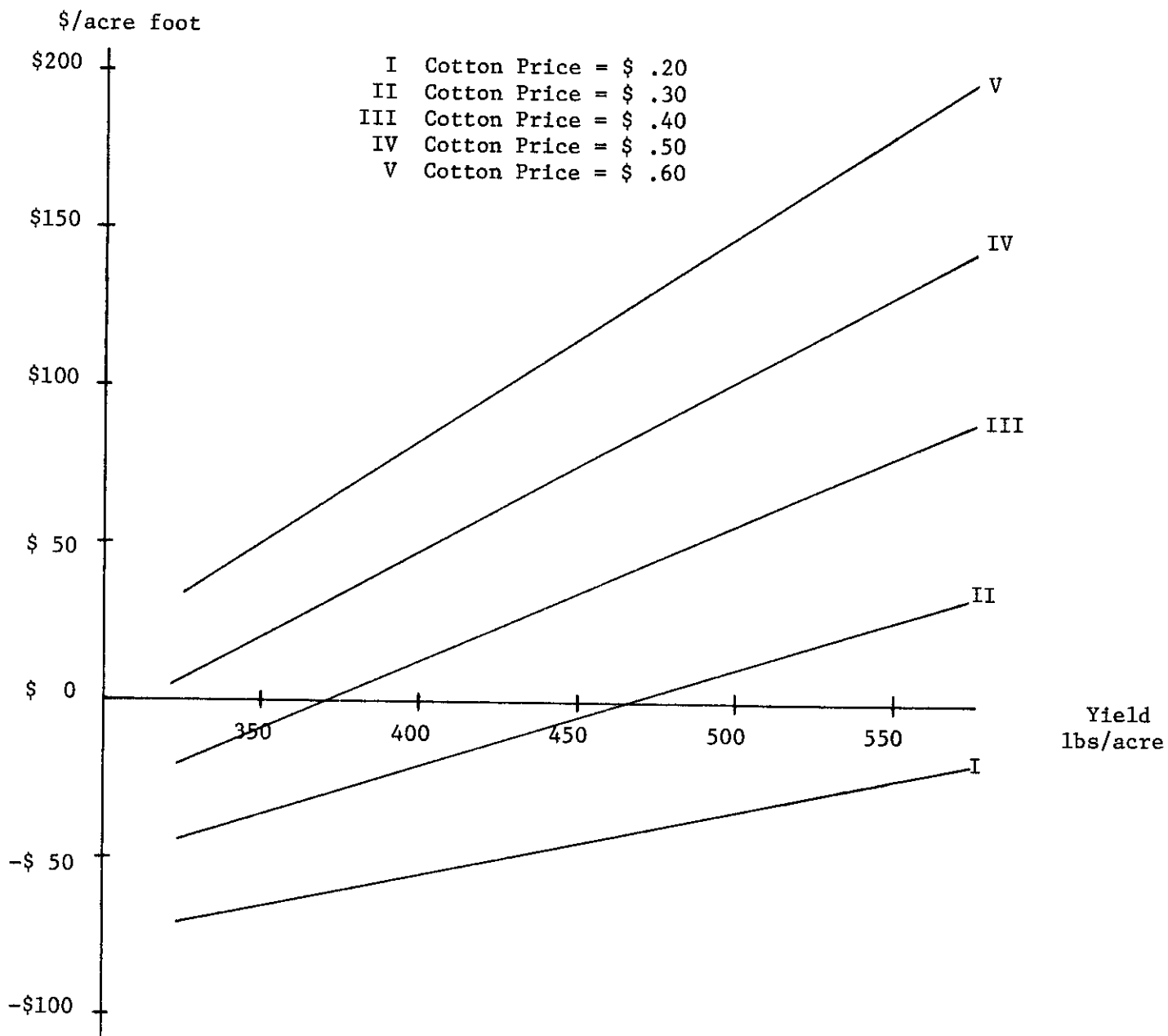


Figure Value of irrigation water applied to Cotton, furrow, preplant plus one postplant, in High Plains III for alternative Cotton prices and yields with 1974 costs inflated 10 percent.

Value of Irrigation

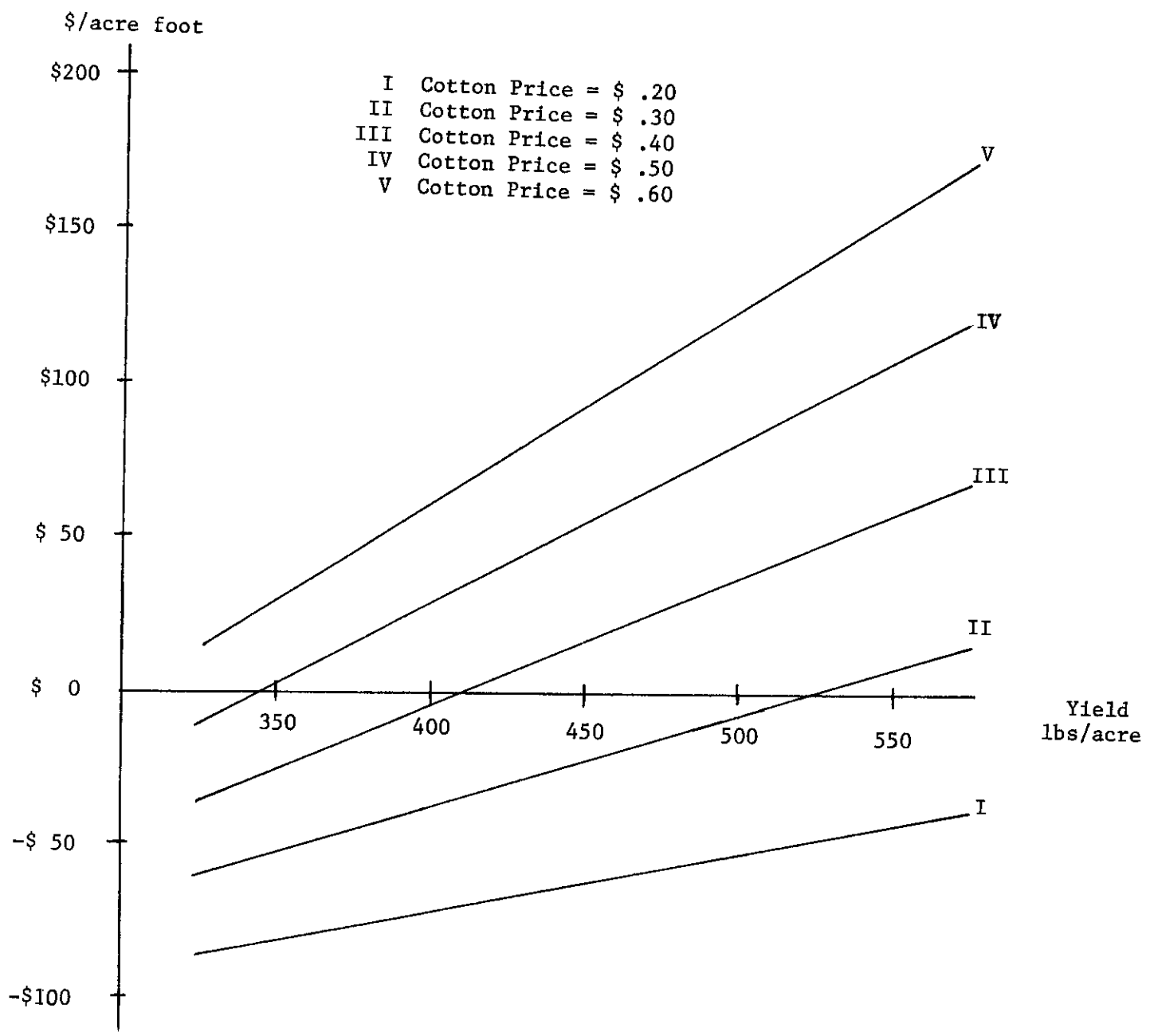


Figure Value of irrigation water applied to Cotton, furrow, preplant plus one postplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
FURROW PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION LBS PER ACRE				
		450.0	500.0	550.0	600.0	650.0
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-34.607	-27.017	-19.427	-11.838	-4.248
0.300	*	-5.013	6.637	18.286	29.936	41.585
0.400	*	24.581	40.291	56.000	71.709	87.419
0.500	*	54.175	73.944	93.714	113.483	133.252
0.600	*	83.769	107.598	131.427	155.256	179.085
10% COST INFLATION	*					
PRICES	*					
0.200	*	-47.606	-40.317	-33.028	-25.739	-18.450
0.300	*	-18.899	-7.571	3.756	15.083	26.411
0.400	*	9.809	25.174	40.540	55.906	71.272
0.500	*	38.516	57.920	77.324	96.728	116.133
0.600	*	67.223	90.666	114.108	137.551	160.994
20% COST INFLATION	*					
PRICES	*					
0.200	*	-60.605	-53.617	-46.629	-39.641	-32.653
0.300	*	-32.785	-21.779	-10.774	0.231	11.236
0.400	*	-4.964	10.058	25.080	40.102	55.125
0.500	*	22.856	41.896	60.935	79.974	99.014
0.600	*	50.677	73.733	96.790	119.846	142.903

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

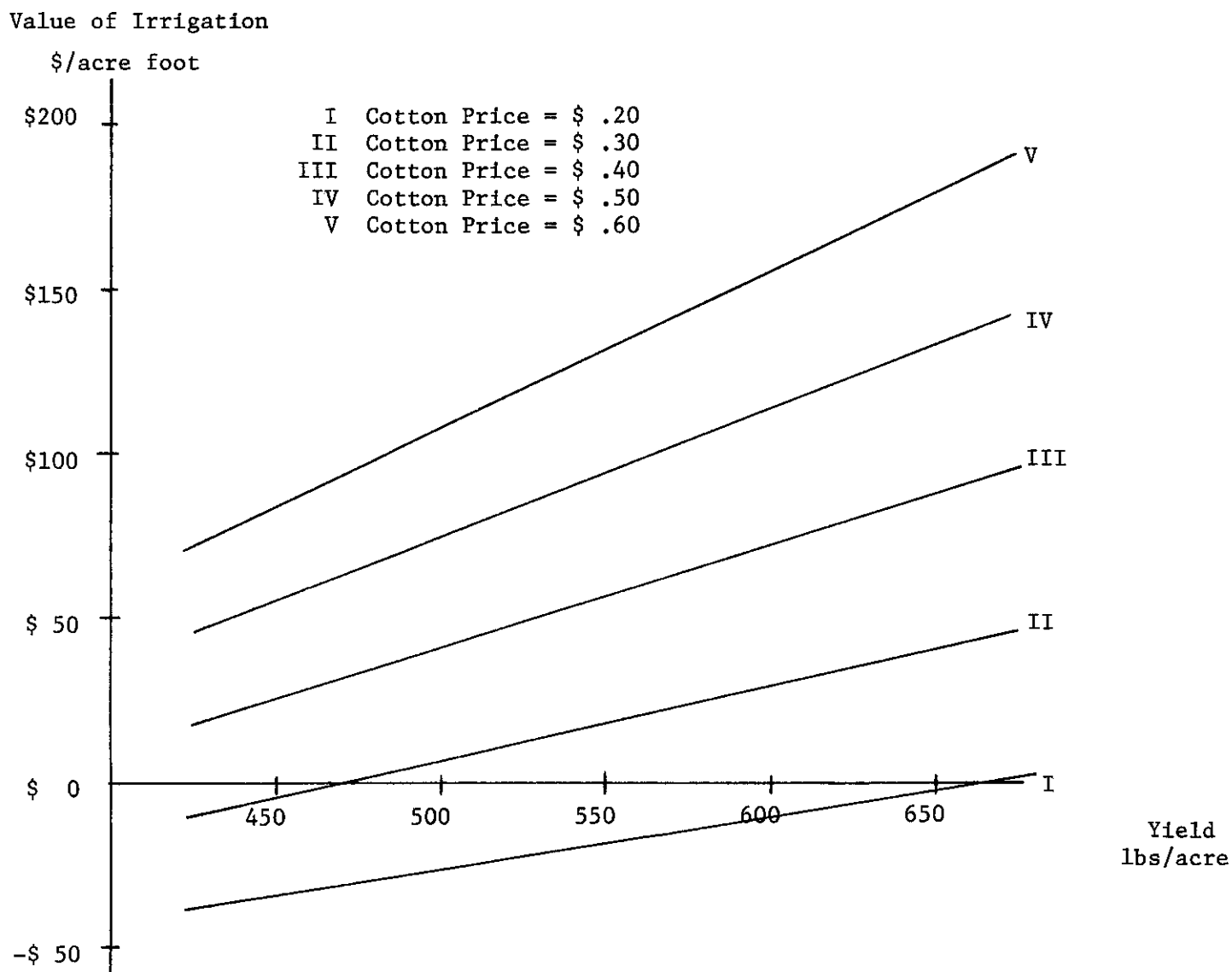
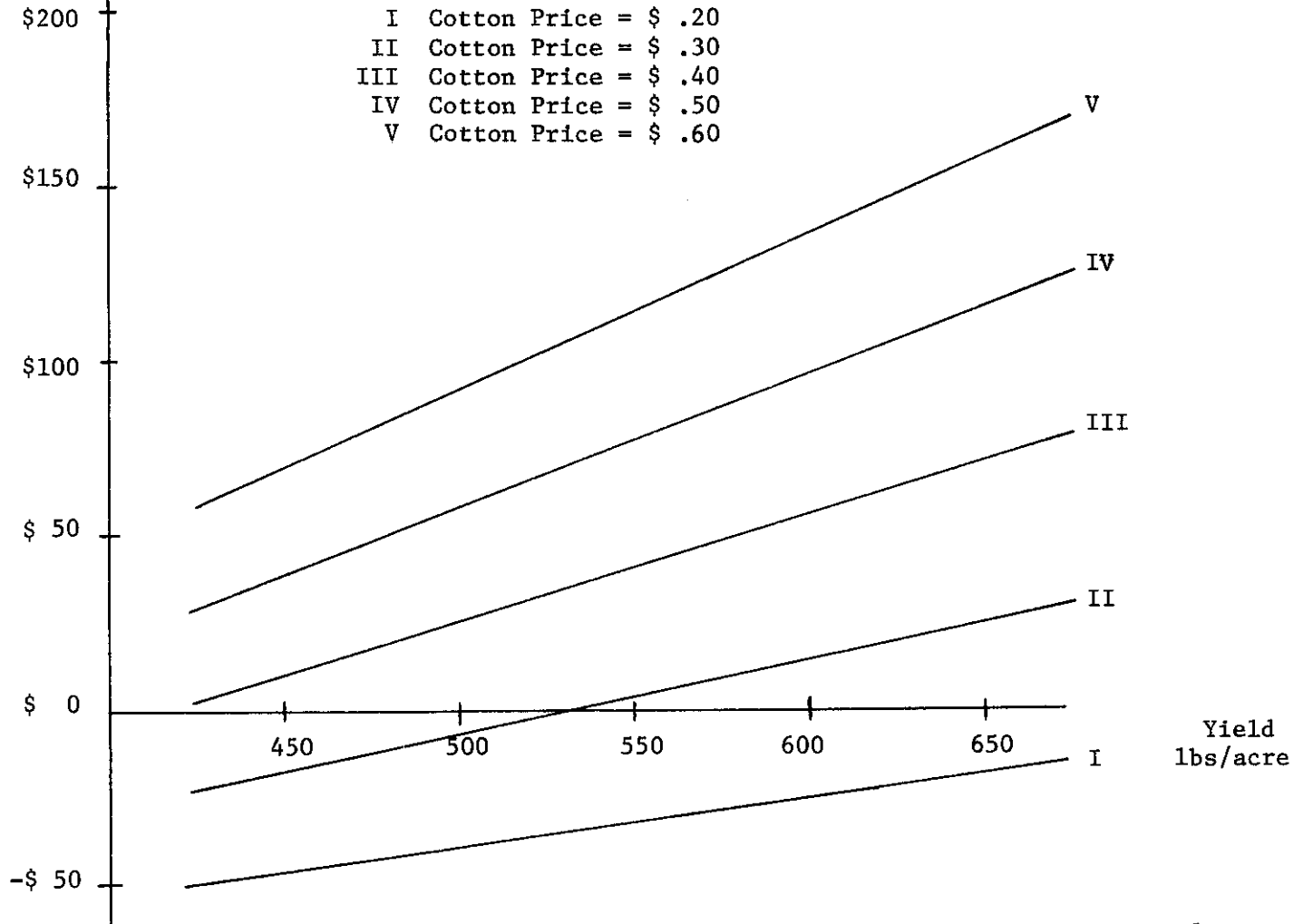


Figure Value of irrigation water applied to Cotton, furrow, preplant plus two postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.



Value of Irrigation  
\$/acre foot



Figure

Value of irrigation water applied to Cotton, furrow, preplant plus two postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

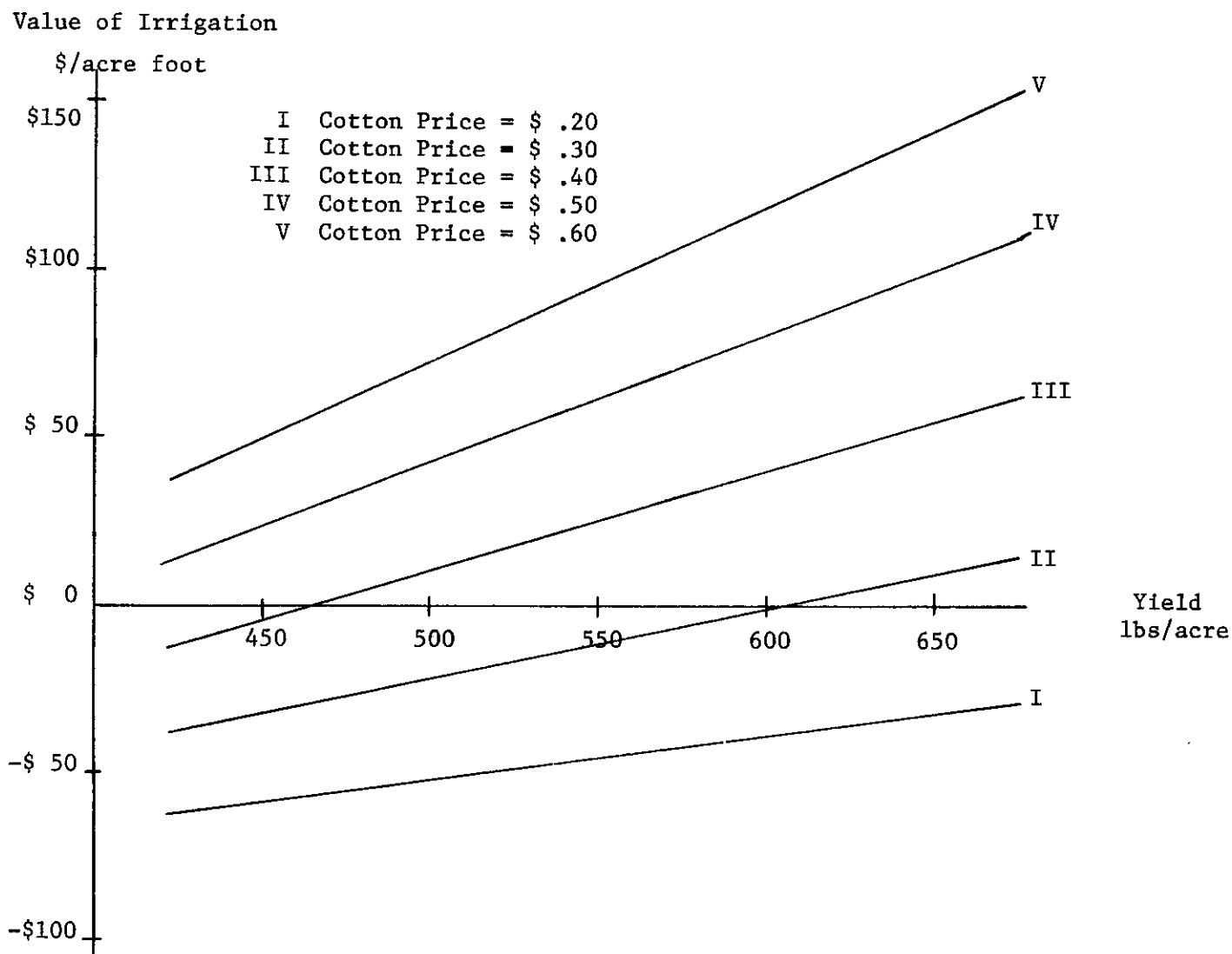


Figure Value of irrigation water applied to Cotton, furrow, preplant plus two postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
FURROW PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	550.0	600.0	650.0	700.0	750.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-20.260	-14.340	-8.420	-2.500	3.420
0.300	*	9.157	18.243	27.330	36.417	45.503
0.400	*	38.573	50.827	63.080	75.333	87.587
0.500	*	67.990	83.410	98.830	114.250	129.670
0.600	*	97.407	115.993	134.580	153.167	171.753
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-31.379	-25.694	-20.009	-14.323	-8.638
0.300	*	-2.688	6.148	14.983	23.818	32.654
0.400	*	26.004	37.989	49.975	61.960	73.945
0.500	*	54.696	69.831	84.966	100.102	115.237
0.600	*	83.387	101.673	119.958	138.243	156.529
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-42.499	-37.048	-31.597	-26.147	-20.696
0.300	*	-14.532	-5.948	2.636	11.220	19.804
0.400	*	13.435	25.152	36.869	48.587	60.304
0.500	*	41.401	56.252	71.103	85.953	100.804
0.600	*	69.368	87.352	105.336	123.320	141.304

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

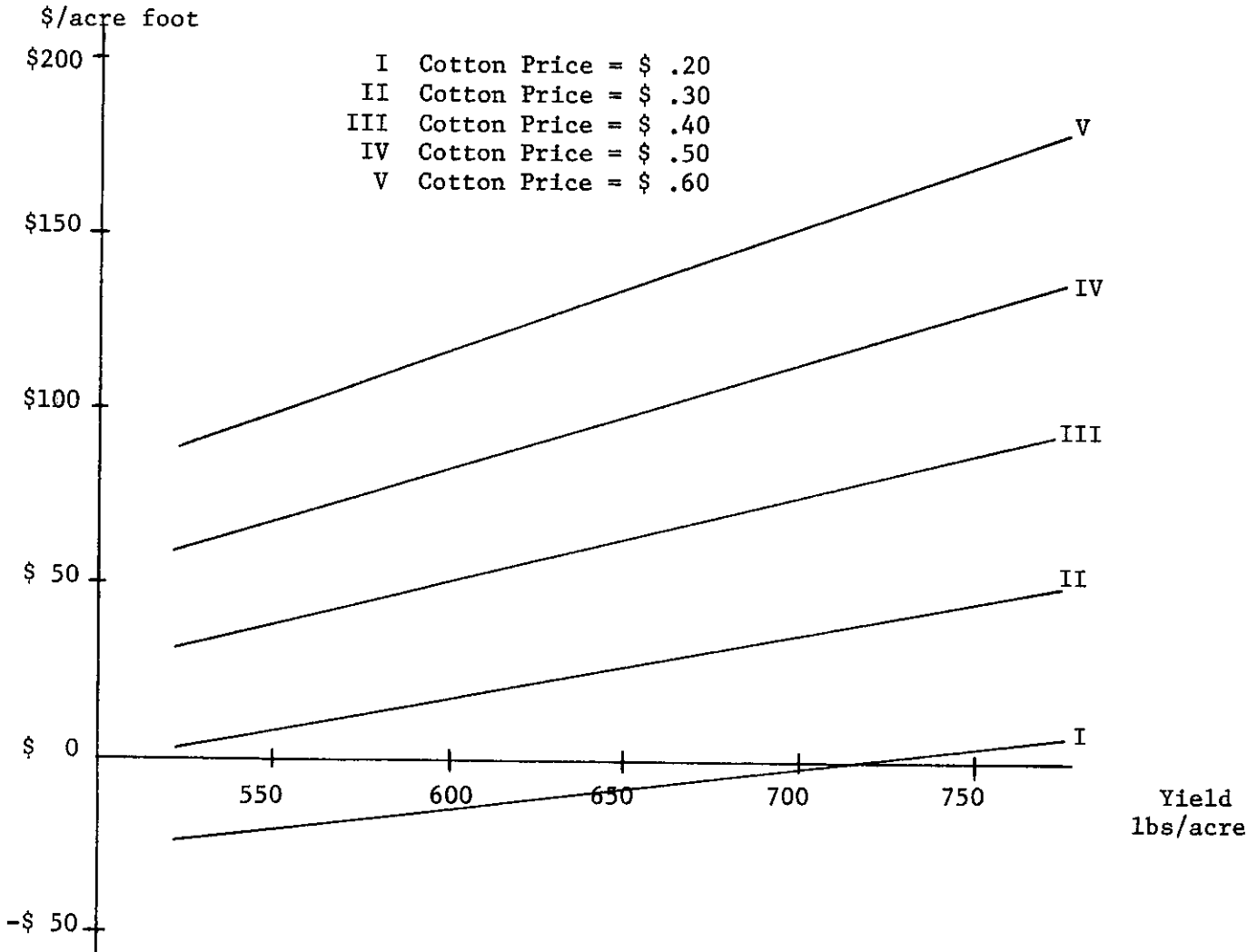


Figure Value of irrigation water applied to Cotton, furrow, preplant plus three postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.

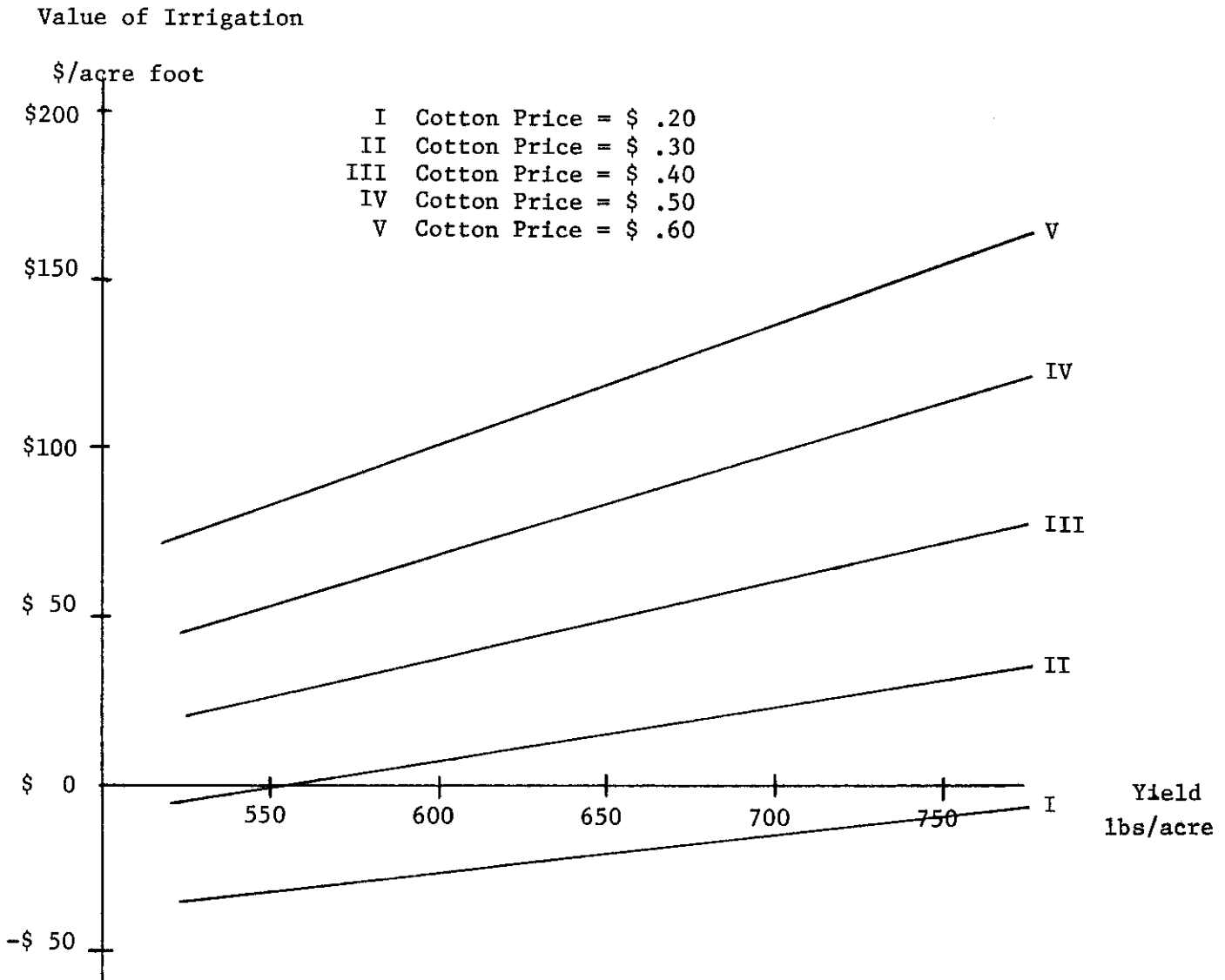


Figure Value of irrigation water applied to Cotton, furrow, preplant plus three postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

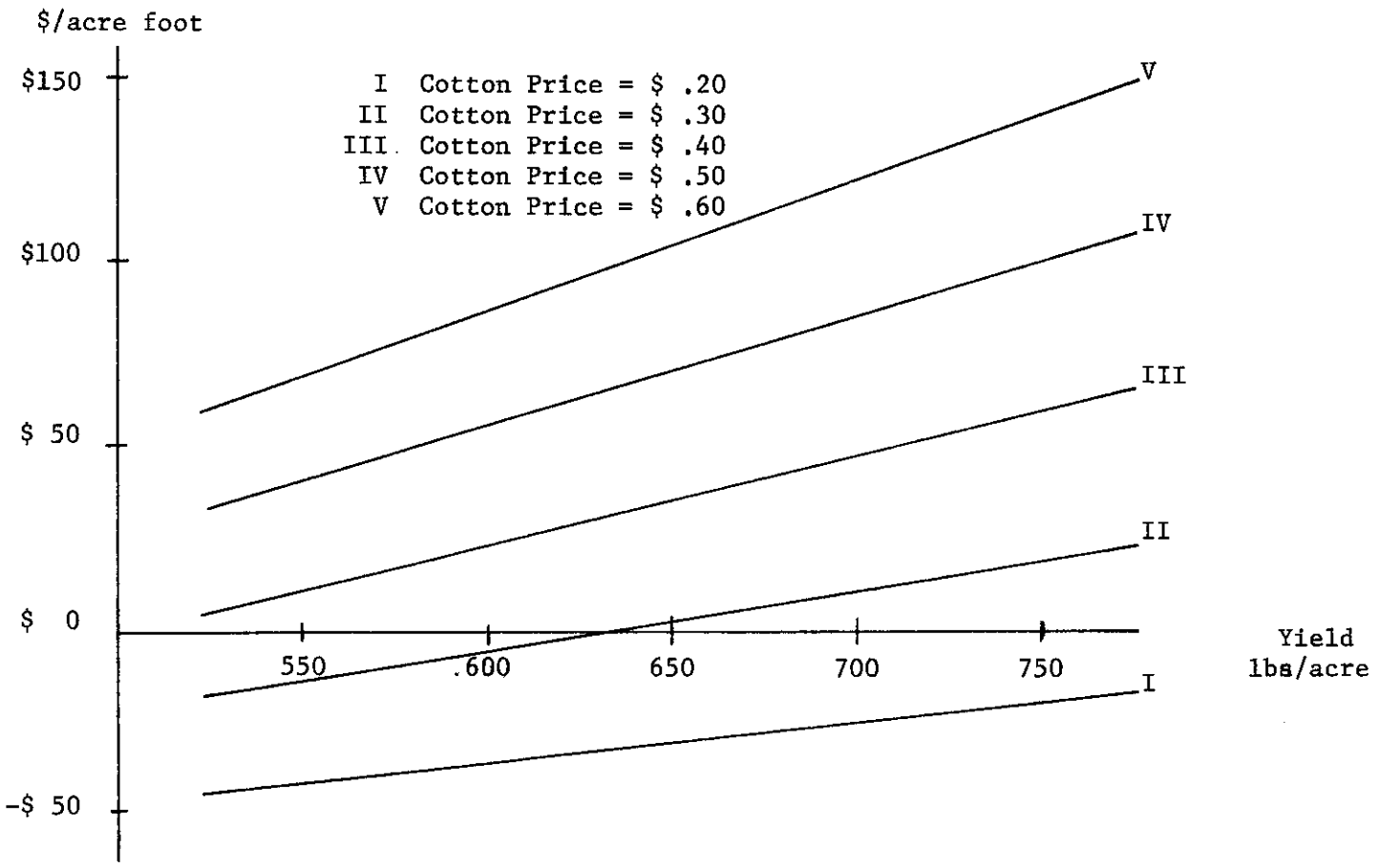


Figure Value of irrigation water applied to Cotton, furrow, preplant plus three postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
SPRINKLER PP

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	275.0	325.0	375.0	425.0	475.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-120.333	-93.424	-66.515	-39.606	-12.697
0.300	*	-65.788	-24.485	16.818	58.121	99.424
0.400	*	-11.242	44.455	100.152	155.849	211.546
0.500	*	43.303	113.394	183.485	253.576	323.666
0.600	*	97.849	182.333	266.818	351.303	435.787
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-153.033	-127.191	-101.348	-75.506	-49.664
0.300	*	-101.367	-61.206	-21.045	19.115	59.276
0.400	*	-49.700	4.779	59.258	113.736	168.215
0.500	*	1.967	70.764	139.561	208.358	277.154
0.600	*	53.633	136.748	219.864	302.979	386.093
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-185.733	-160.958	-136.182	-111.406	-86.630
0.300	*	-136.945	-97.927	-58.909	-19.891	19.127
0.400	*	-88.158	-34.897	18.364	71.624	124.885
0.500	*	-39.370	28.133	95.636	163.139	230.642
0.600	*	9.418	91.164	172.909	254.654	336.399
-----						

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

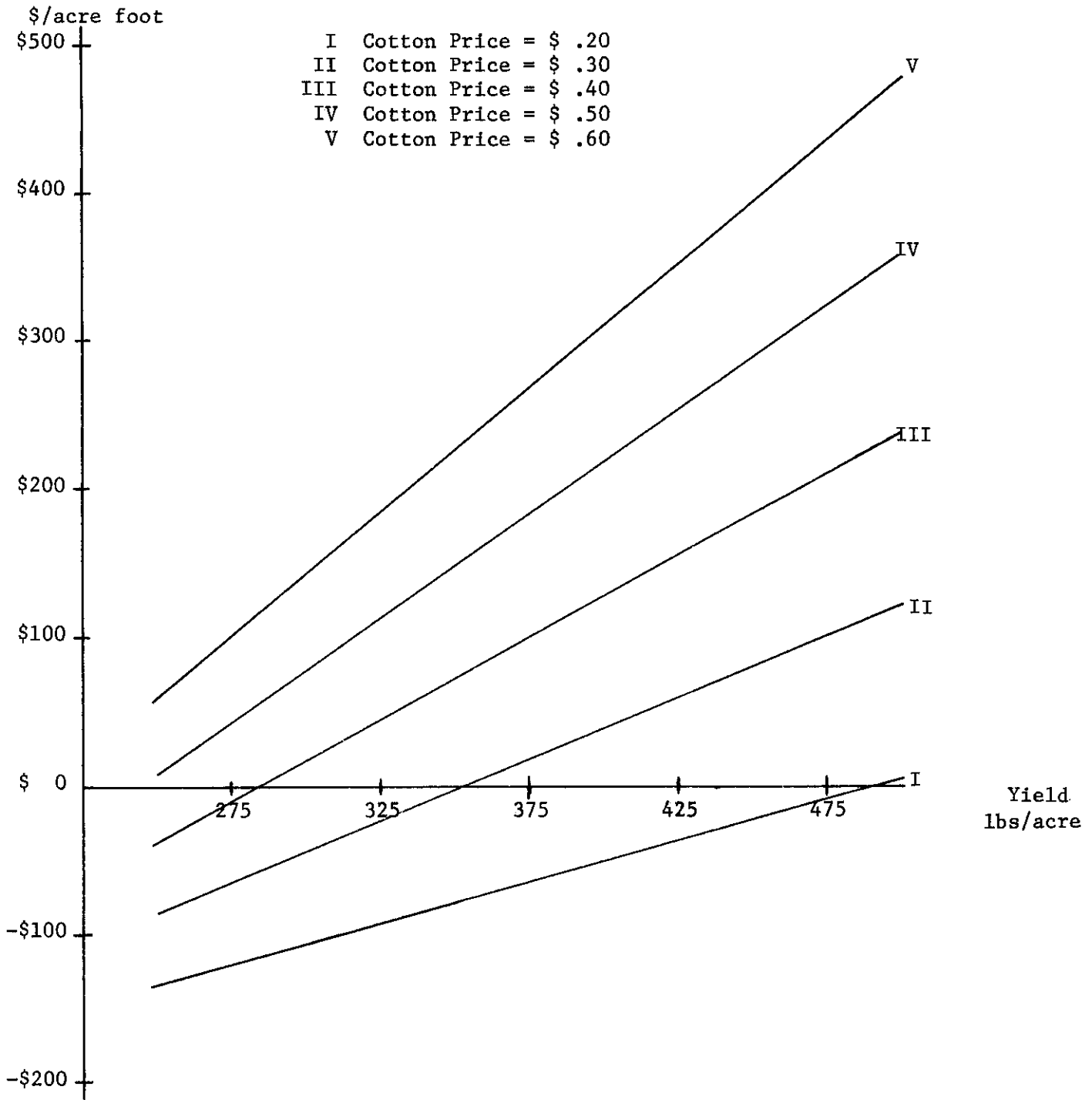


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.



Value of Irrigation

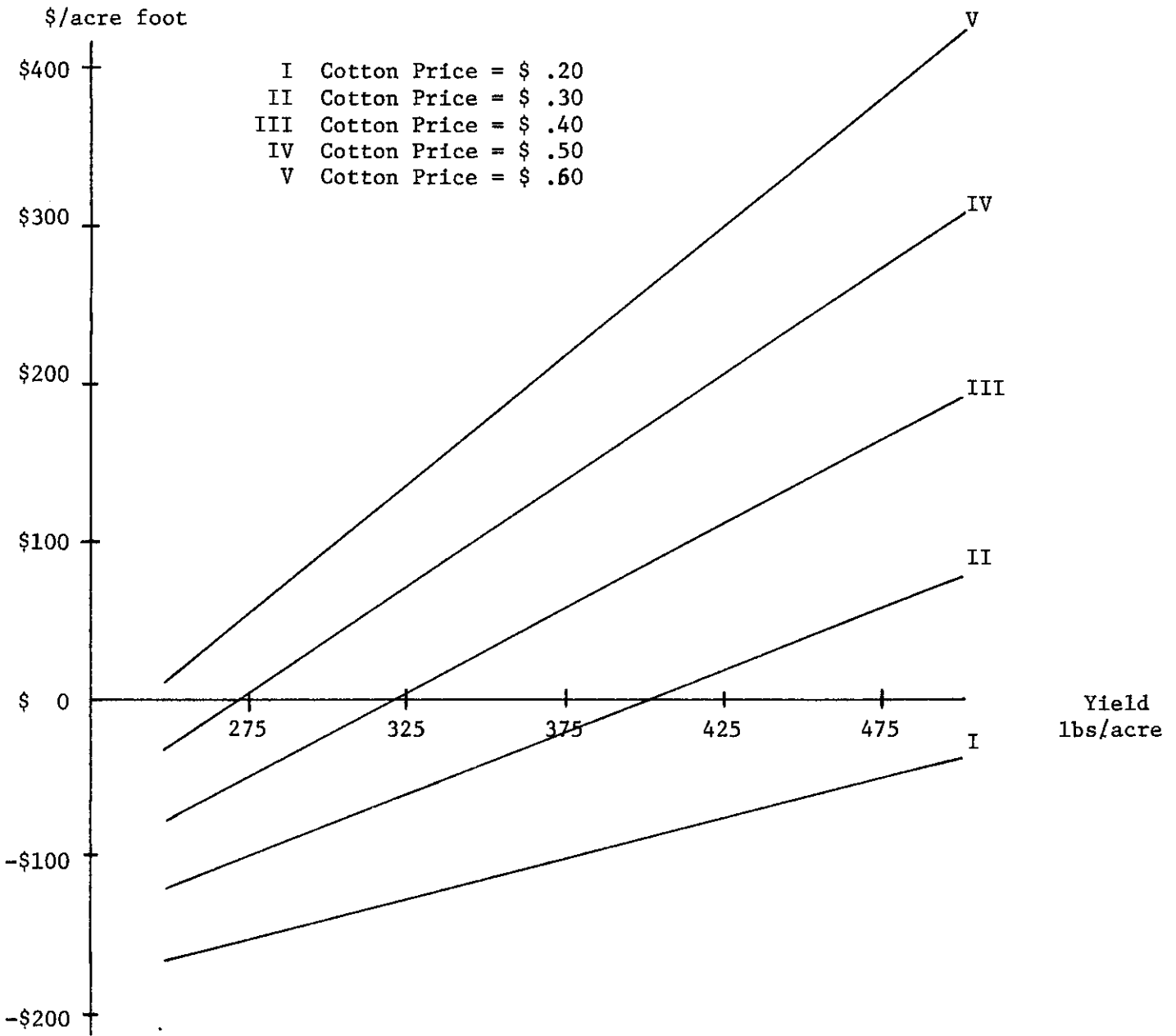


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

\$/acre foot

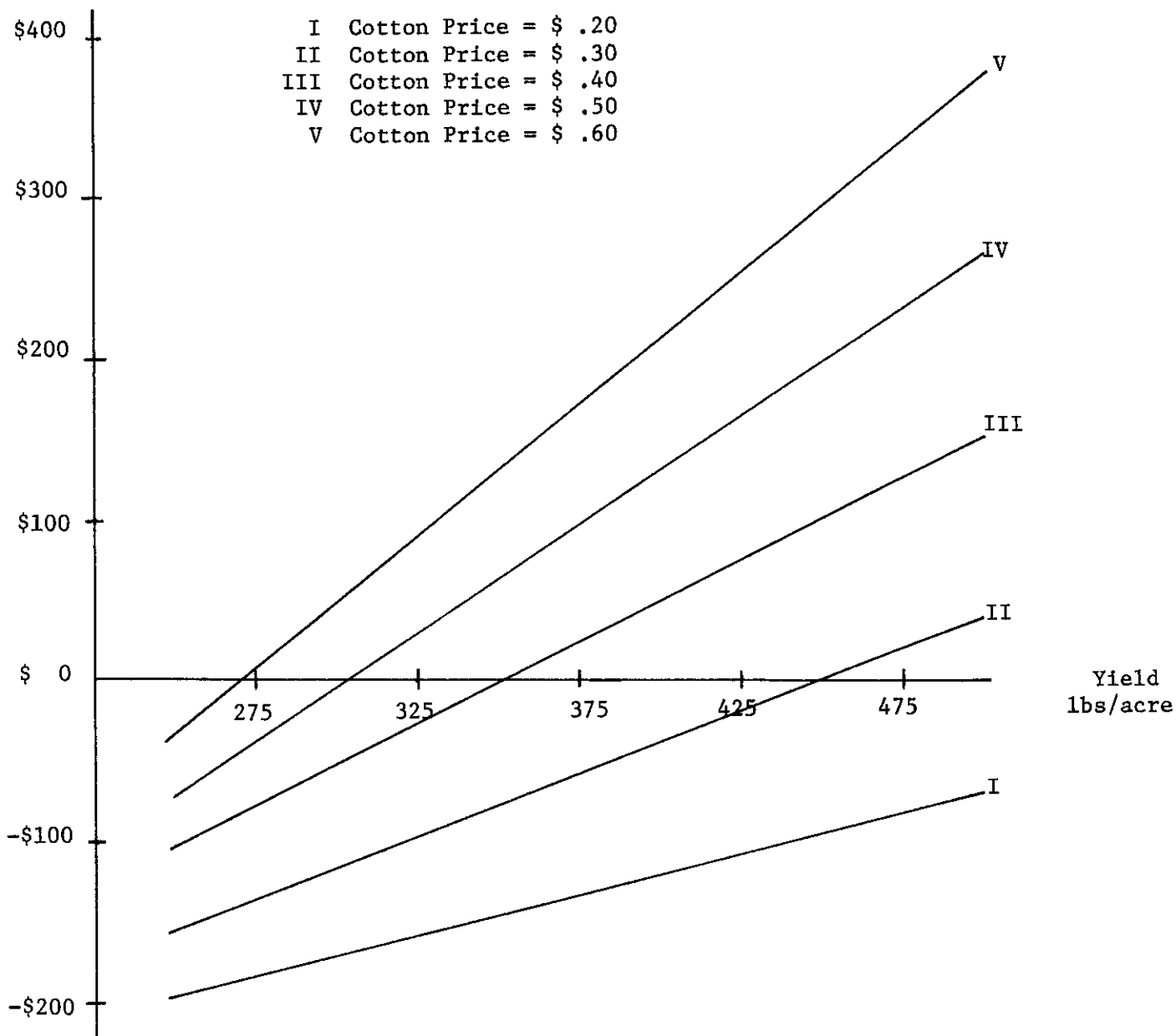


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
SPRINKLER PP+1

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	350.0	400.0	450.0	500.0	550.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-68.379	-53.069	-37.759	-22.448	-7.138
	*					
0.300	*	-25.060	-1.560	21.940	45.440	68.940
	*					
0.400	*	18.259	49.948	81.638	113.328	145.017
	*					
0.500	*	61.578	101.457	141.336	181.215	221.095
	*					
0.600	*	104.897	152.965	201.034	249.104	297.172
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-90.183	-75.479	-60.776	-46.072	-31.369
	*					
0.300	*	-48.566	-25.716	-2.866	19.984	42.834
	*					
0.400	*	-6.950	24.047	55.043	86.040	117.036
	*					
0.500	*	34.666	73.809	112.953	152.095	191.239
	*					
0.600	*	76.283	123.572	170.862	218.152	265.441
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-111.986	-97.890	-83.793	-69.696	-55.600
	*					
0.300	*	-72.072	-49.872	-27.672	-5.472	16.728
	*					
0.400	*	-32.159	-1.855	28.448	58.752	89.055
	*					
0.500	*	7.755	46.162	84.569	122.976	161.383
	*					
0.600	*	47.669	94.179	140.689	187.200	233.710
	*					

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

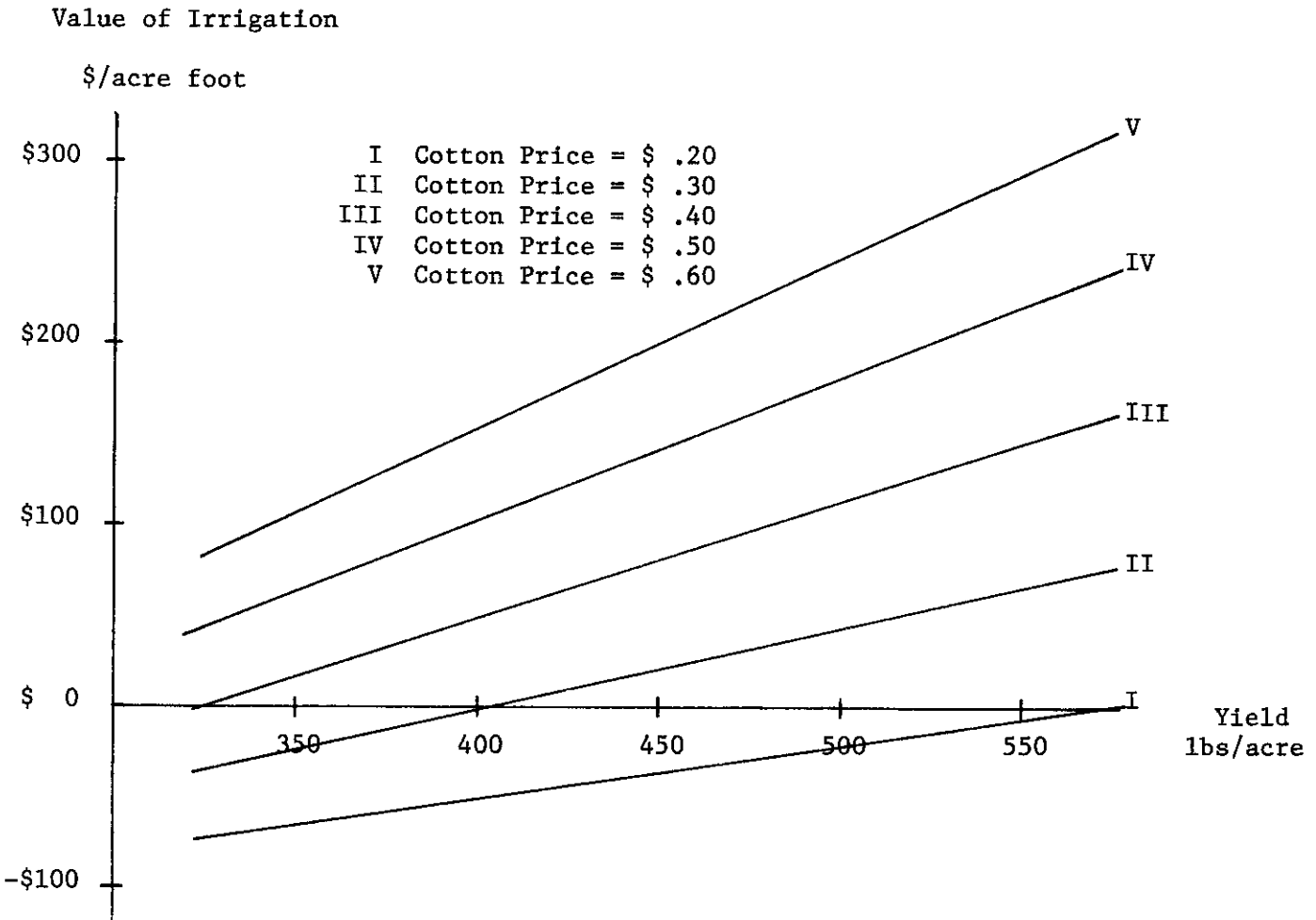


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus one postplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.

Value of Irrigation

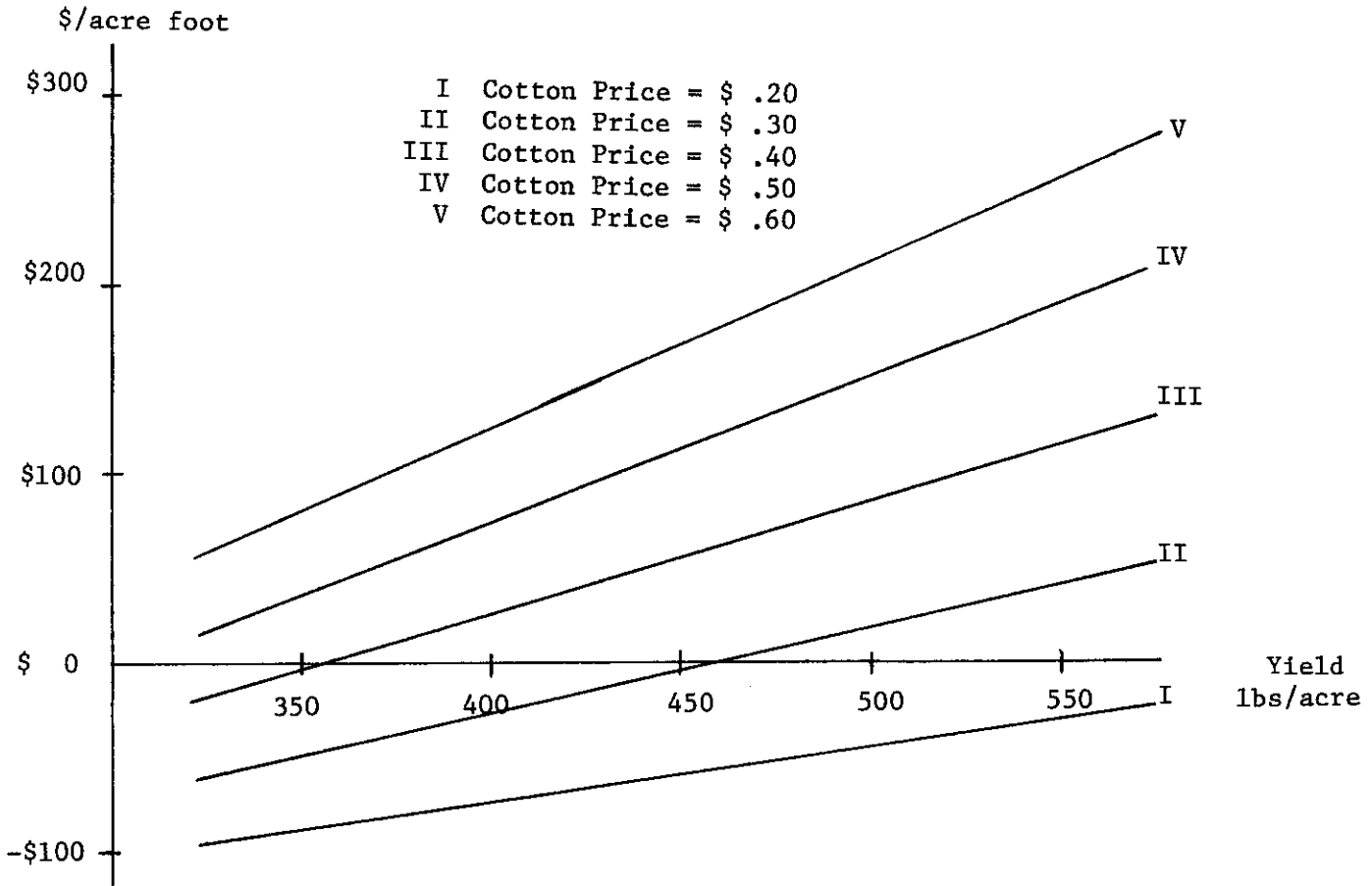


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus one postplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

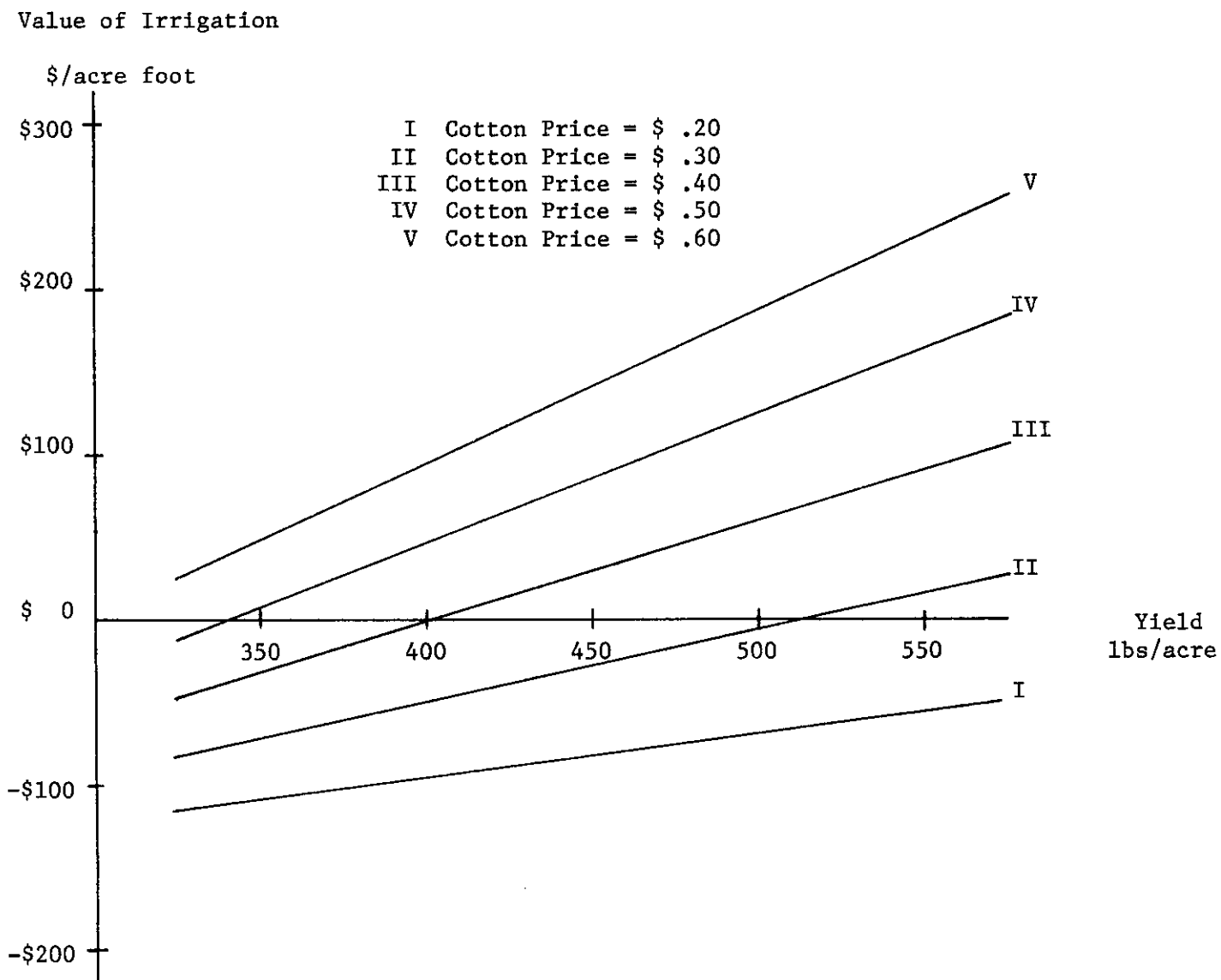


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus one postplant, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
COTTON  
SPRINKLER PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	450.0	500.0	550.0	600.0	650.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-47.229	-36.530	-25.831	-15.133	-4.434
	*					
0.300	*	-5.512	10.910	27.331	43.753	60.175
	*					
0.400	*	36.205	58.349	80.494	102.638	124.783
	*					
0.500	*	77.922	105.789	133.657	161.524	189.392
	*					
0.600	*	119.638	153.229	186.819	220.409	254.000
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-65.398	-55.123	-44.848	-34.573	-24.299
	*					
0.300	*	-24.931	-8.963	7.004	22.972	38.939
	*					
0.400	*	15.536	37.196	58.857	80.517	102.177
	*					
0.500	*	56.003	83.356	110.709	138.062	165.415
	*					
0.600	*	96.470	129.516	162.561	195.607	228.653
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-83.566	-73.716	-63.865	-54.014	-44.164
	*					
0.300	*	-44.349	-28.836	-13.323	2.190	17.704
	*					
0.400	*	-5.132	16.043	37.219	58.395	79.571
	*					
0.500	*	34.084	60.923	87.761	114.600	141.439
	*					
0.600	*	73.301	105.802	138.304	170.805	203.306
	*					

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

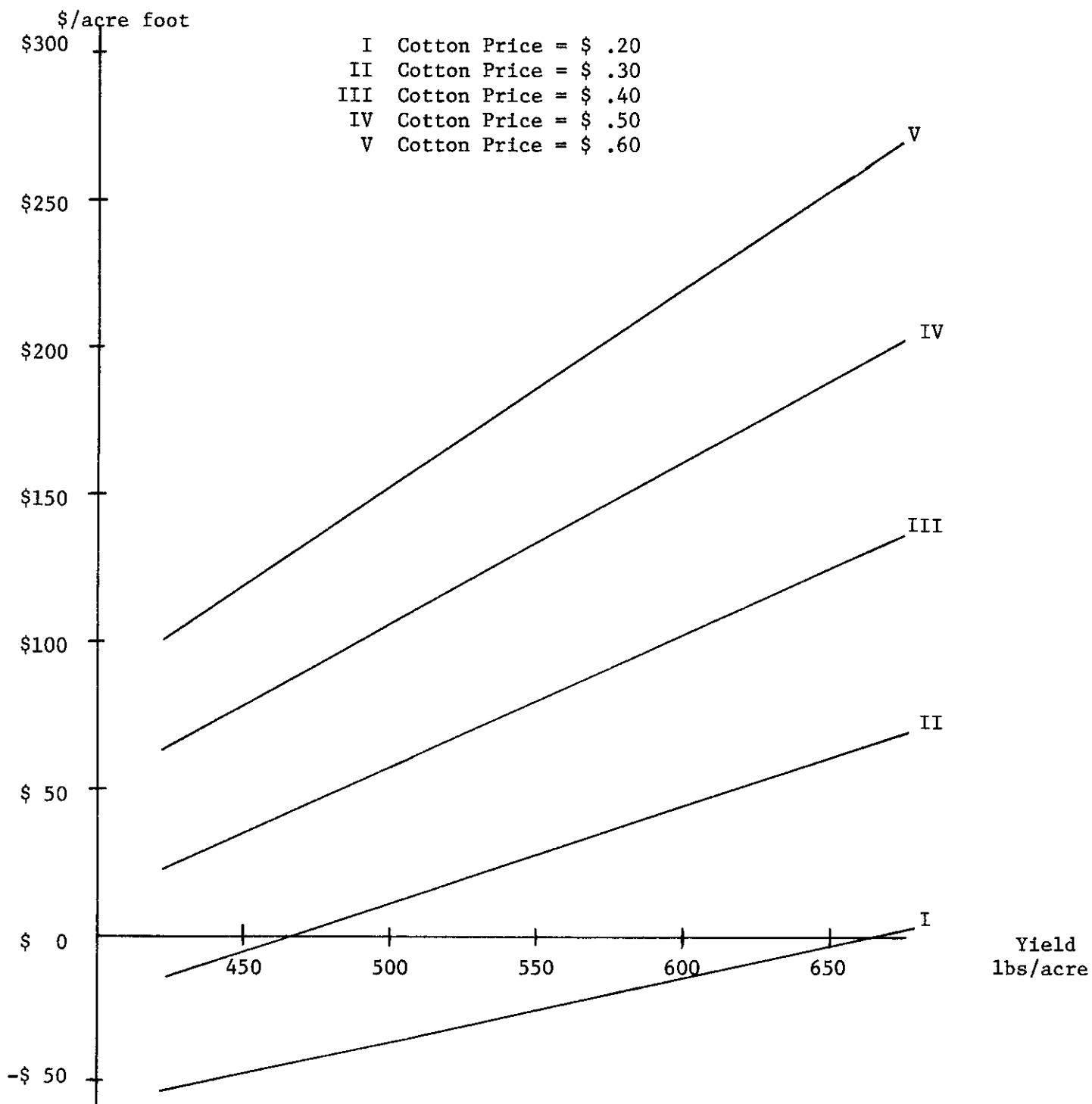


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus two postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.



Value of Irrigation

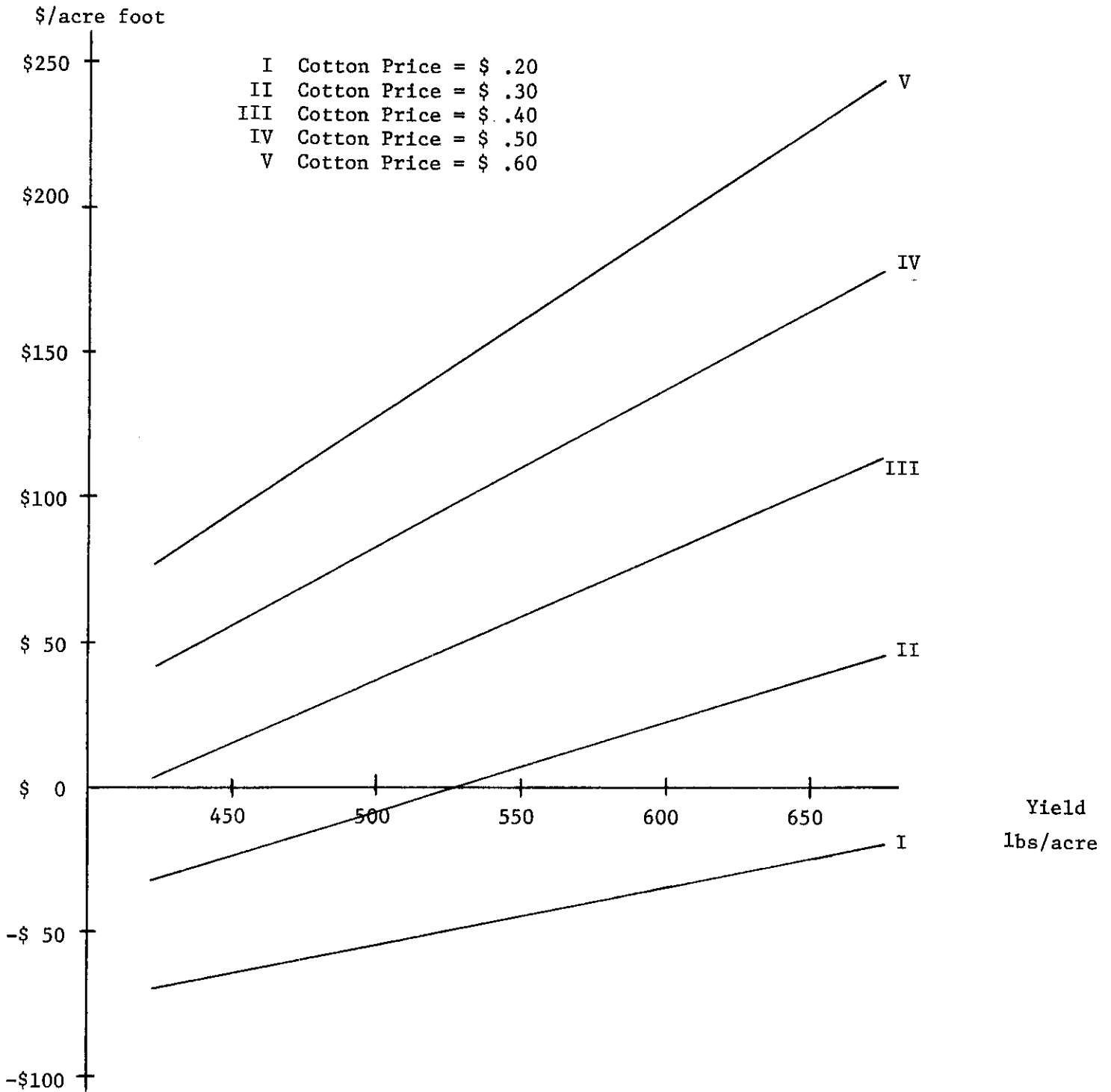


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus two postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

HIGH PLAINS III  
COTTON  
SPRINKLER PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	550.0	600.0	650.0	700.0	750.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-25.787	-17.565	-9.343	-1.120	7.102
	*					
0.300	*	15.069	27.690	40.310	52.931	65.551
	*					
0.400	*	55.926	72.944	89.963	106.981	124.000
	*					
0.500	*	96.782	118.199	139.616	161.032	182.449
	*					
0.600	*	137.639	163.454	189.268	215.083	240.898
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-40.995	-33.099	-25.203	-17.306	-9.410
	*					
0.300	*	-1.146	11.125	23.397	35.668	47.939
	*					
0.400	*	38.704	55.350	71.996	88.642	105.289
	*					
0.500	*	78.553	99.574	120.596	141.617	162.638
	*					
0.600	*	118.403	143.799	169.195	194.592	219.988
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-56.204	-48.633	-41.063	-33.493	-25.922
	*					
0.300	*	-17.361	-5.439	6.483	18.406	30.328
	*					
0.400	*	21.481	37.755	54.030	70.304	86.578
	*					
0.500	*	60.324	80.950	101.576	122.202	142.828
	*					
0.600	*	99.167	124.144	149.122	174.100	199.078
	*					

A DRYLAND YIELD OF 325.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

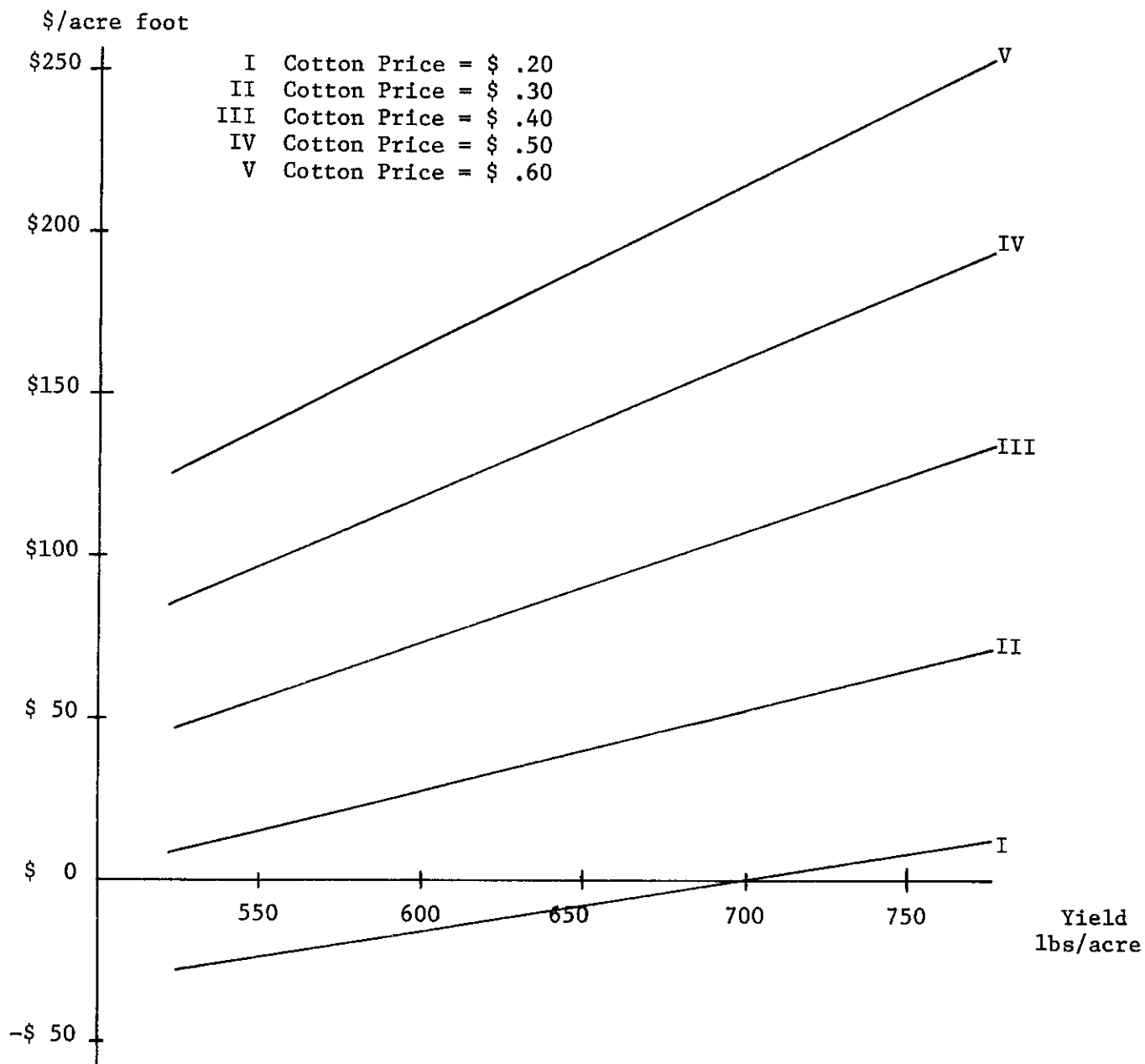


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus three postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs.

Value of Irrigation

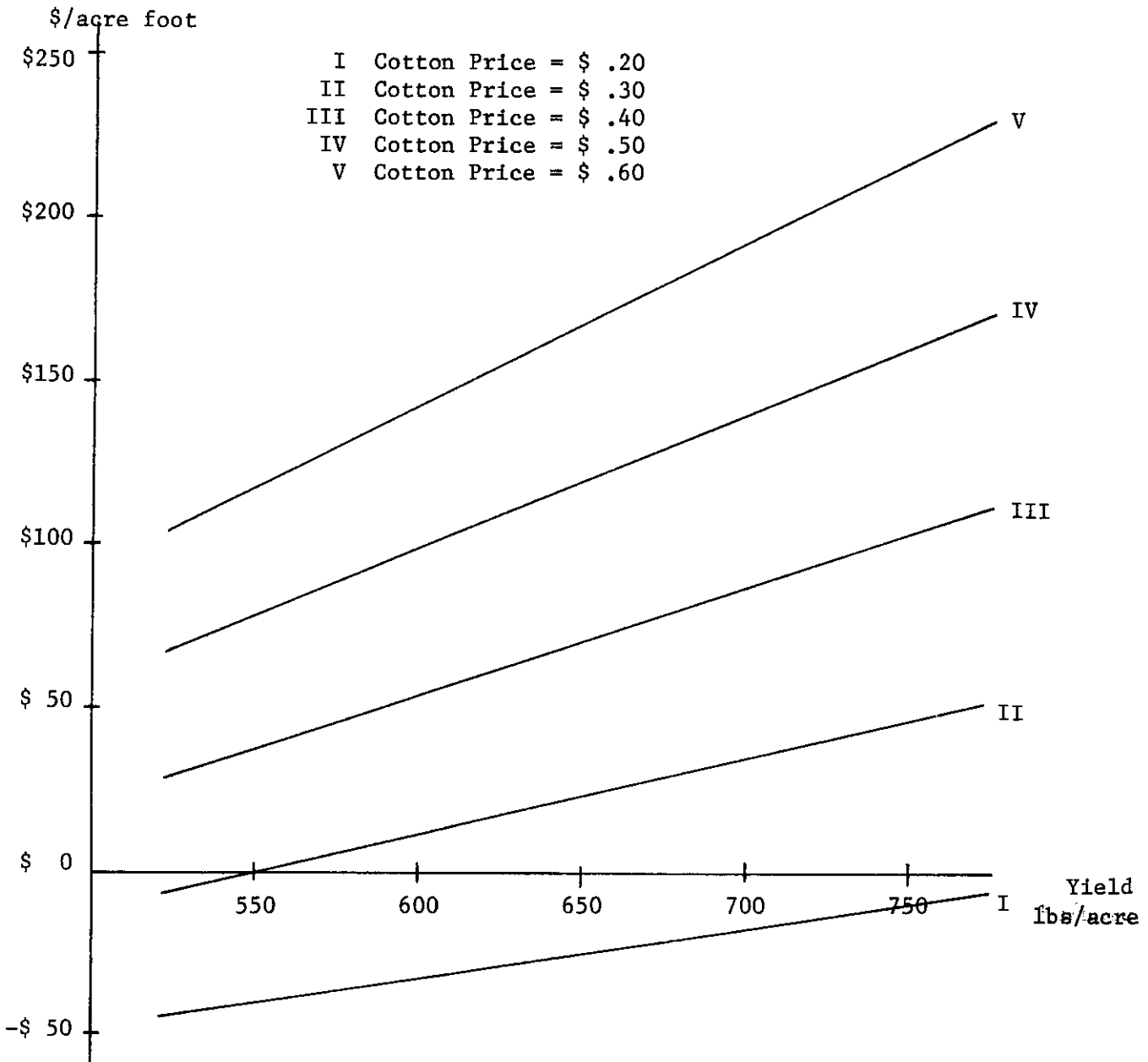


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus three postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

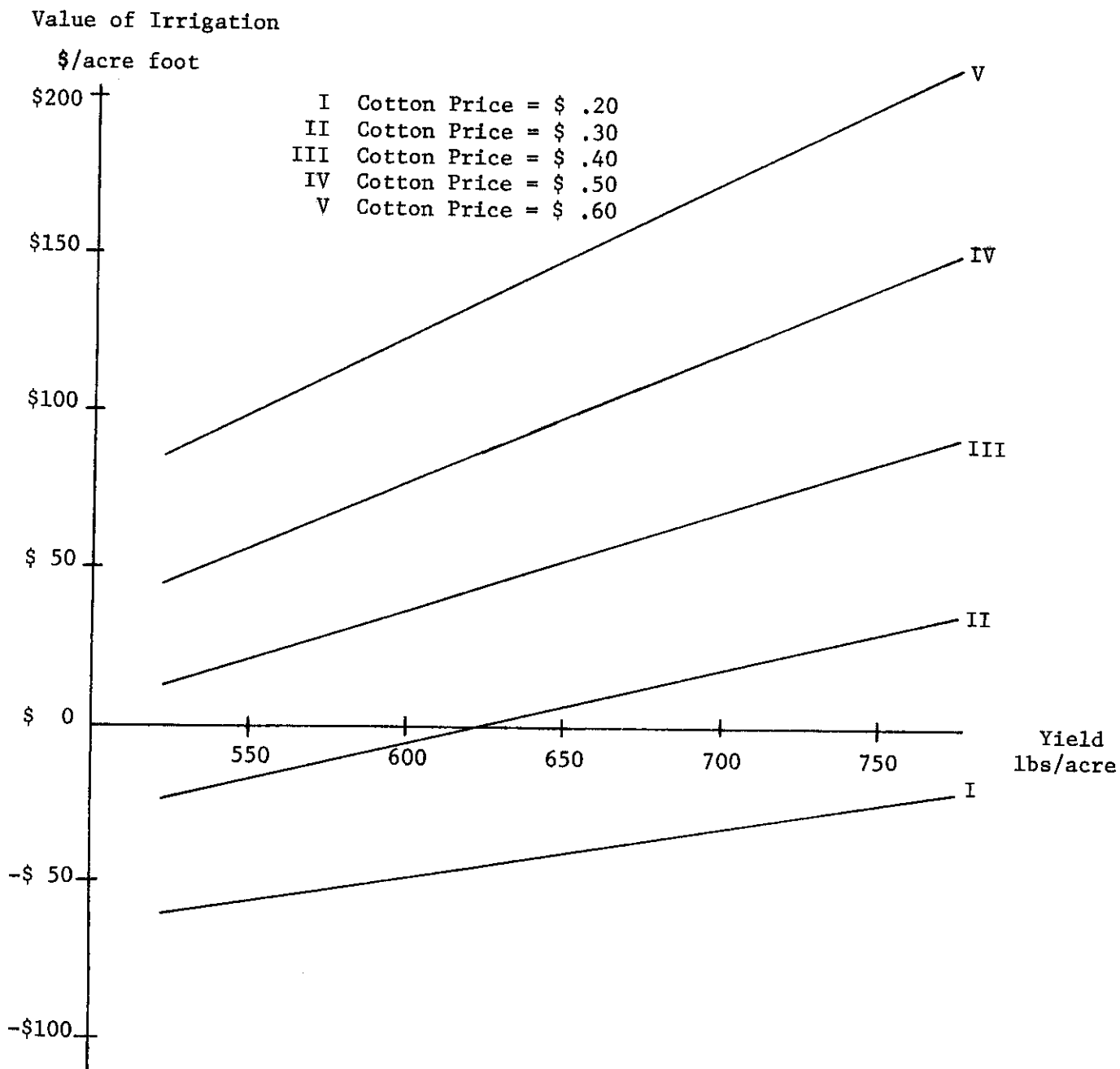


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus three postplants, in High Plains III for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
GRAIN SORGHUM  
FURROW PP+1

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		10.0	20.0	30.0	40.0	50.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-71.629	-53.557	-35.485	-17.412	0.660
	*					
2.500	*	-69.018	-45.223	-21.428	2.367	26.162
	*					
3.000	*	-66.408	-36.890	-7.372	22.146	51.665
	*					
3.500	*	-63.797	-28.556	6.685	41.926	77.167
	*					
4.000	*	-61.186	-20.222	20.741	61.705	102.669
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
2.000	*	-81.202	-63.732	-46.262	-28.792	-11.322
	*					
2.500	*	-78.932	-55.770	-32.607	-9.444	13.718
	*					
3.000	*	-76.663	-47.808	-18.952	9.903	38.759
	*					
3.500	*	-74.394	-39.845	-5.297	29.251	63.799
	*					
4.000	*	-72.124	-31.883	8.358	48.599	88.840
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
2.000	*	-90.774	-73.907	-57.039	-40.172	-23.304
	*					
2.500	*	-88.846	-66.316	-43.786	-21.256	1.274
	*					
3.000	*	-86.918	-58.725	-30.533	-2.340	25.853
	*					
3.500	*	-84.990	-51.135	-17.279	16.576	50.432
	*					
4.000	*	-83.062	-43.544	-4.026	35.492	75.010
	*					
-----						

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

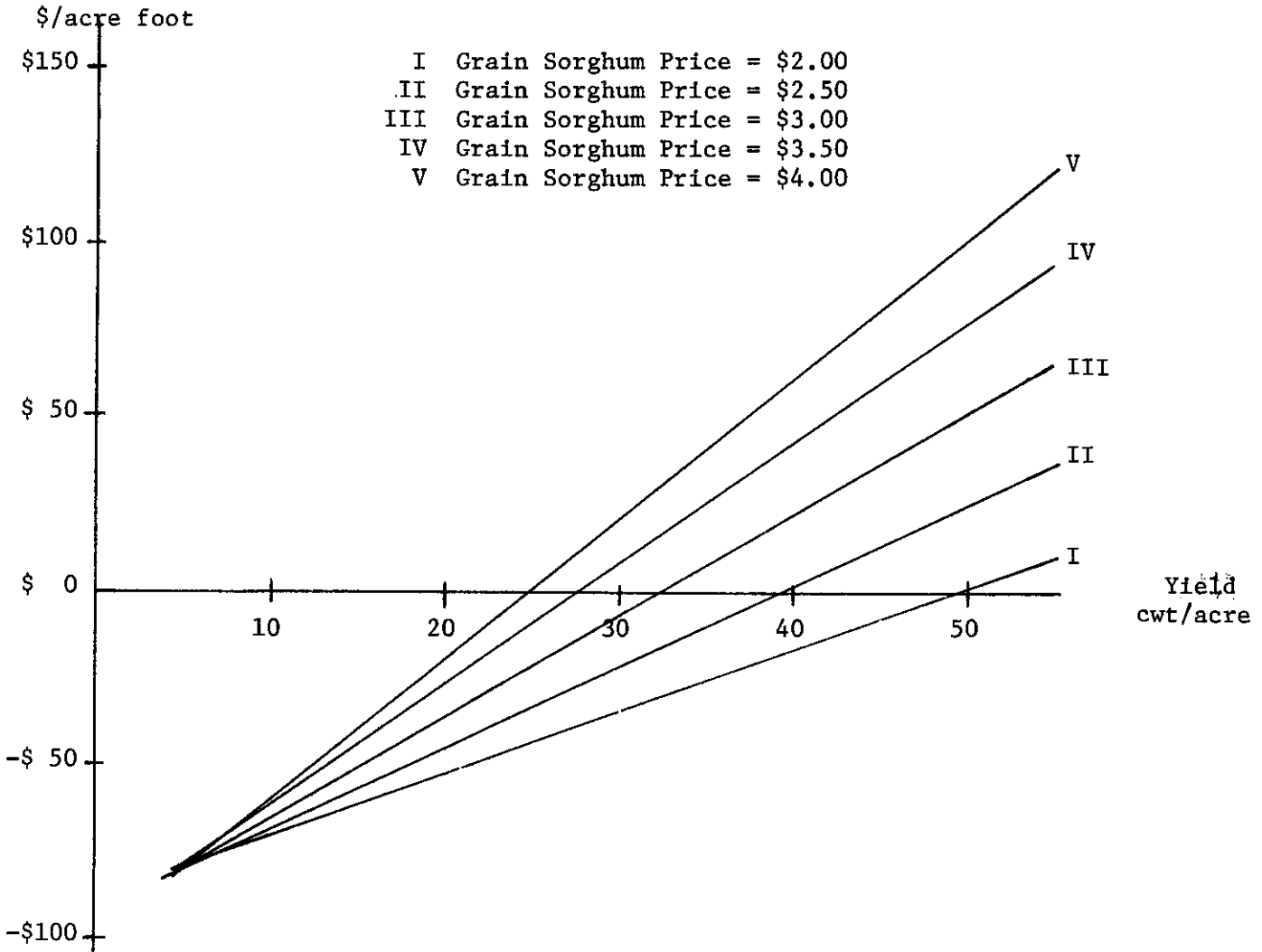


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus one postplant, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

## Value of Irrigation

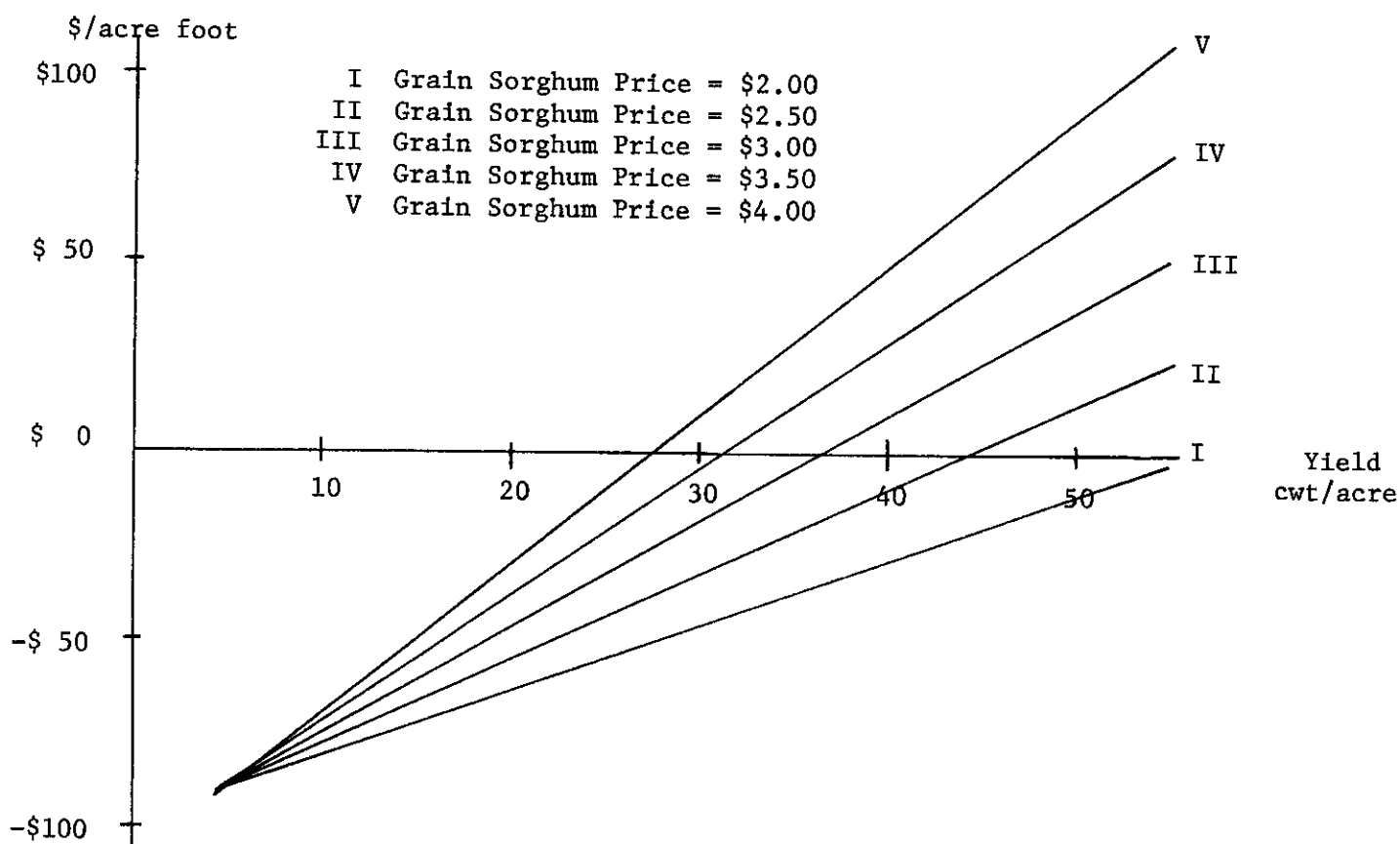


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus one postplant, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.



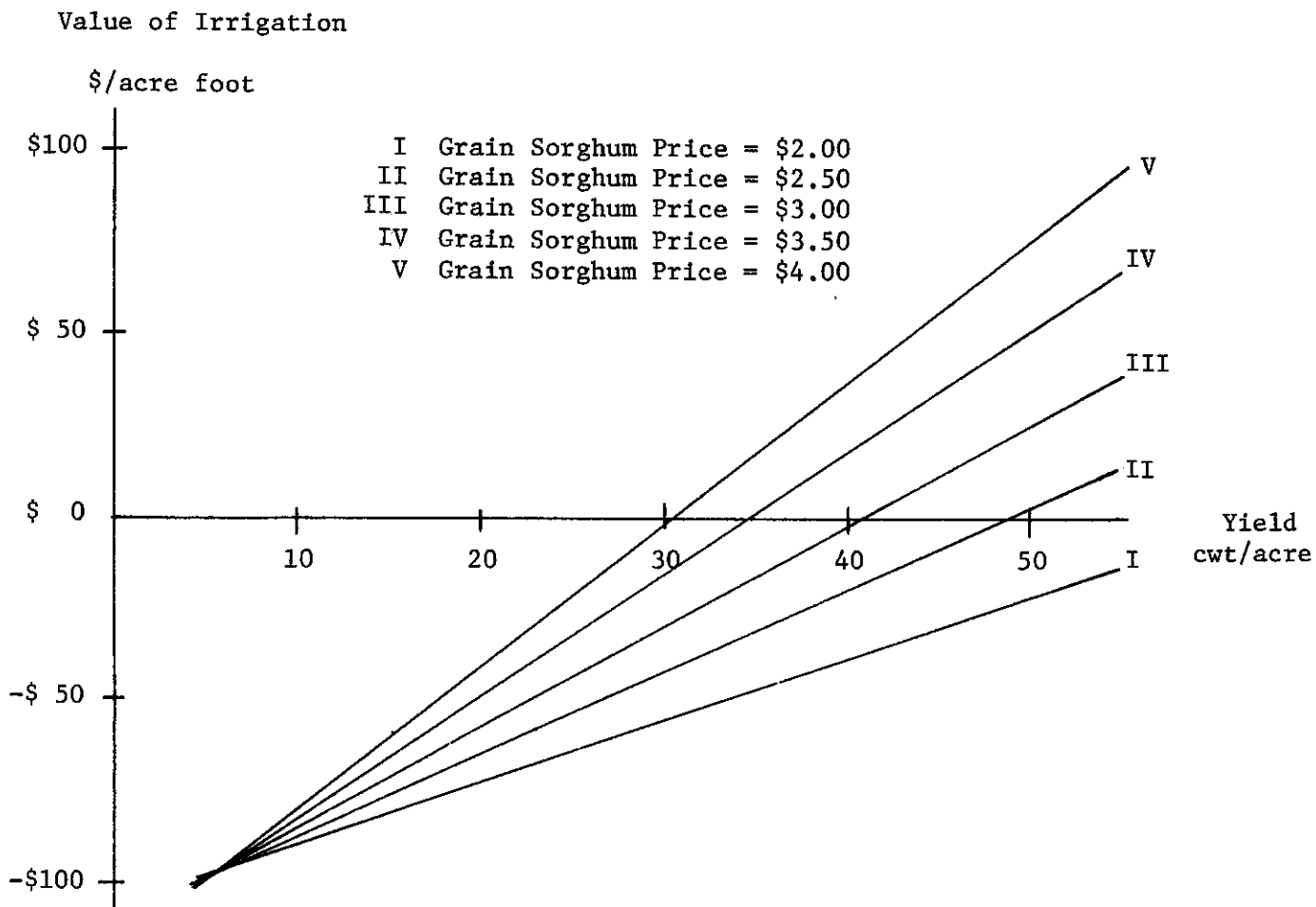


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus one postplant, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
GRAIN SORGHUM  
FURROW PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		20.0	30.0	40.0	50.0	60.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-54.540	-41.720	-28.899	-16.079	-3.258
2.500	*	-48.628	-31.748	-14.868	2.013	18.893
3.000	*	-42.717	-21.776	-0.836	20.104	41.044
3.500	*	-36.805	-11.805	13.195	38.195	63.195
4.000	*	-30.893	-1.833	27.227	56.287	85.346
10% COST INFLATION	*					
PRICES	*					
2.000	*	-63.413	-51.020	-38.627	-26.234	-13.841
2.500	*	-57.765	-41.333	-24.902	-8.470	7.962
3.000	*	-52.116	-31.646	-11.176	9.294	29.764
3.500	*	-46.468	-21.960	2.549	27.058	51.566
4.000	*	-40.820	-12.273	16.274	44.821	73.368
20% COST INFLATION	*					
PRICES	*					
2.000	*	-72.286	-60.320	-48.354	-36.389	-24.423
2.500	*	-66.901	-50.918	-34.935	-18.952	-2.970
3.000	*	-61.516	-41.516	-21.516	-1.516	18.484
3.500	*	-56.131	-32.114	-8.097	15.920	39.937
4.000	*	-50.747	-22.712	5.322	33.356	61.390

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

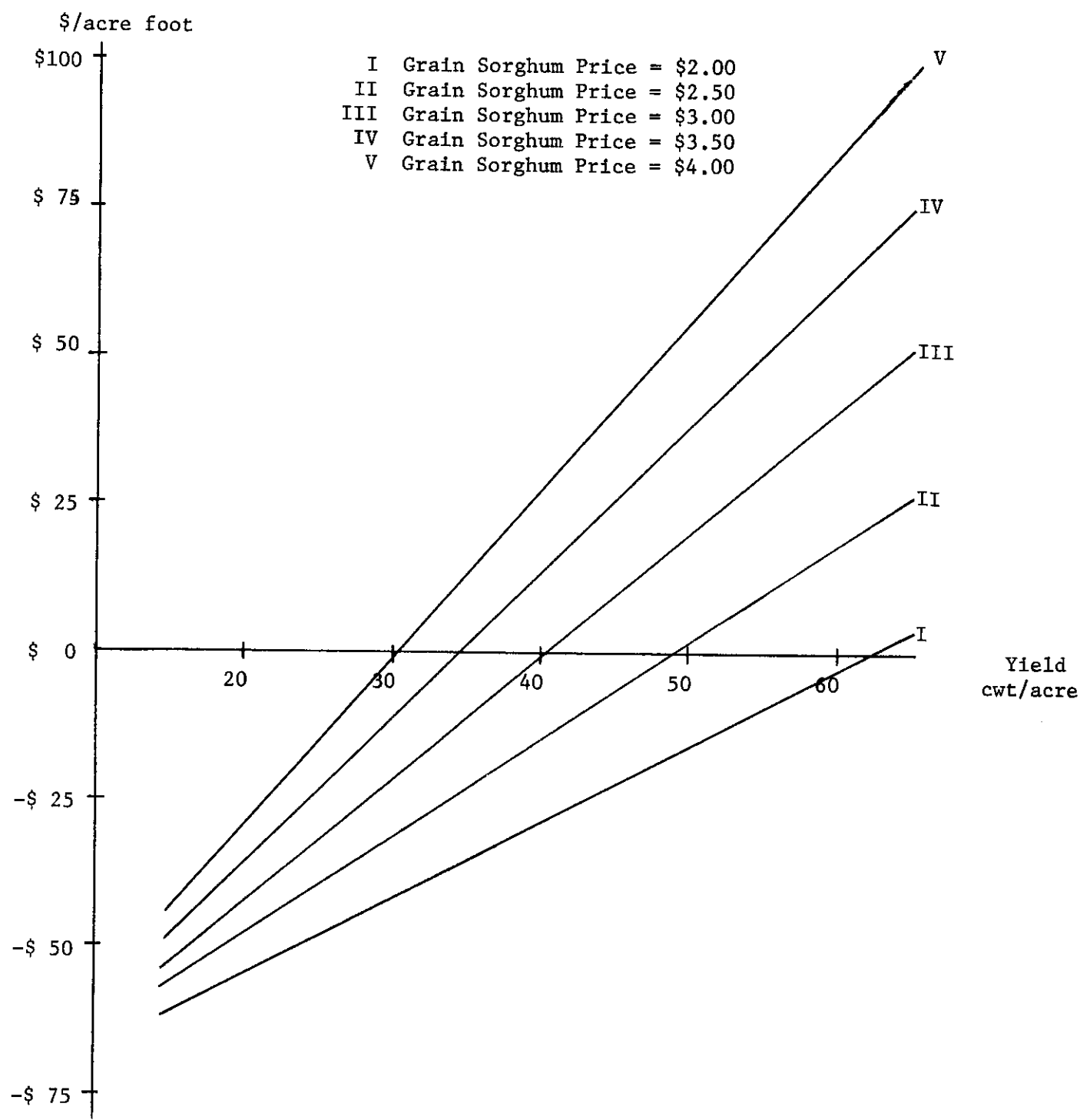


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus two postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

## Value of Irrigation

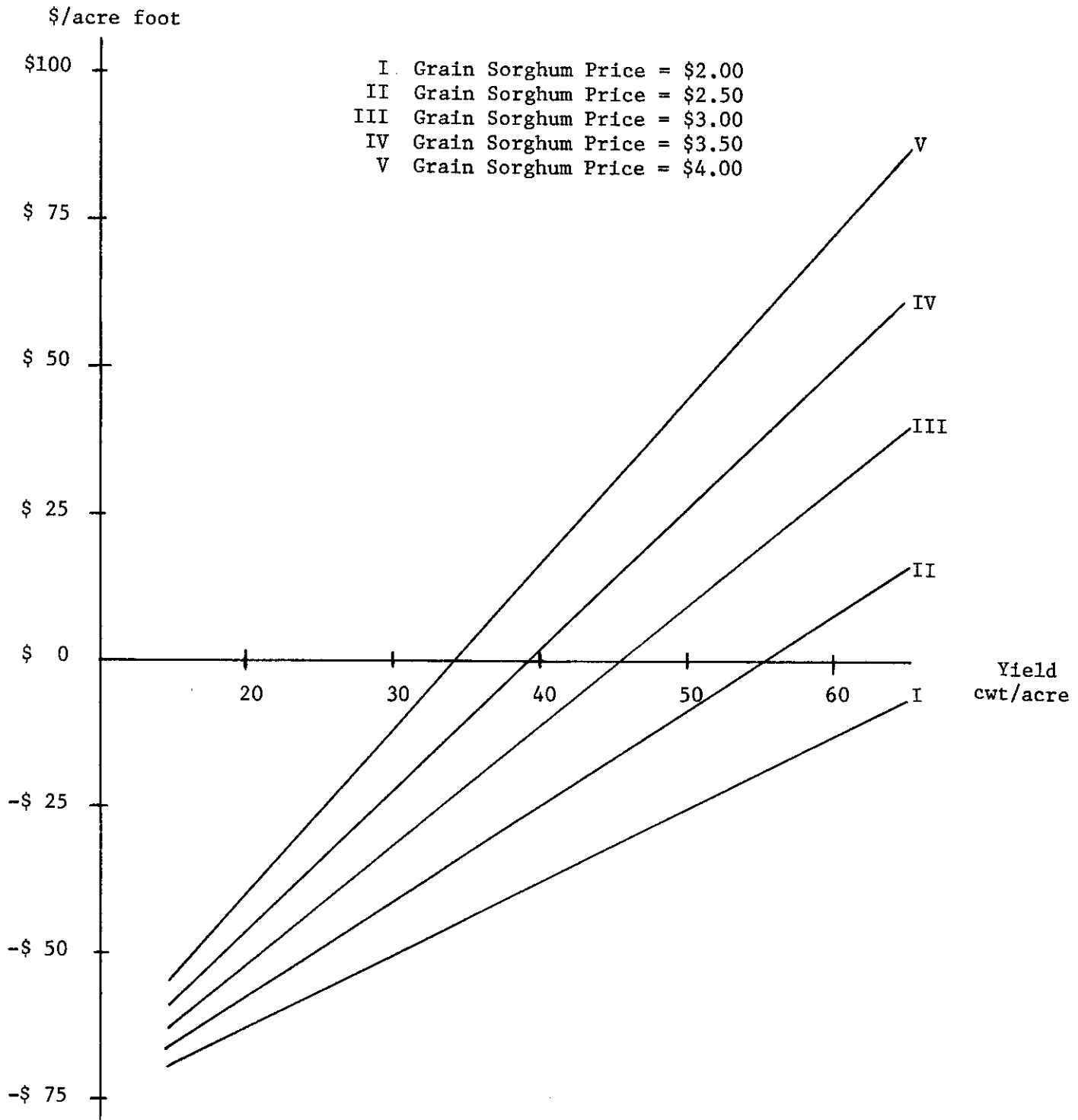


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus two postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

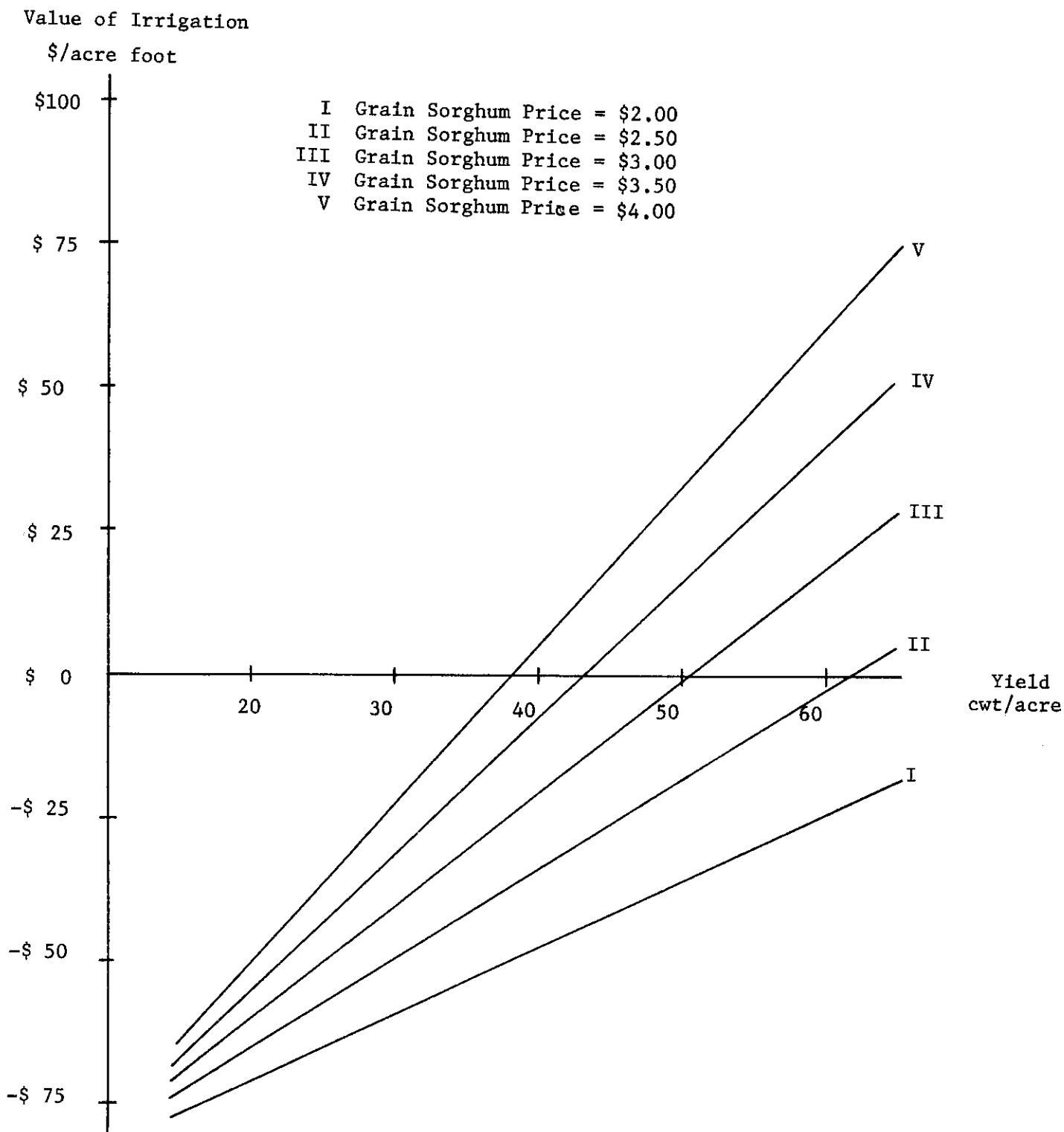


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus two postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS III  
GRAIN SORGHUM  
FURROW PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		30.0	40.0	50.0	60.0	70.0
PRDUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-45.988	-35.988	-25.988	-15.988	-5.988
2.500	*	-38.210	-25.044	-11.877	1.290	14.456
3.000	*	-30.432	-14.099	2.234	18.568	34.901
3.500	*	-22.654	-3.154	16.346	35.346	55.346
4.000	*	-14.876	7.790	30.457	53.124	75.790
10% COST INFLATION	*					
PRICES	*					
2.000	*	-54.587	-44.920	-35.254	-25.587	-15.920
2.500	*	-47.031	-34.215	-21.398	-8.581	4.235
3.000	*	-39.475	-23.509	-7.542	8.424	24.291
3.500	*	-31.920	-12.803	6.314	25.430	44.547
4.000	*	-24.364	-2.097	20.169	42.436	64.703
20% COST INFLATION	*					
PRICES	*					
2.000	*	-63.186	-53.852	-44.519	-35.186	-25.852
2.500	*	-55.852	-43.386	-30.919	-18.452	-5.986
3.000	*	-48.519	-32.919	-17.319	-1.719	13.881
3.500	*	-41.185	-22.452	-3.719	15.015	33.748
4.000	*	-33.852	-11.985	9.382	31.748	53.615

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

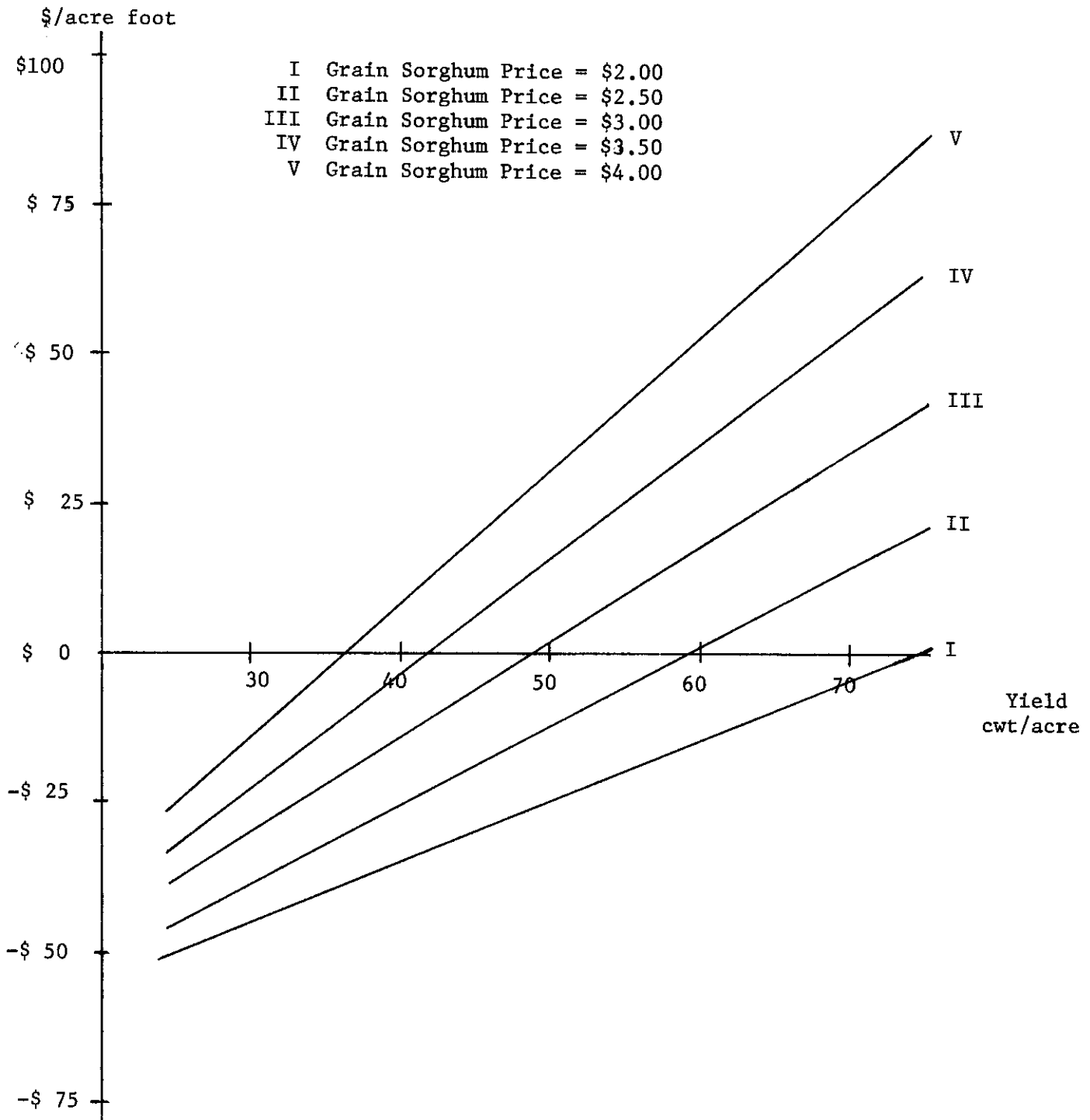


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus three postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

## Value of Irrigation

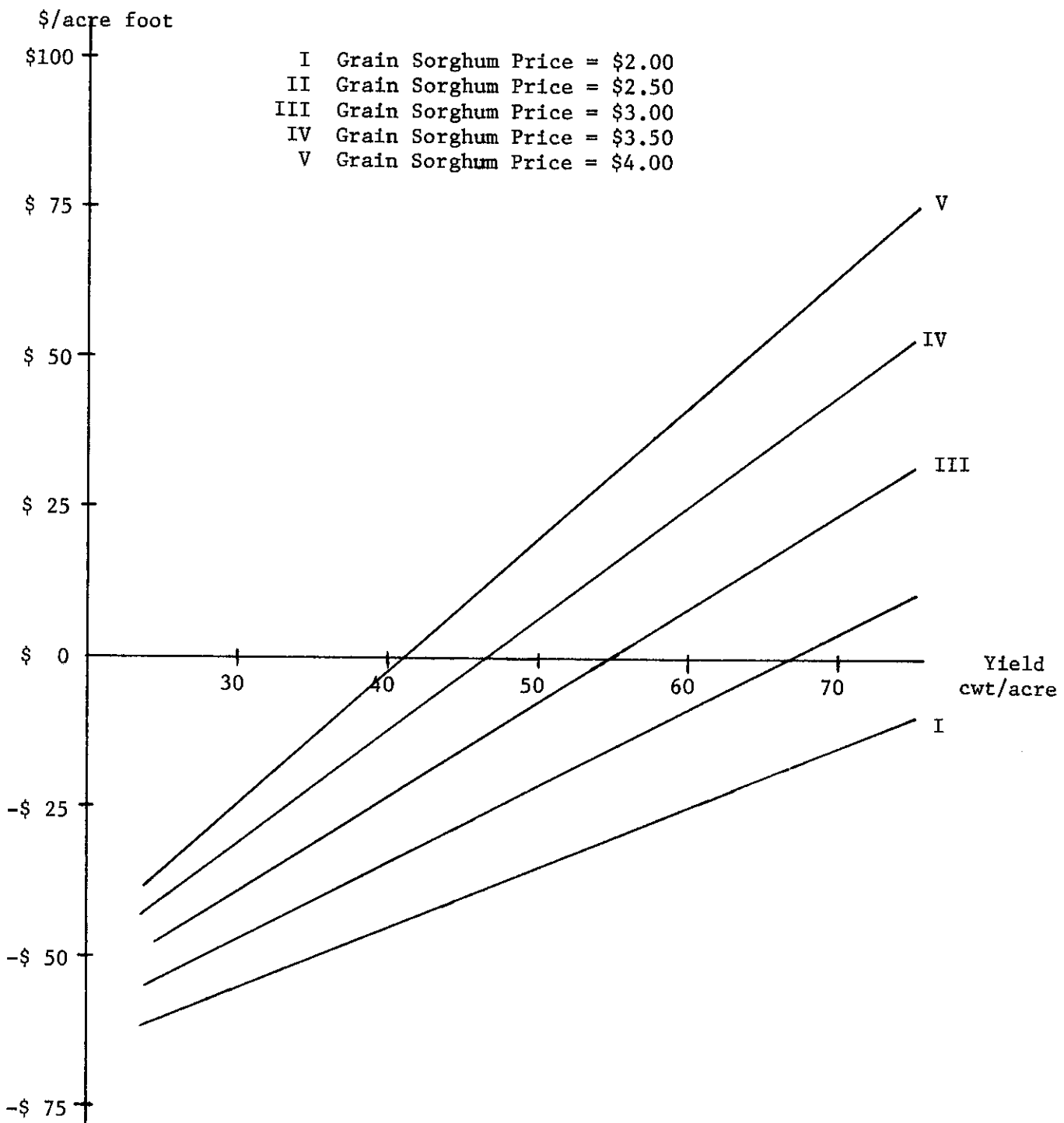


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus three postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.



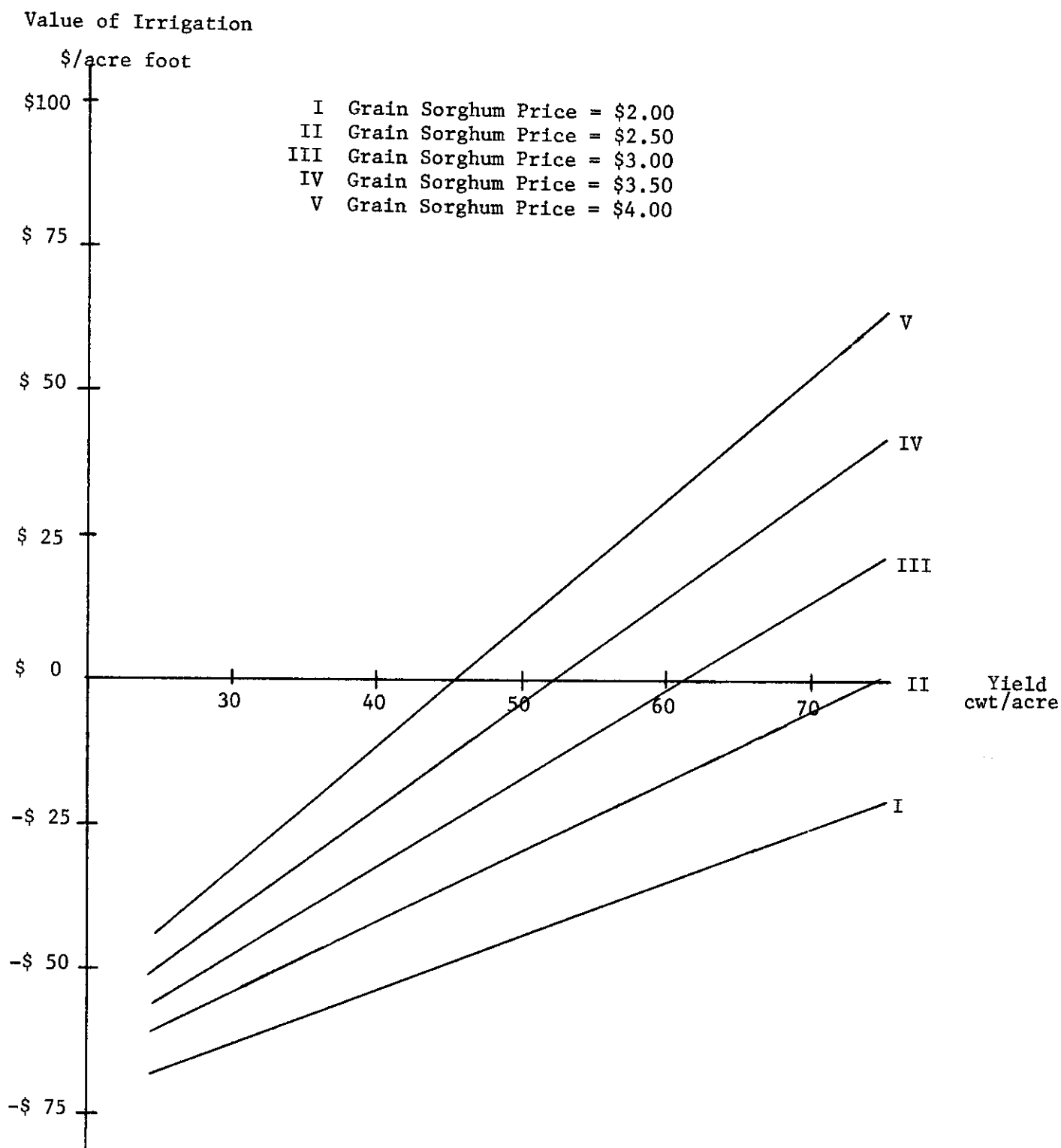


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus three postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS III  
GRAIN SORGHUM  
FURROW PP+4

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		40.0	50.0	60.0	70.0	80.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-35.100	-26.903	-18.706	-10.509	-2.313
2.500	*	-26.129	-15.336	-4.544	6.248	17.041
3.000	*	-17.158	-3.770	9.618	23.006	36.394
3.500	*	-8.187	7.797	23.781	39.764	55.748
4.000	*	0.784	19.364	37.943	56.522	75.101
-----						
10% COST INFLATION						
PRICES	*					
2.000	*	-42.981	-35.058	-27.134	-19.211	-11.287
2.500	*	-34.206	-23.700	-13.195	-2.690	7.816
3.000	*	-25.431	-12.343	0.744	13.832	26.919
3.500	*	-16.656	-0.986	14.683	30.353	46.022
4.000	*	-7.880	10.371	28.622	46.874	65.125
-----						
20% COST INFLATION						
PRICES	*					
2.000	*	-50.863	-43.212	-35.562	-27.912	-20.262
2.500	*	-42.283	-32.065	-21.846	-11.628	-1.409
3.000	*	-33.704	-20.917	-8.130	4.657	17.444
3.500	*	-25.124	-9.769	5.586	20.941	36.296
4.000	*	-16.545	1.378	19.302	37.225	55.149

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

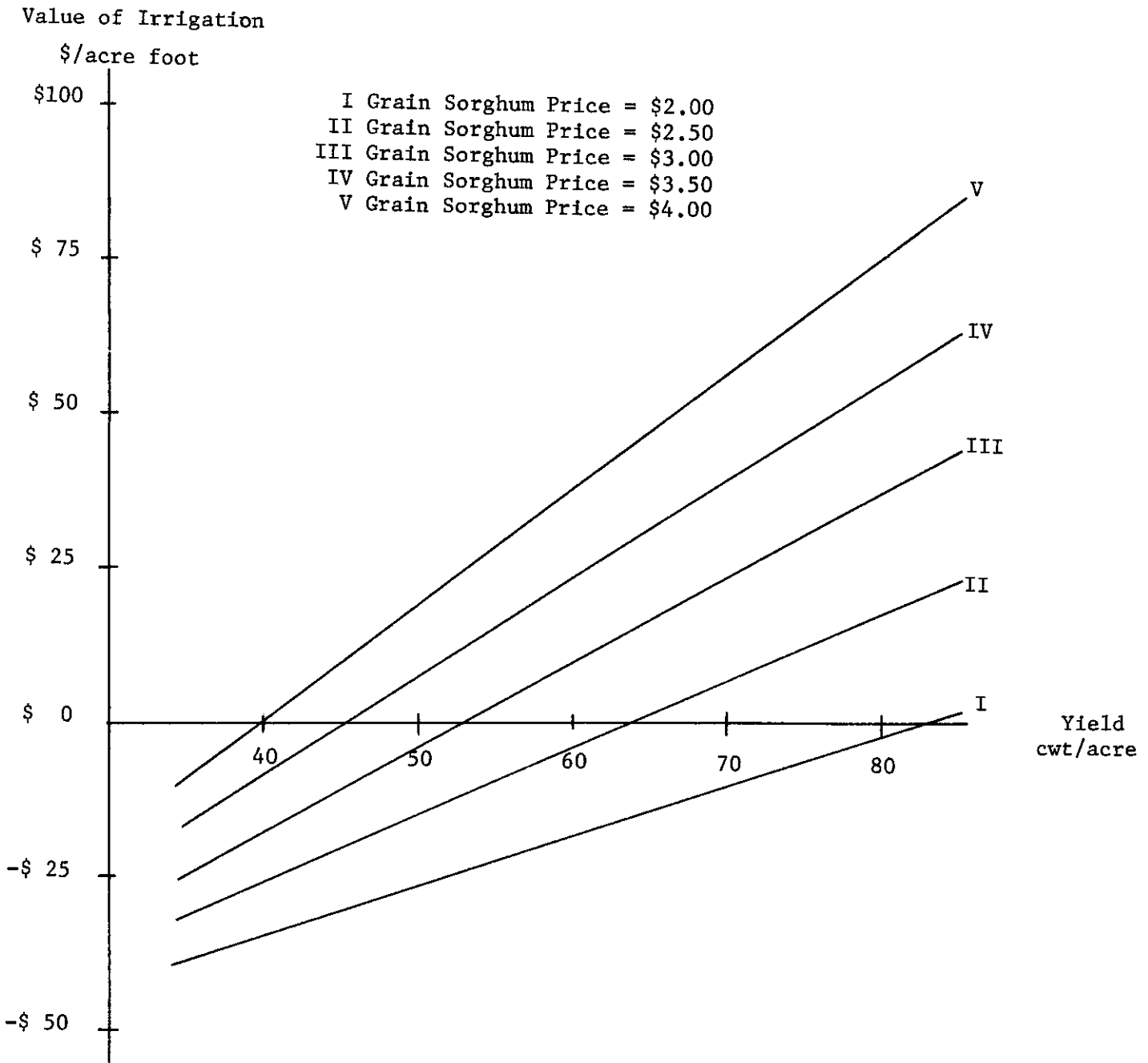


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus four postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

## Value of Irrigation

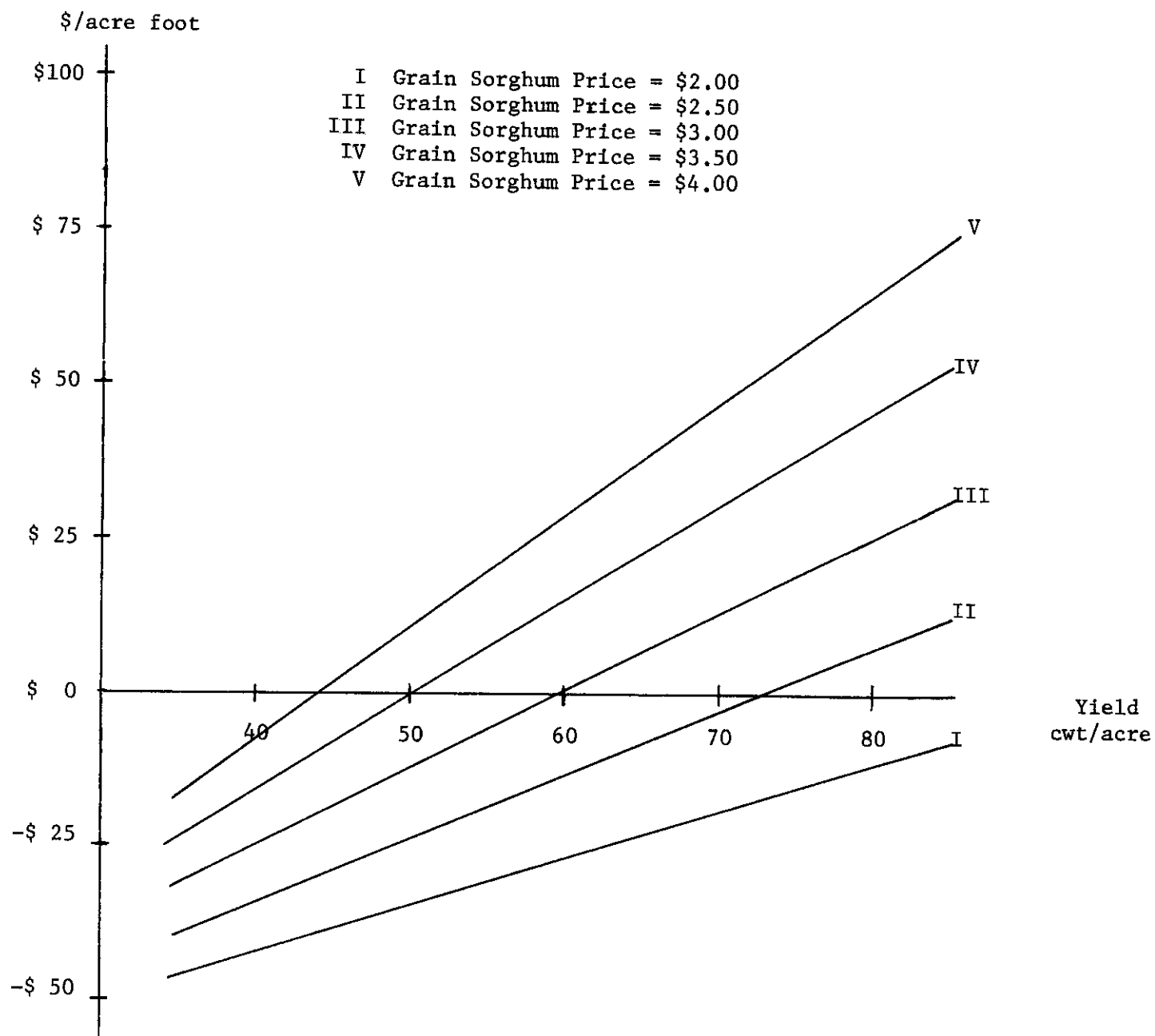


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus four postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

## Value of Irrigation

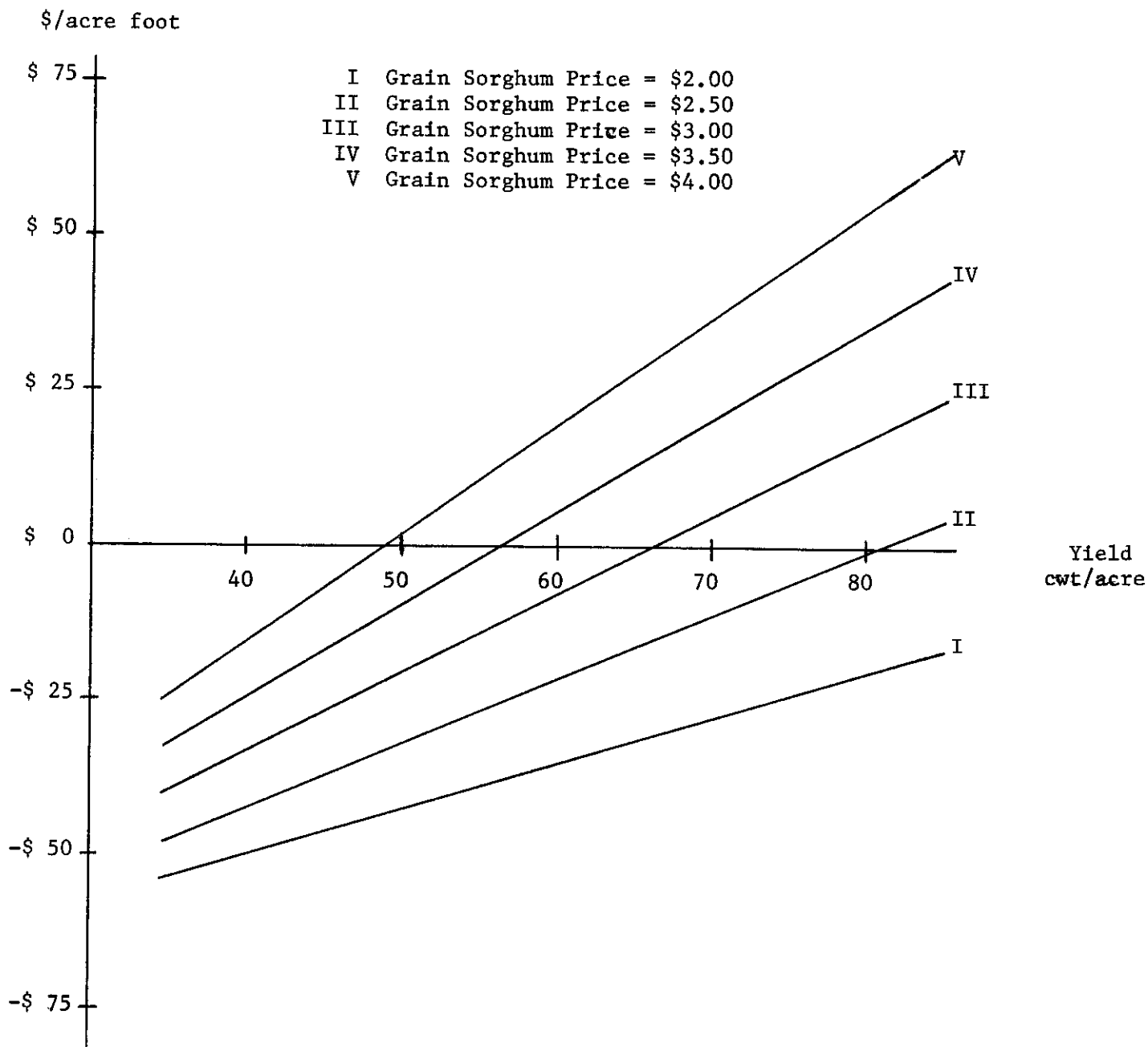


Figure Value of irrigation water applied to Grain Sorghum, furrow, preplant plus four postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
GRAIN SORGHUM  
SPRINKLER PP+1

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		5.0	15.0	25.0	35.0	45.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-110.935	-85.073	-59.211	-33.349	-7.487
2.500	*	-111.294	-77.242	-43.190	-9.139	24.913
3.000	*	-111.652	-69.411	-27.170	15.072	57.313
3.500	*	-112.011	-61.580	-11.149	39.282	89.713
4.000	*	-112.370	-53.749	4.871	63.492	122.113
10% COST INFLATION	*					
PRICES	*					
2.000	*	-123.753	-98.753	-73.753	-48.753	-23.753
2.500	*	-124.578	-91.432	-58.285	-25.139	8.008
3.000	*	-125.404	-84.111	-42.818	-1.525	39.769
3.500	*	-126.230	-76.790	-27.350	22.089	71.529
4.000	*	-127.055	-69.469	-11.883	45.703	103.290
20% COST INFLATION	*					
PRICES	*					
2.000	*	-136.570	-112.432	-88.294	-64.156	-40.018
2.500	*	-137.863	-105.621	-73.380	-41.139	-8.897
3.000	*	-139.155	-98.811	-58.466	-18.121	22.224
3.500	*	-140.448	-92.000	-43.551	4.897	53.345
4.000	*	-141.740	-85.189	-28.637	27.915	84.466

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

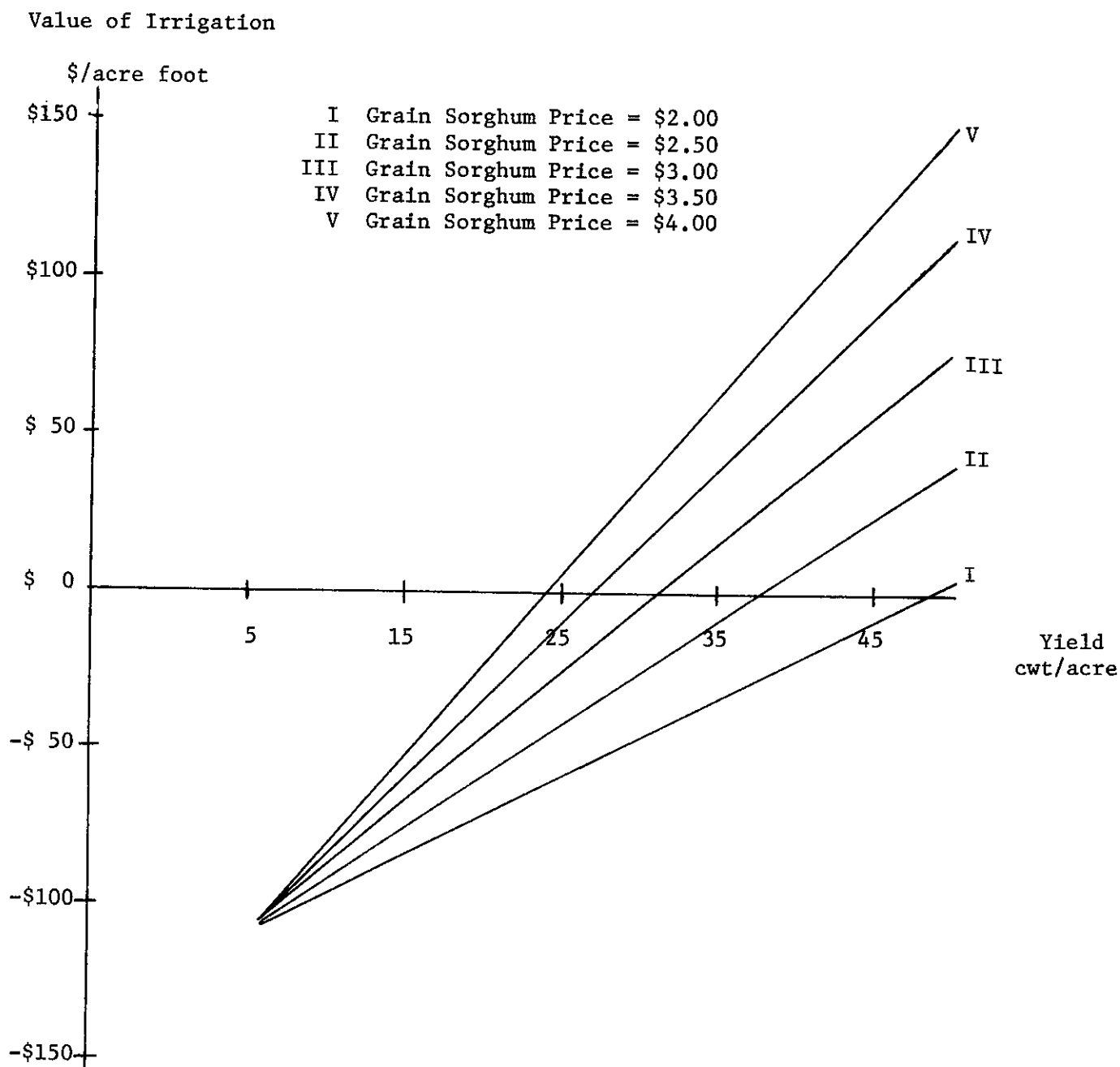


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus one postplant, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

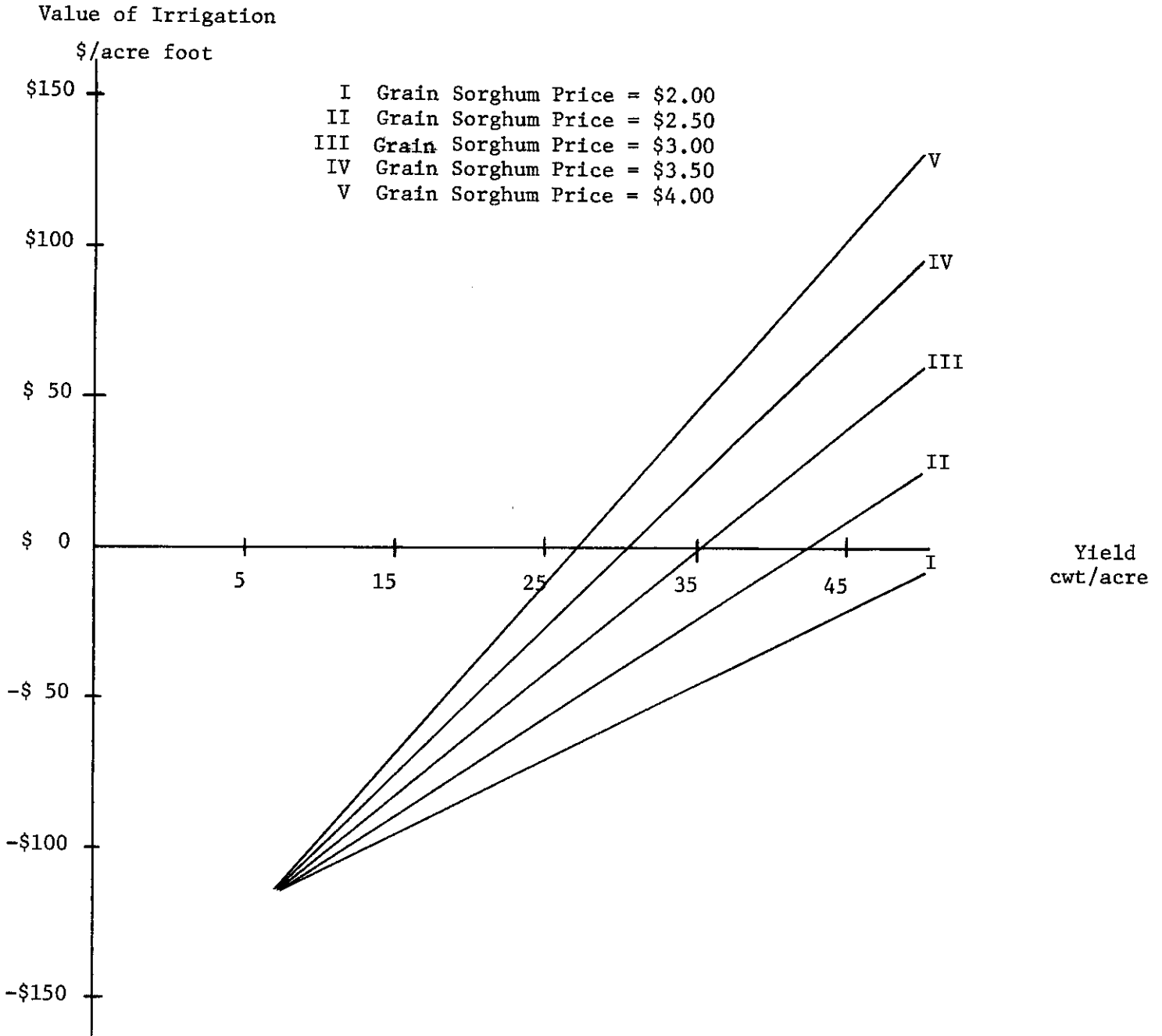


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus one postplant, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.



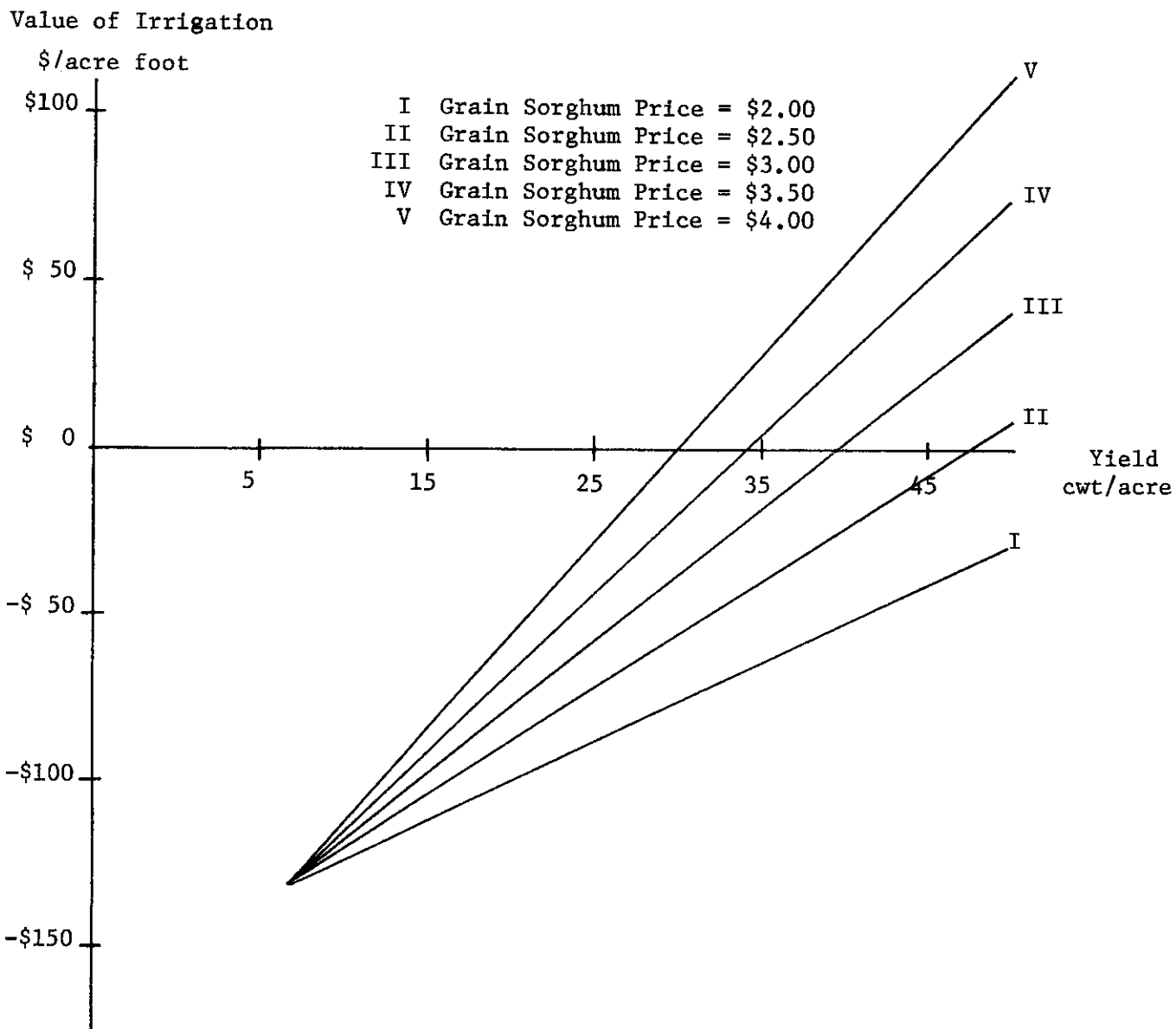


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus one postplant, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS III  
GRAIN SORGHUM  
SPRINKLER PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		15.0	25.0	35.0	45.0	55.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-77.220	-59.147	-41.075	-23.003	-4.930
2.500	*	-71.747	-47.952	-24.157	-0.362	23.433
3.000	*	-66.275	-36.757	-7.239	22.279	51.797
3.500	*	-60.803	-25.562	9.679	44.920	80.161
4.000	*	-55.331	-14.367	26.597	67.561	108.525
-----						
10% COST INFLATION						
PRICES	*					
2.000	*	-88.556	-71.086	-53.616	-36.146	-18.676
2.500	*	-83.440	-60.278	-37.115	-13.952	9.210
3.000	*	-78.324	-49.469	-20.614	8.242	37.097
3.500	*	-73.209	-38.660	-4.112	30.436	64.984
4.000	*	-68.093	-27.852	12.389	52.630	92.871
-----						
20% COST INFLATION						
PRICES	*					
2.000	*	-99.892	-83.025	-66.157	-49.290	-32.423
2.500	*	-95.133	-72.603	-50.073	-27.543	-5.013
3.000	*	-90.374	-62.181	-33.988	-5.795	22.397
3.500	*	-85.614	-51.759	-17.903	15.952	49.807
4.000	*	-80.855	-41.337	-1.819	37.699	77.217

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

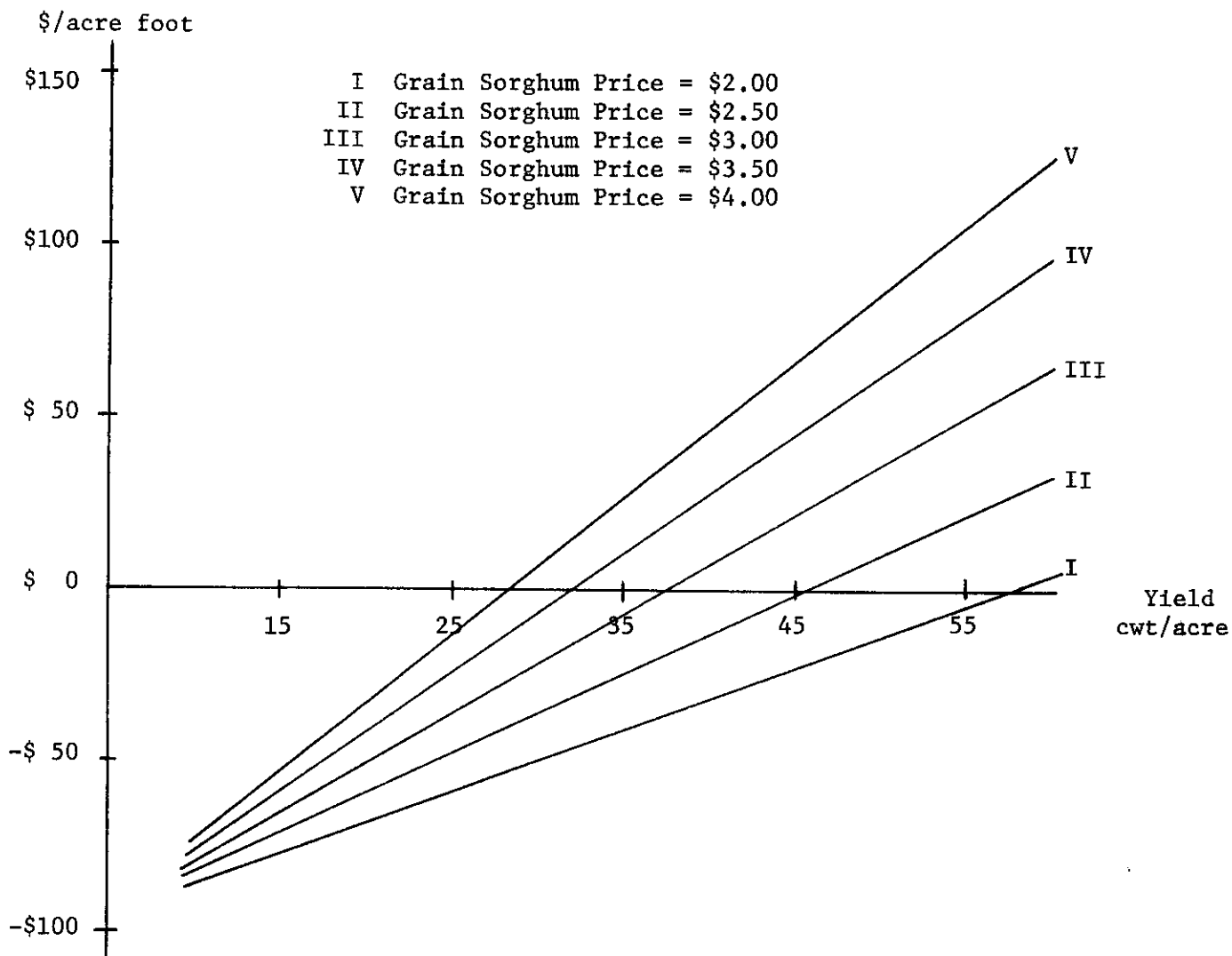


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus two postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

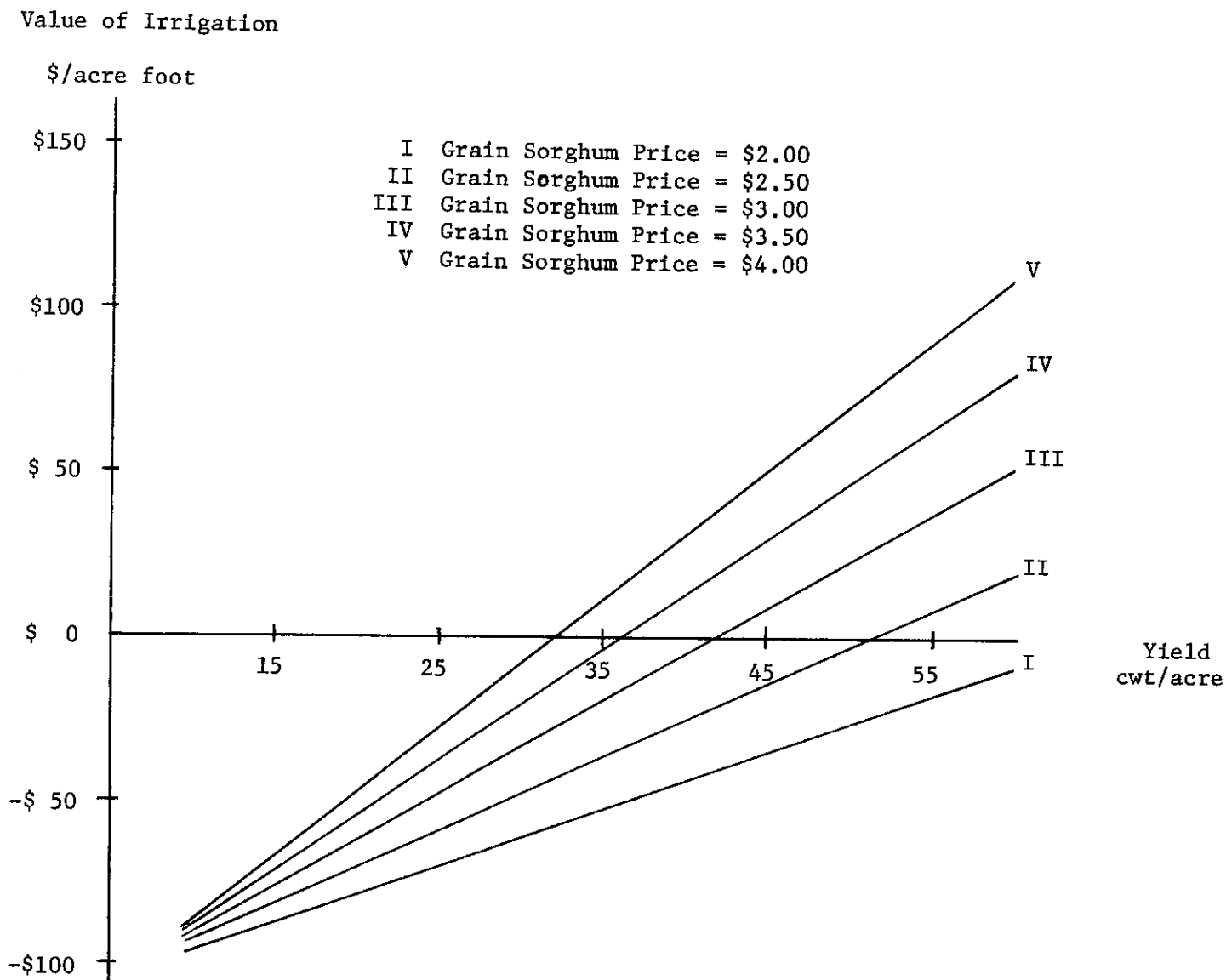


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus two postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

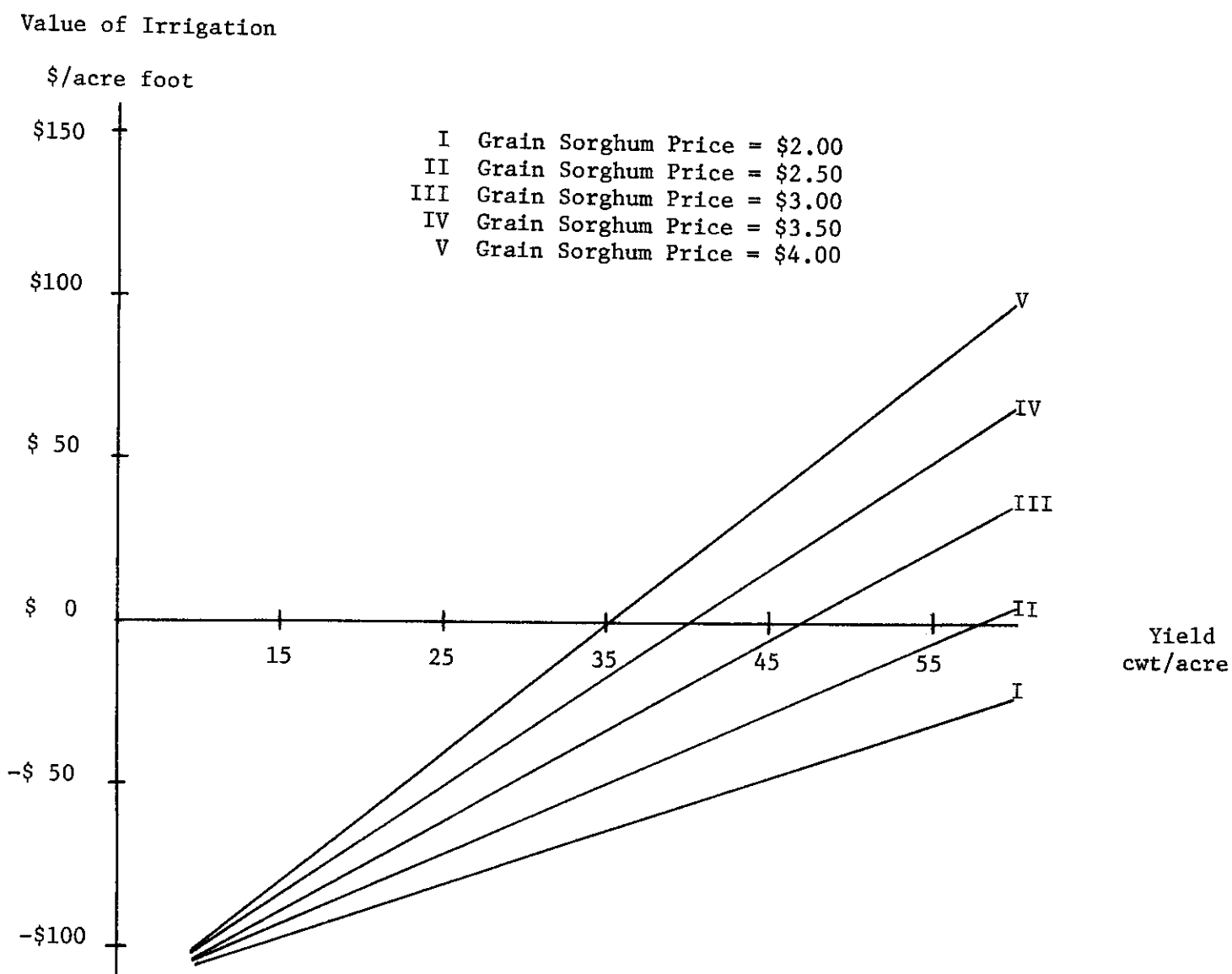


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus two postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
GRAIN SORGHUM  
SPRINKLER PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		25.0	35.0	45.0	55.0	65.0
PRICES	*					
2.000	*	-66.298	-52.410	-38.521	-24.632	-10.743
2.500	*	-57.695	-39.408	-21.121	-2.834	15.453
3.000	*	-49.091	-26.406	-3.721	18.964	41.650
3.500	*	-40.488	-13.404	13.679	40.762	67.846
4.000	*	-31.884	-0.402	31.079	62.561	94.042
-----						
10% COST INFLATION						
PRICES	*					
2.000	*	-77.558	-64.132	-50.706	-37.280	-23.854
2.500	*	-69.251	-51.450	-33.649	-15.849	1.952
3.000	*	-60.945	-38.769	-16.593	5.583	27.759
3.500	*	-52.638	-26.087	0.464	27.015	53.566
4.000	*	-44.332	-13.406	17.520	48.446	79.372
-----						
20% COST INFLATION						
PRICES	*					
2.000	*	-88.817	-75.854	-62.891	-49.928	-36.965
2.500	*	-80.808	-63.493	-46.178	-28.863	-11.549
3.000	*	-72.798	-51.132	-29.465	-7.798	13.868
3.500	*	-64.789	-38.770	-12.752	13.267	39.285
4.000	*	-56.779	-26.409	3.962	34.332	64.702

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

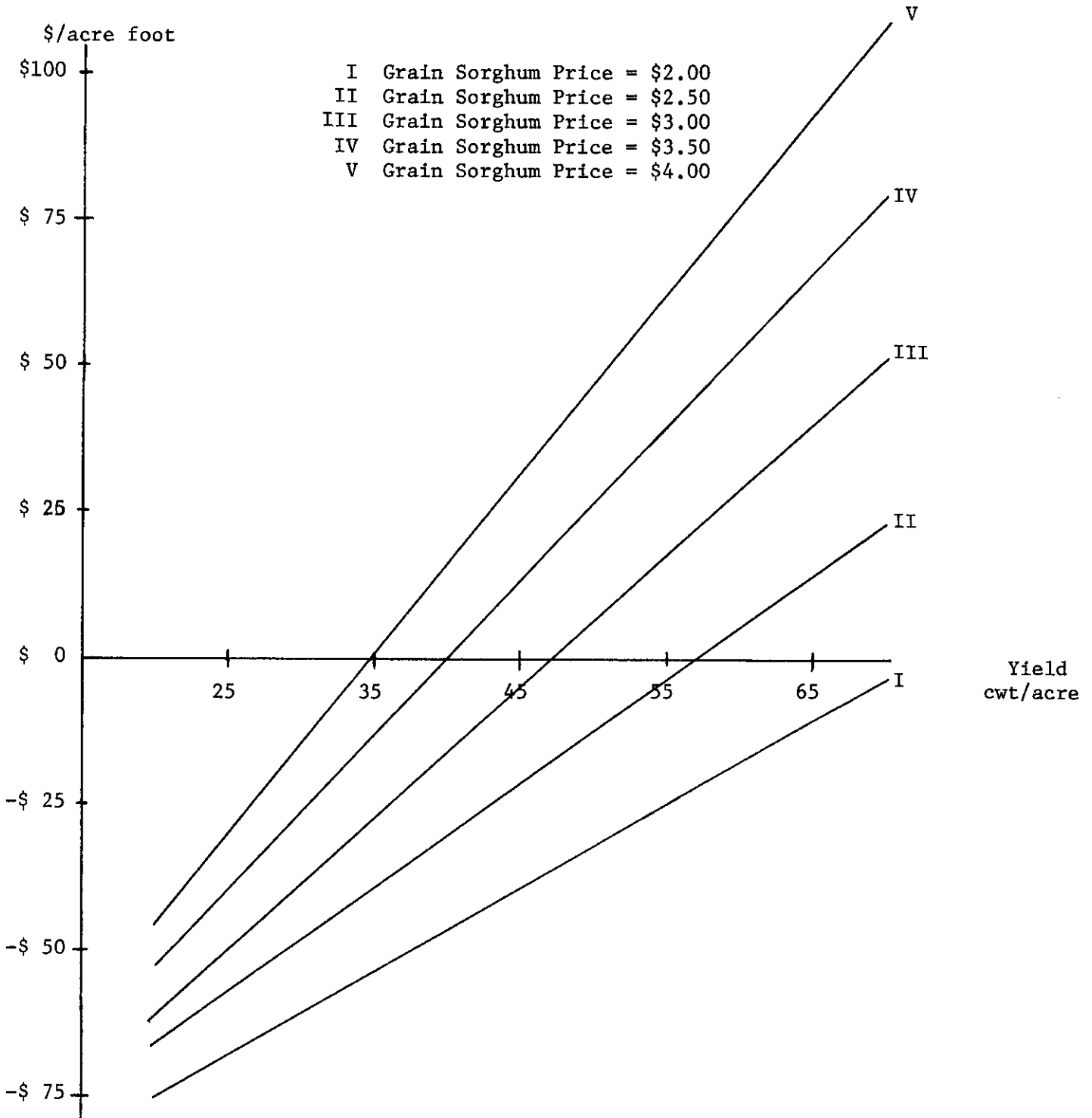


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus three postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

Value of Irrigation

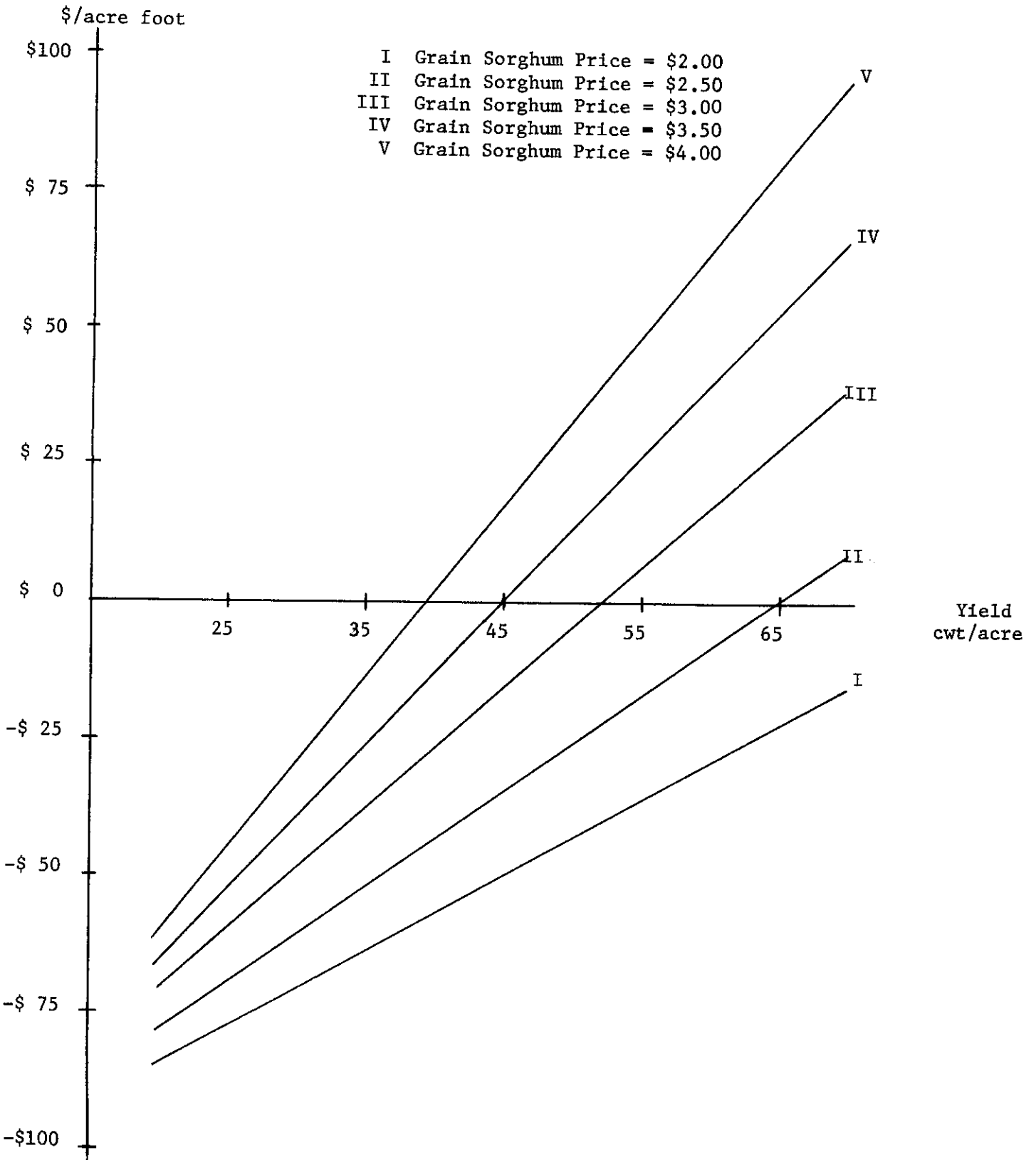


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus three postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.



Value of Irrigation

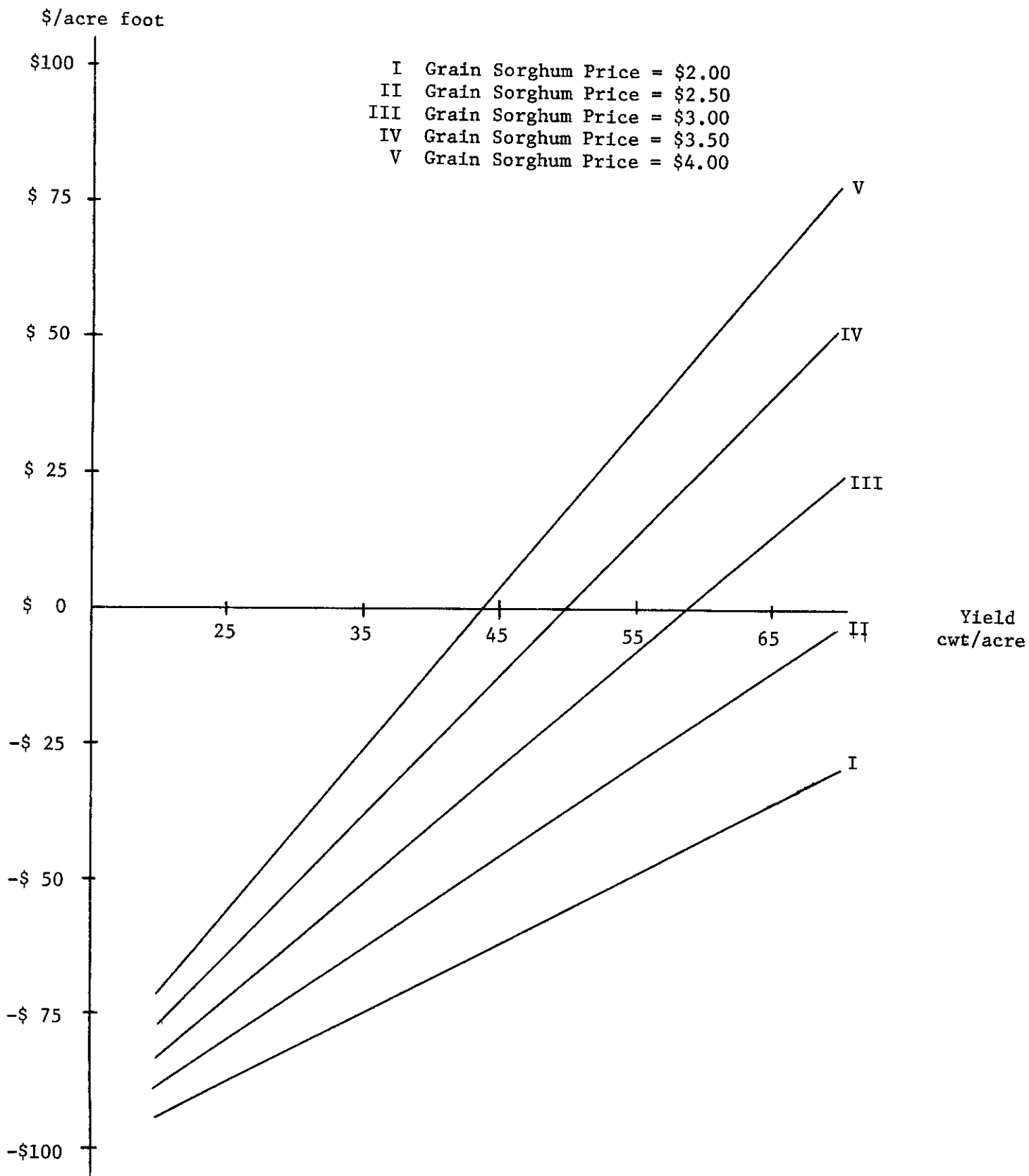


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus three postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
GRAIN SORGHUM  
SPRINKLER PP+4

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
			CWT		PER ACRE	
	*	35.0	45.0	55.0	65.0	75.0
-----						
PRODUCTION COSTS 1974						
	*					
PRICES	*					
2.000	*	-51.821	-40.543	-29.265	-17.987	-6.708
	*					
2.500	*	-41.263	-26.414	-11.564	3.285	18.135
	*					
3.000	*	-30.706	-12.285	6.137	24.558	42.979
	*					
3.500	*	-20.148	1.845	23.837	45.830	67.822
	*					
4.000	*	-9.590	15.974	41.538	67.102	92.666
	*					
-----						
10% COST INFLATION						
	*					
PRICES	*					
2.000	*	-62.267	-51.364	-40.462	-29.560	-18.658
	*					
2.500	*	-51.969	-37.514	-23.059	-8.604	5.851
	*					
3.000	*	-41.671	-23.663	-5.656	12.352	30.359
	*					
3.500	*	-31.373	-9.813	11.747	33.307	54.868
	*					
4.000	*	-21.075	4.038	29.150	54.263	79.376
	*					
-----						
20% COST INFLATION						
	*					
PRICES	*					
2.000	*	-72.712	-62.185	-51.659	-41.133	-30.607
	*					
2.500	*	-62.674	-48.614	-34.554	-20.494	-6.433
	*					
3.000	*	-52.636	-35.042	-17.448	0.146	17.740
	*					
3.500	*	-42.598	-21.471	-0.343	20.785	41.913
	*					
4.000	*	-32.561	-7.899	16.763	41.424	66.086
	*					

A DRYLAND YIELD OF 15.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

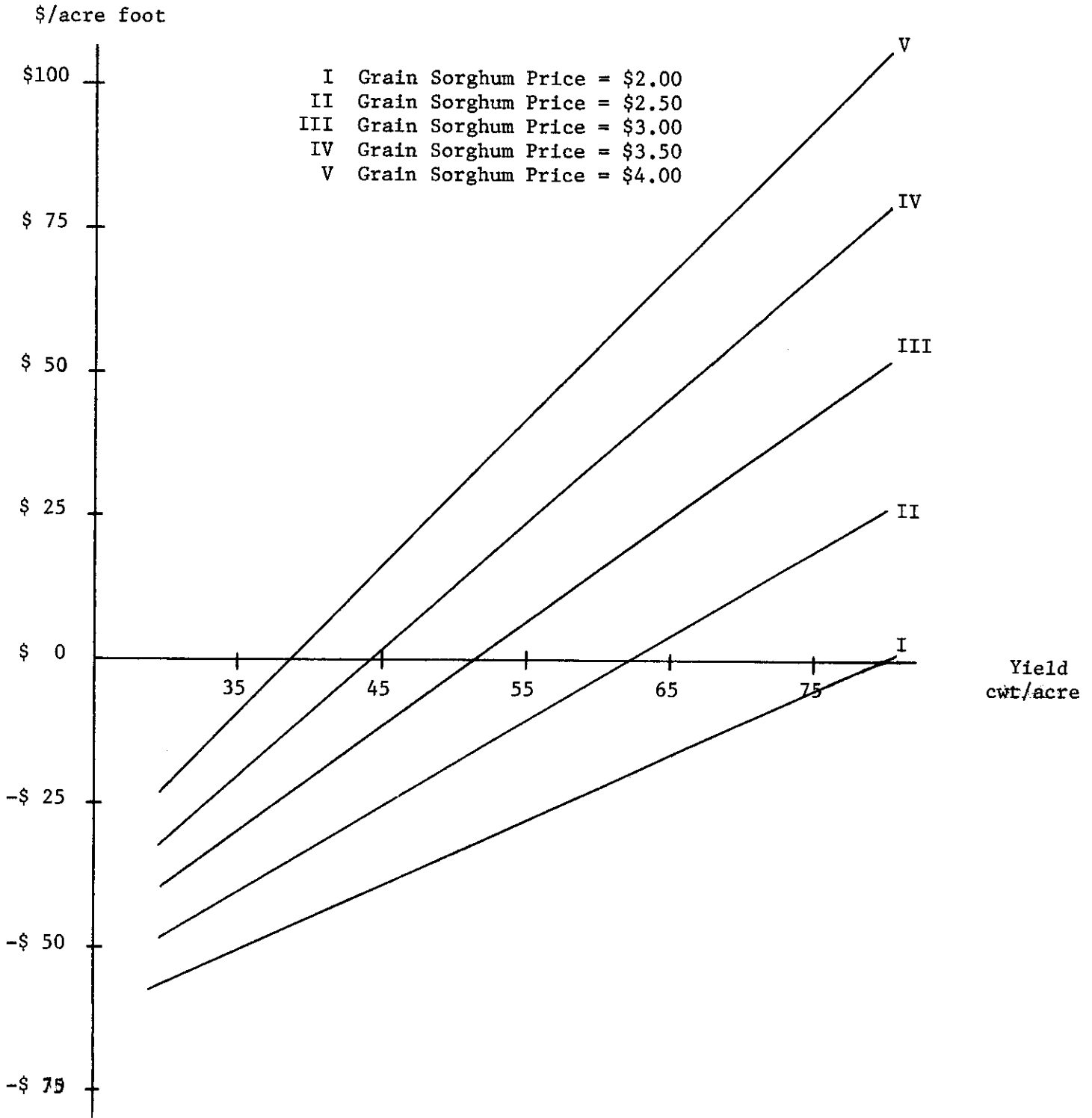


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus four postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs.

Value of Irrigation

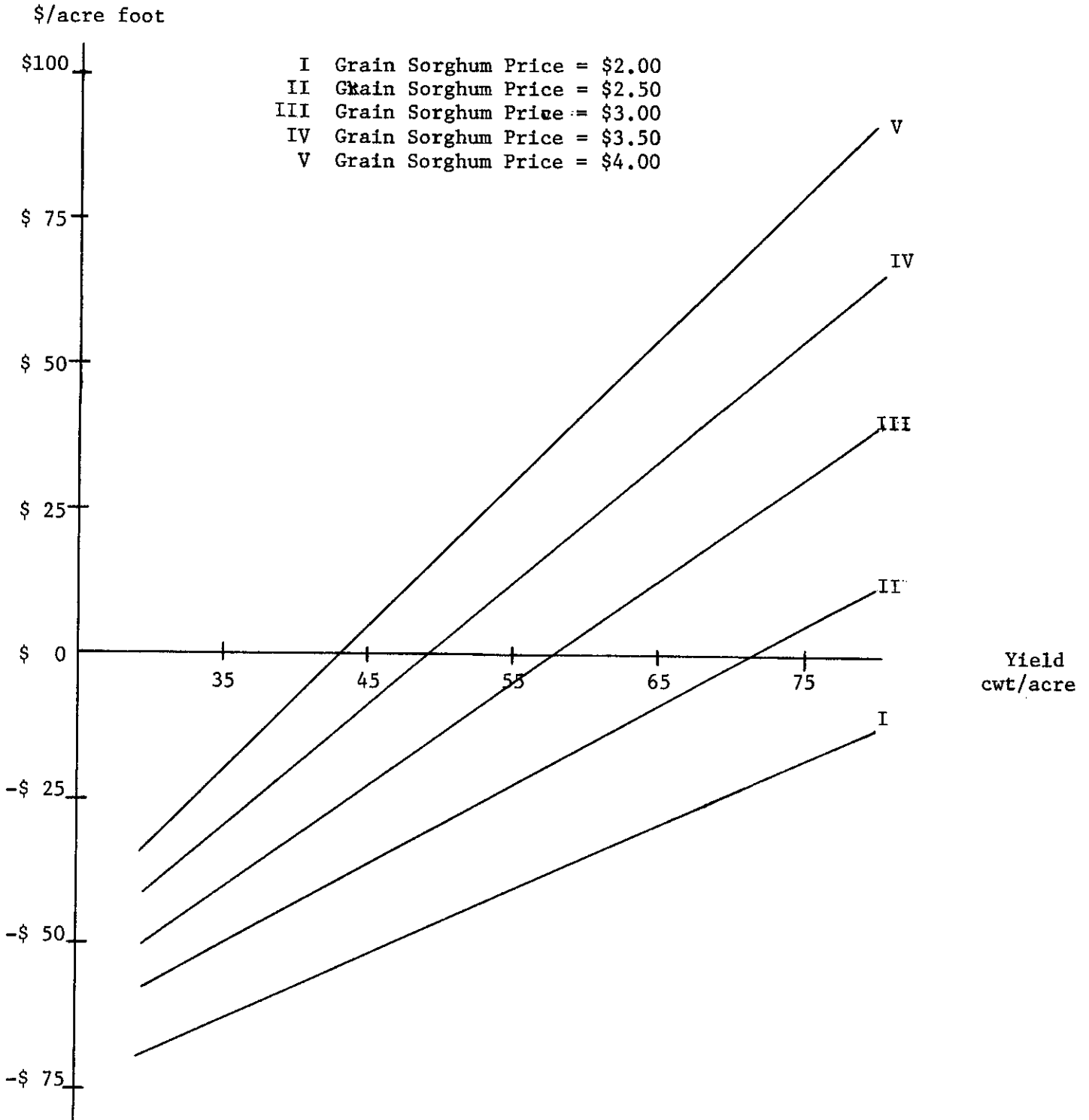


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus four postplants, in High Plains III for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

## Value of Irrigation

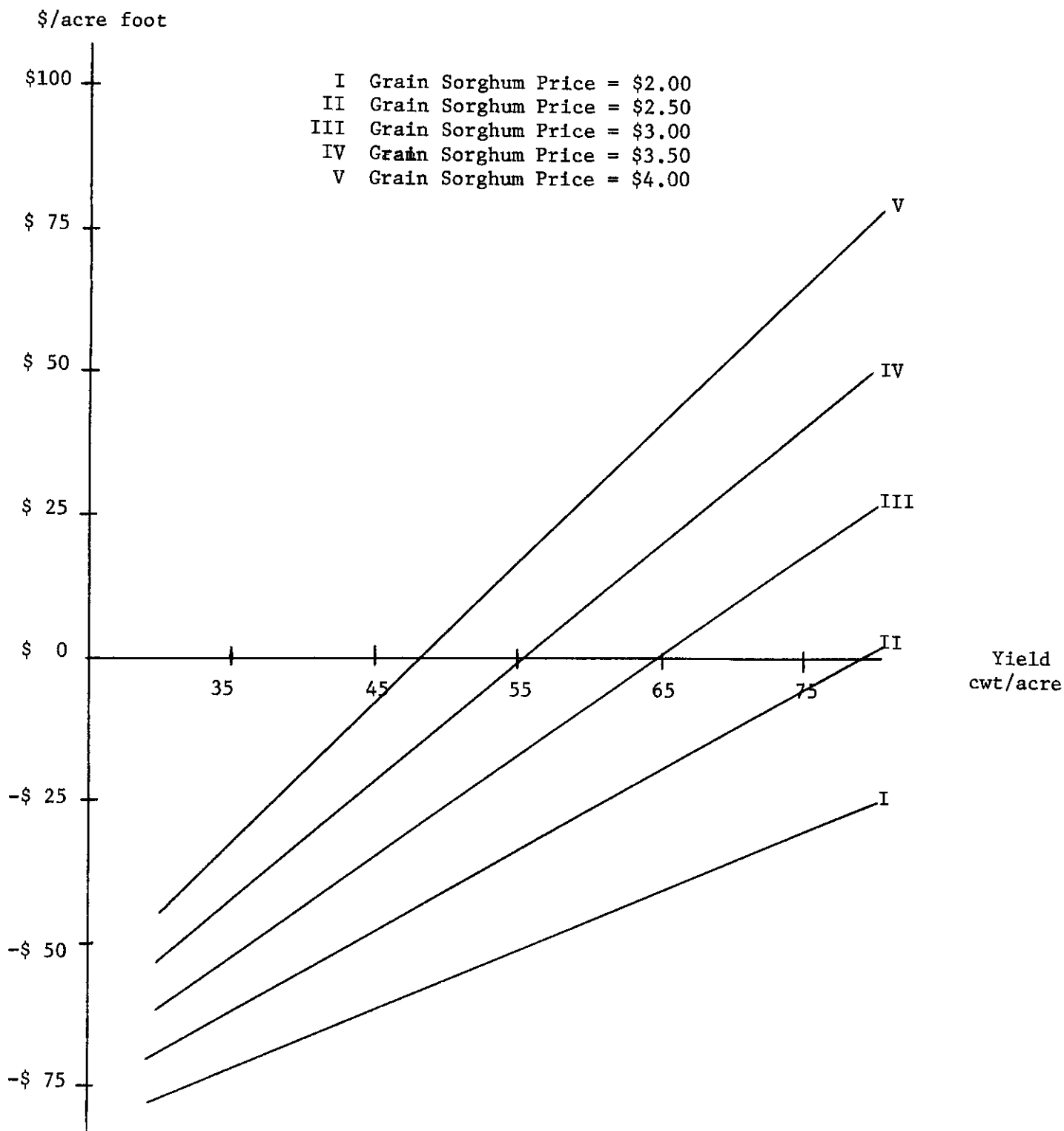


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus four postplants, in High Plains for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
SOYBEANS

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		30.0	35.0	40.0	45.0	50.0
PRODUCTION COSTS 1974	*					
PRICES	*					
3.000	*	-16.861	-5.287	6.287	17.861	29.435
4.000	*	9.528	25.500	41.472	57.444	73.417
5.000	*	35.917	56.287	76.657	97.028	117.398
6.000	*	62.306	87.074	111.843	136.611	161.380
7.000	*	88.694	117.861	147.028	176.194	205.361
10% COST INFLATION	*					
PRICES	*					
3.000	*	-26.881	-15.538	-4.195	7.147	18.490
4.000	*	-0.631	15.087	30.805	46.522	62.240
5.000	*	25.619	45.712	65.805	85.897	105.990
6.000	*	51.869	76.337	100.805	125.272	149.740
7.000	*	78.119	106.962	135.805	164.647	193.490
20% COST INFLATION	*					
PRICES	*					
3.000	*	-36.900	-25.789	-14.678	-3.567	7.544
4.000	*	-10.789	4.674	20.137	35.600	51.063
5.000	*	15.322	35.137	54.952	74.767	94.581
6.000	*	41.433	65.600	89.767	113.933	138.100
7.000	*	67.544	96.063	124.581	153.100	181.619

A DRYLAND RETURN OF 16.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

## Value of Irrigation

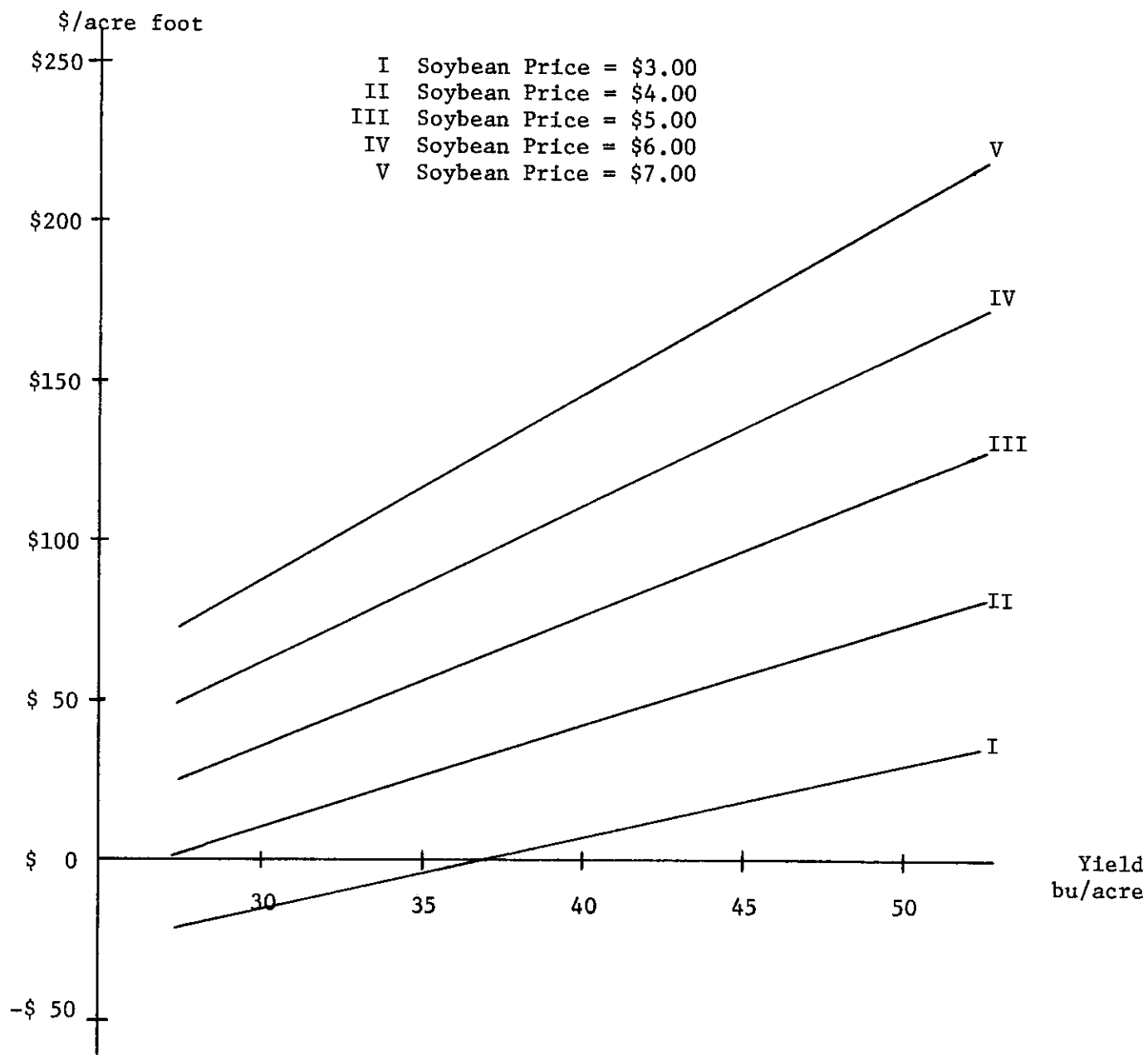


Figure Value of irrigation water applied to Soybeans in High Plains III for alternative Soybean prices and yields with expected 1974 costs.

Value of Irrigation

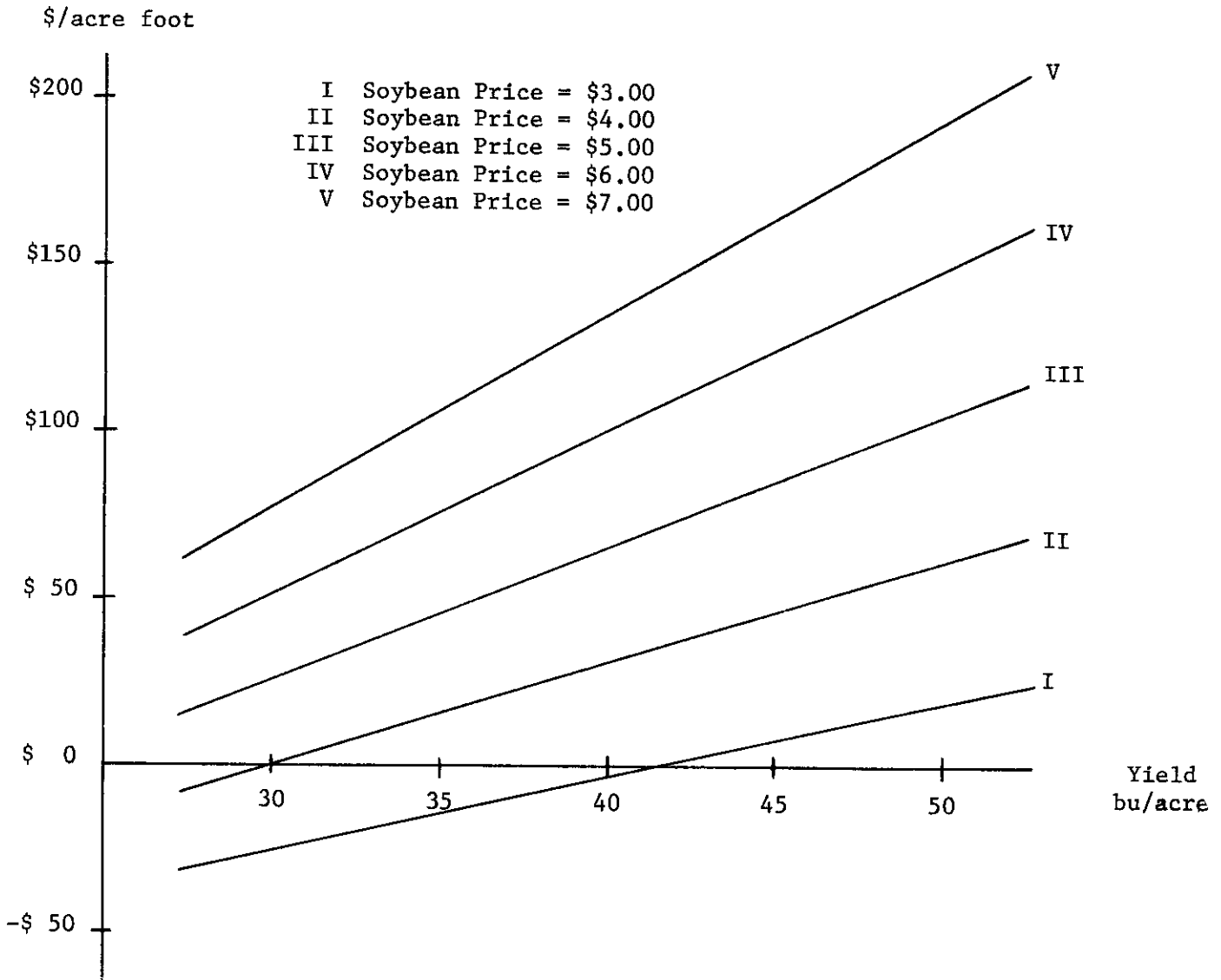


Figure Value of irrigation water applied to Soybeans in High Plains III for alternative Soybean prices and yields with expected 1974 costs inflated 10 percent.



Value of Irrigation

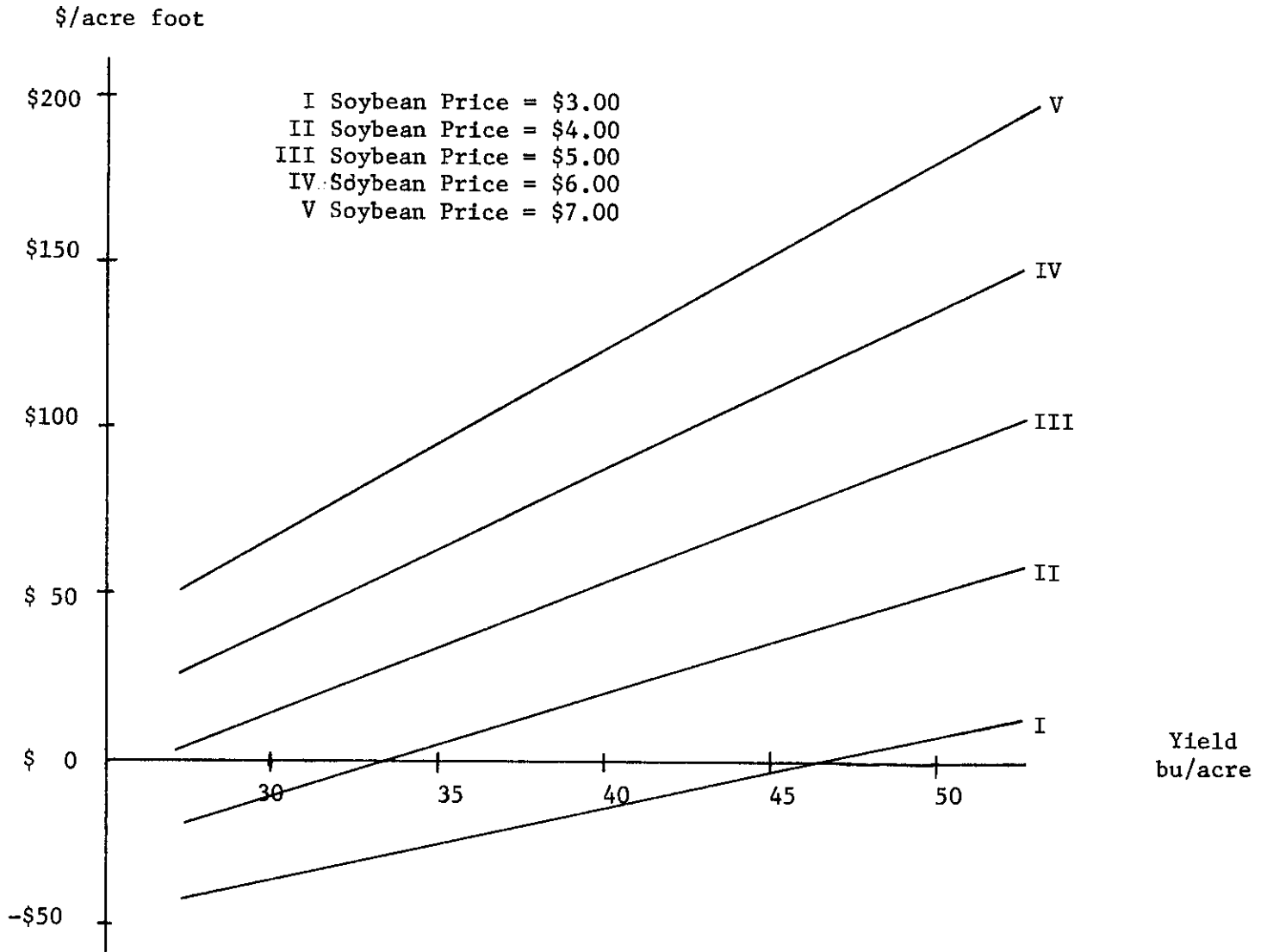


Figure Value of irrigation water applied to Soybeans in High Plains III for alternative Soybean prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS III  
WHEAT

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		15.0	25.0	35.0	45.0	55.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-75.402	-63.411	-51.420	-39.430	-27.439
	*					
2.500	*	-67.762	-46.975	-26.188	-5.401	15.386
	*					
3.500	*	-60.123	-30.540	-0.956	28.627	58.210
	*					
4.500	*	-52.484	-14.104	24.276	62.655	101.035
	*					
5.500	*	-44.844	2.332	49.508	96.684	143.860
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
1.500	*	-85.025	-73.225	-61.424	-49.623	-27.822
	*					
2.500	*	-78.011	-57.460	-36.909	-16.358	4.193
	*					
3.500	*	-70.996	-41.696	-12.395	16.906	46.207
	*					
4.500	*	-63.982	-25.931	12.120	50.171	88.222
	*					
5.500	*	-56.967	-10.167	36.634	83.435	130.236
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
1.500	*	-94.649	-83.038	-71.427	-59.816	-48.205
	*					
2.500	*	-88.259	-67.945	-47.630	-27.315	-7.000
	*					
3.500	*	-81.870	-52.851	-23.833	5.186	34.204
	*					
4.500	*	-75.480	-37.758	-0.036	37.686	75.409
	*					
5.500	*	-69.091	-22.665	23.761	70.187	116.613
	*					

A DRYLAND YIELD OF 18.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

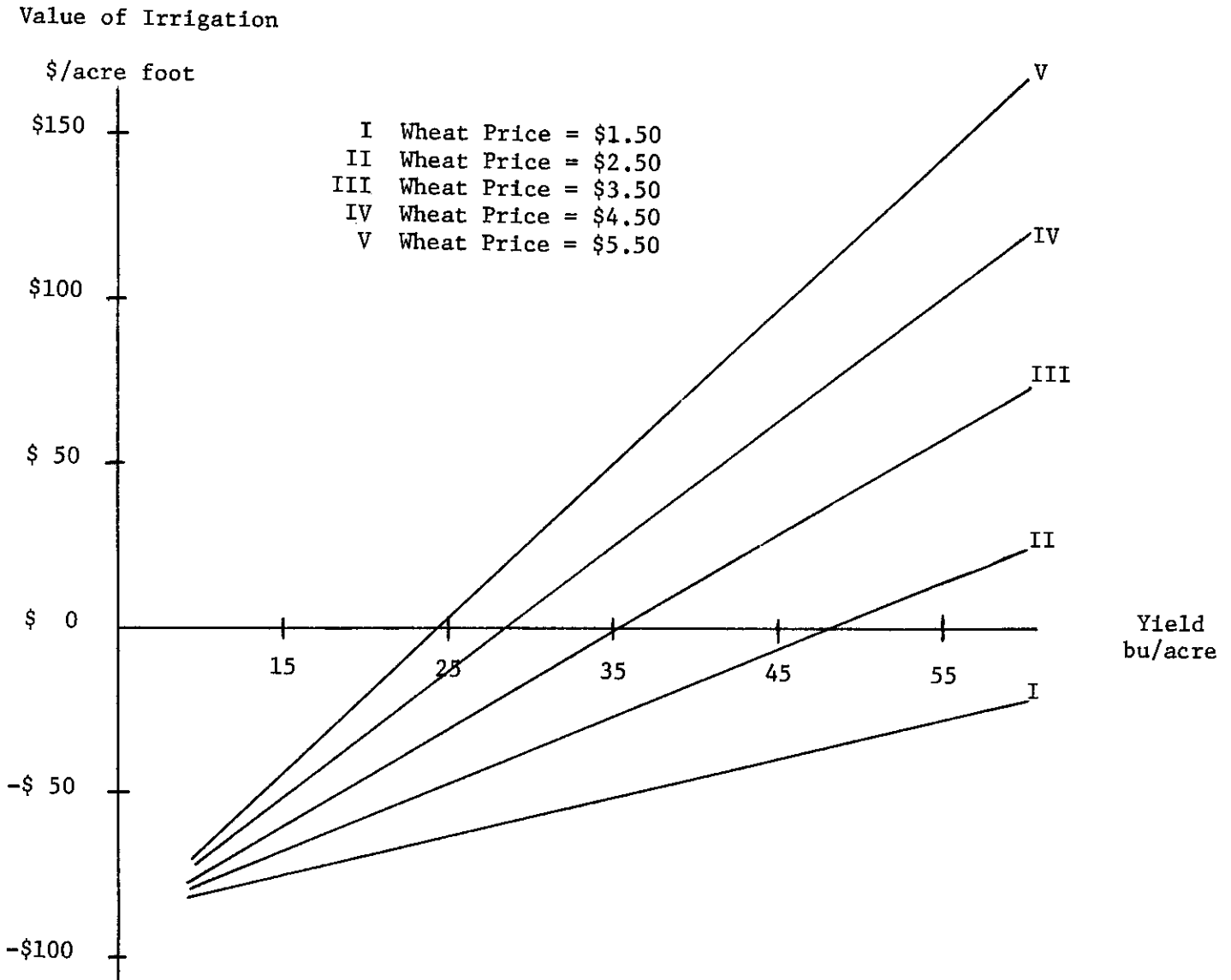


Figure Value of irrigation water applied to Wheat in High Plains III for alternative Wheat prices and yields with expected 1974 costs.

Value of Irrigation

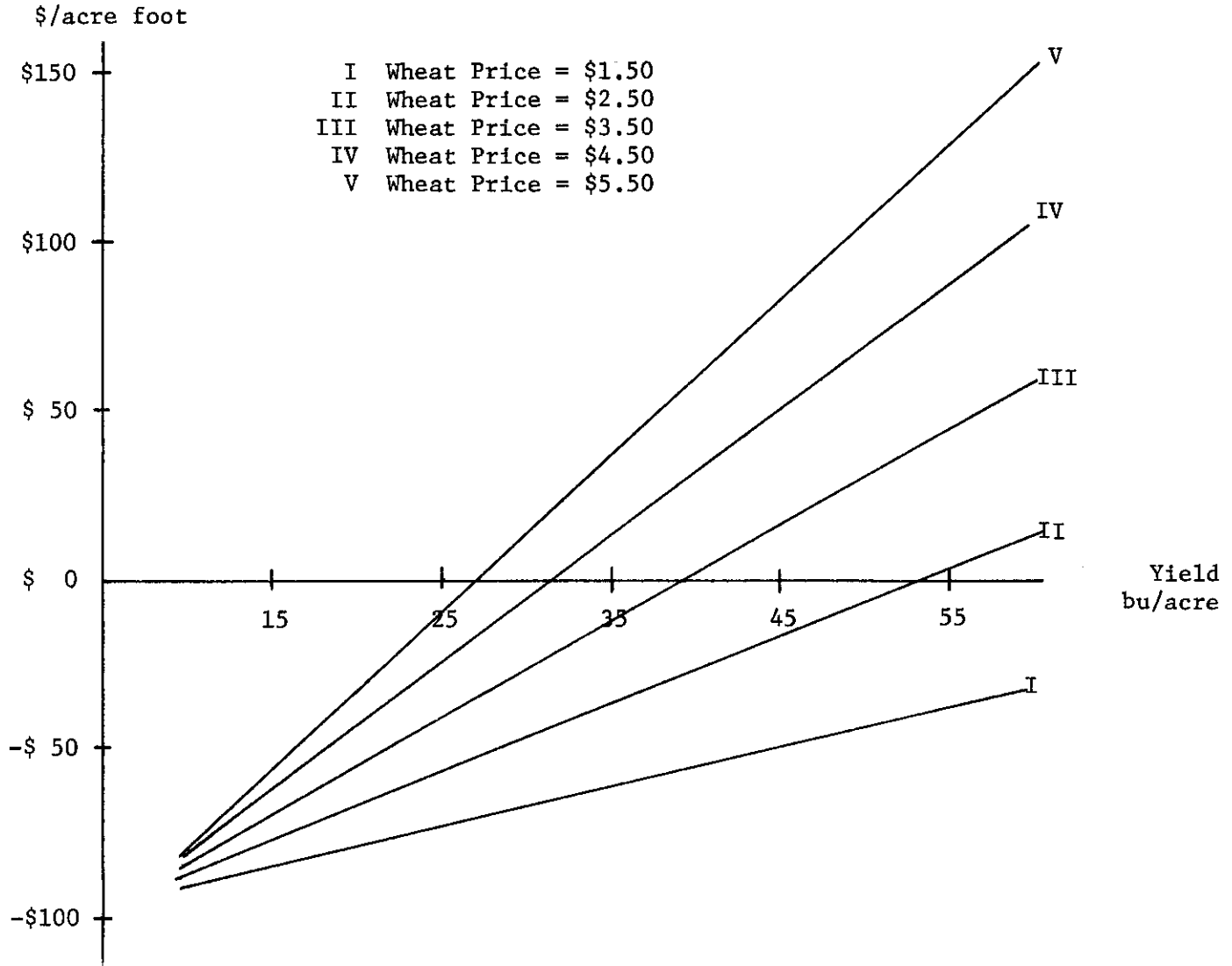


Figure Value of irrigation water applied to Wheat in High Plains III for alternative Wheat prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

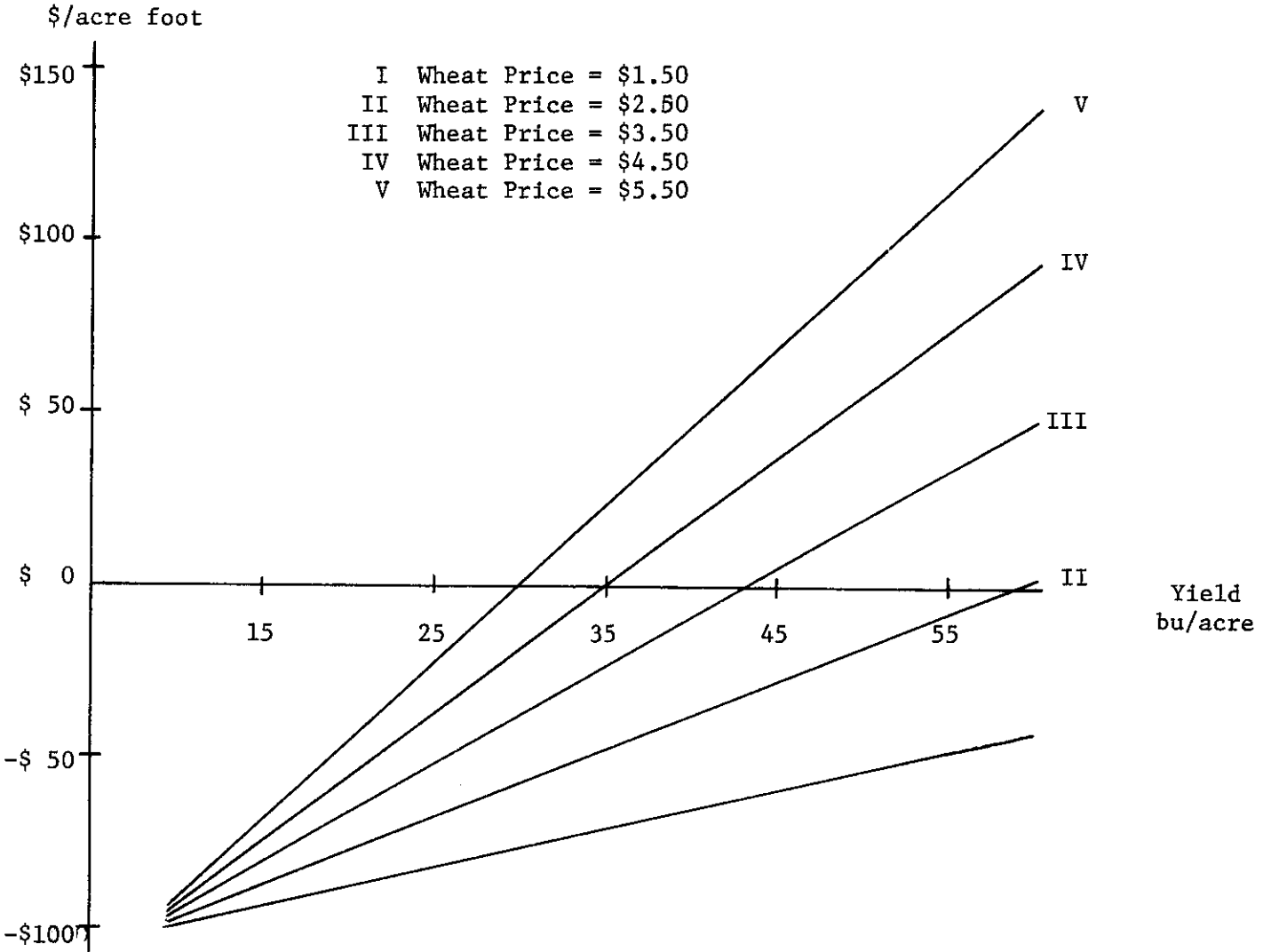
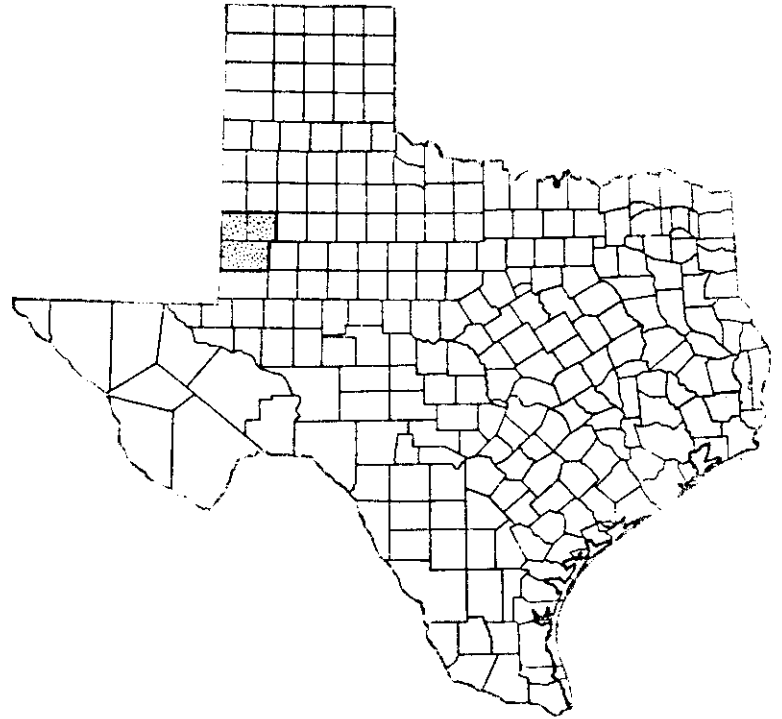


Figure Value of irrigation water applied to Wheat in High Plains III for alternative Wheat prices and yields with expected 1974 costs inflated 20 percent.

# **Texas High Plains IV**

## Texas High Plains IV

This area includes Gaines, Terry and Yoakum counties. Irrigation systems used in the analysis were center pivot and side roll sprinklers. In addition, alternative irrigation levels were evaluated for cotton and grain sorghum. The irrigation and level is identified as PP for preplant irrigation and as PP + 2, for example, with a preplant and two post-plant irrigations.



A land charge was estimated as: (1) grain sorghum - 1/3 of gross revenue from grain produced dryland, (2) cotton - 1/4 of gross revenue from lint produced dryland and (3) for all other crops, the cotton land charge based on a lint price of \$0.40 was applied. Expected dryland yields were 265 pounds of lint for cotton and 13.5 hundredweight for grain sorghum.

The alternative yields and prices used in this analysis are presented in the following table.

Crop	Unit	Yields					Prices				
		5	6	7	8	9	20	30	40	50	60
Alfalfa	ton	5	6	7	8	9	20	30	40	50	60
Castors	cwt.	11	13	15	17	19	8	10	12	14	16
Cotton (sideroll)											
PP	lb.	225	275	325	375	425	0.20	0.30	0.40	0.50	0.60
PP + 1	lb.	300	350	400	450	500	0.20	0.30	0.40	0.50	0.60
PP + 2	lb.	375	425	475	525	575	0.20	0.30	0.40	0.50	0.60
PP + 3	lb.	450	500	550	600	650	0.20	0.30	0.40	0.50	0.60
Cotton (pivot)											
PP + 2	lb.	375	425	475	525	575	0.20	0.30	0.40	0.50	0.60
PP + 3	lb.	450	500	550	600	650	0.20	0.30	0.40	0.50	0.60
Grain Sorghum (sideroll)											
PP + 2	cwt.	15	25	35	45	55	2.00	2.50	3.00	3.50	4.00
PP + 3	cwt.	20	30	40	50	60	2.00	2.50	3.00	3.50	4.00
(pivot)											
PP + 3	cwt.	30	40	50	60	70	2.00	2.50	3.00	3.50	4.00
PP + 4	cwt.	40	50	60	70	80	2.00	2.50	3.00	3.50	4.00
Southern Peas	cwt.	11	13	15	17	19	10.00	12.50	15.00	17.50	20.00
Wheat	bu.	15	25	35	45	55	1.50	2.50	3.50	4.50	5.50

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
ALFALFA  
PIVOT

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION TONS PER ACRE				
		5.0	6.0	7.0	8.0	9.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
20.000	*	-26.890	-17.390	-7.890	1.610	11.110
	*					
30.000	*	-3.140	11.110	25.360	39.610	53.860
	*					
40.000	*	20.610	39.610	58.610	77.610	96.610
	*					
50.000	*	44.360	68.110	91.860	115.610	139.360
	*					
60.000	*	68.110	96.610	125.110	153.610	182.110
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
20.000	*	-34.579	-25.129	-15.679	-6.229	3.221
	*					
30.000	*	-10.954	3.221	17.396	31.571	45.746
	*					
40.000	*	12.671	31.571	50.471	69.371	88.271
	*					
50.000	*	36.296	59.921	83.546	107.171	130.796
	*					
60.000	*	59.921	88.271	116.621	144.971	173.321
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
20.000	*	-42.268	-32.868	-23.468	-14.068	-4.668
	*					
30.000	*	-18.768	-4.668	9.432	23.532	37.632
	*					
40.000	*	4.732	23.532	42.332	61.132	79.932
	*					
50.000	*	28.232	51.732	75.232	98.732	122.232
	*					
60.000	*	51.732	79.932	108.132	136.332	164.532
	*					

A DRYLAND RETURN OF 26.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



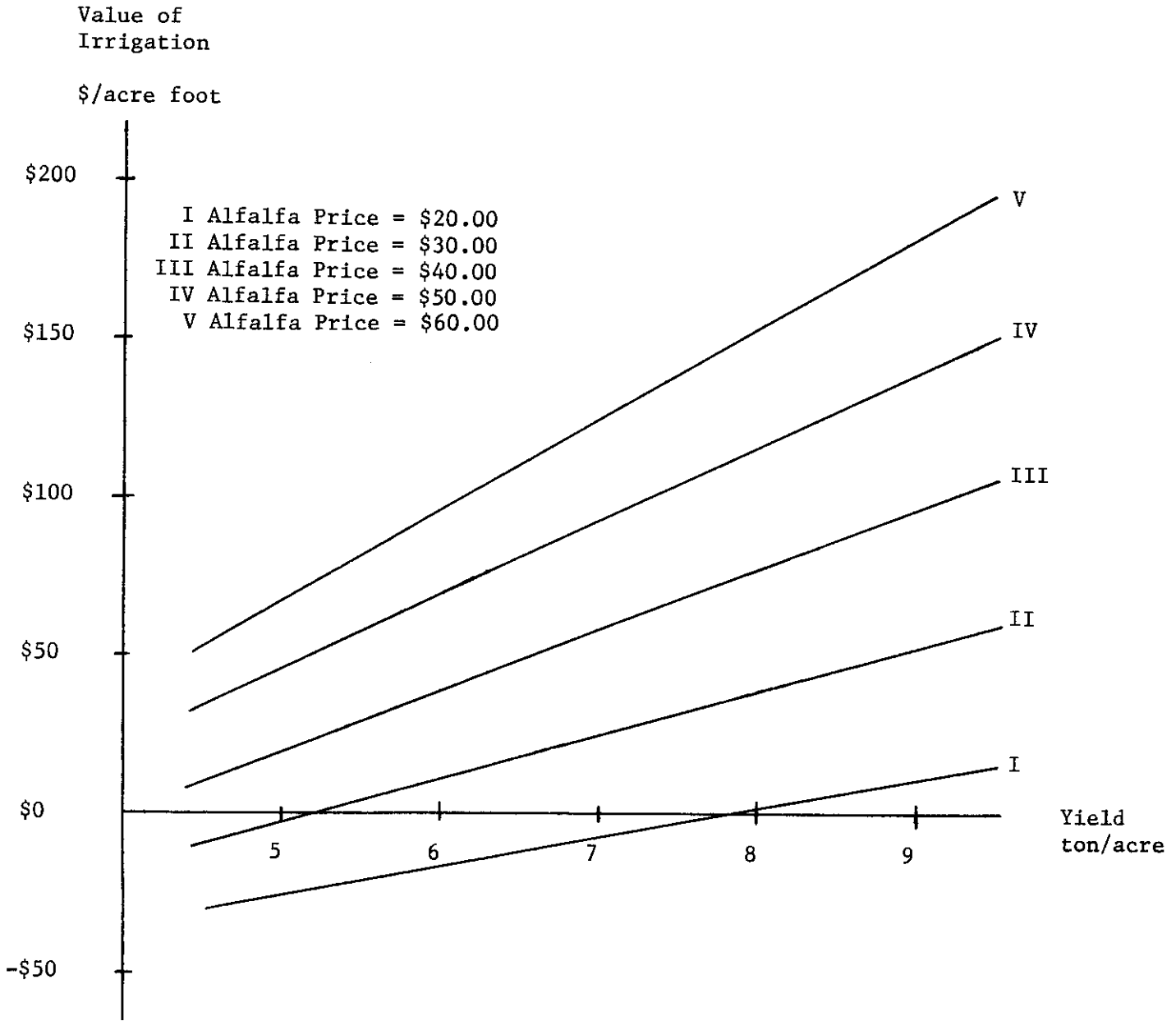


Figure Value of irrigation water applied to Alfalfa, center pivot in High Plains IV for alternative Alfalfa prices and yields with expected 1974 costs.

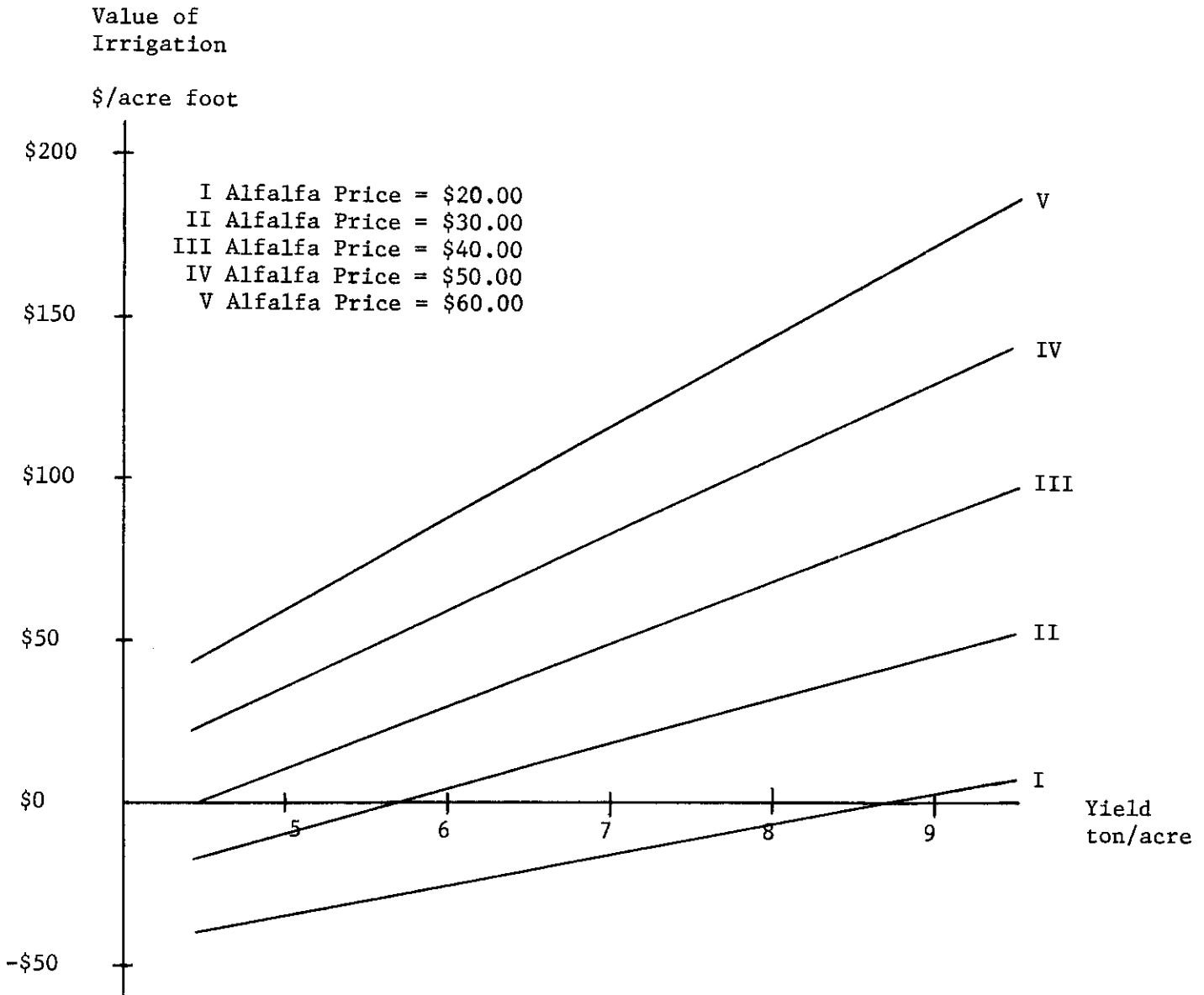


Figure Value of irrigation water applied to Alfalfa, center pivot, in High Plains IV for alternative Alfalfa prices and yields with expected 1974 costs inflated 10 percent.

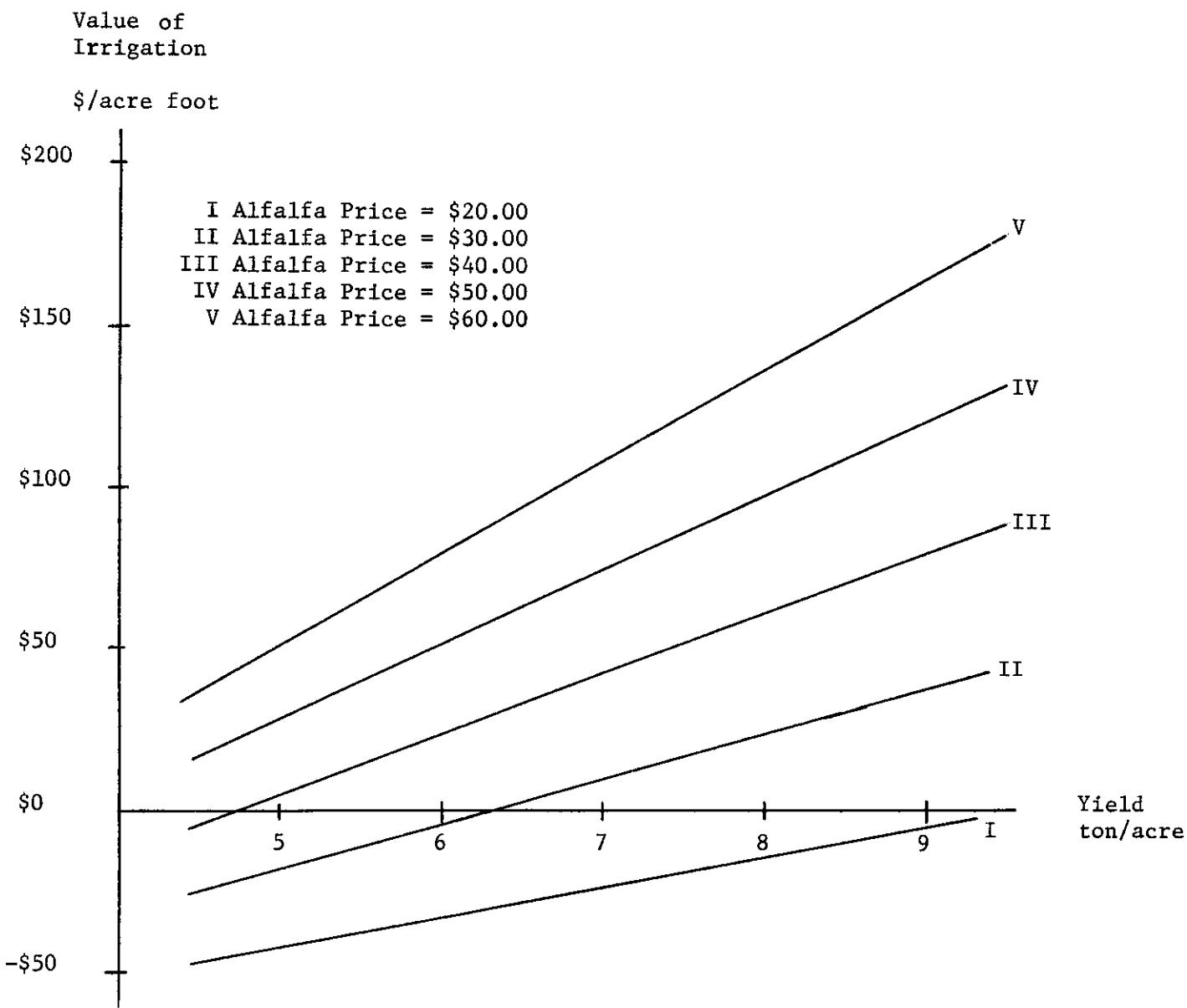


Figure Value of irrigation water applied to Alfalfa, center pivot, in High Plains IV for alternative Alfalfa prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
CASTORS  
SIDEROLL

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		11.0	13.0	15.0	17.0	19.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
8.000	*	-30.217	-14.554	1.108	16.771	32.434
10.000	*	-5.036	15.205	35.446	55.687	75.928
12.000	*	20.145	44.964	69.783	94.602	119.422
14.000	*	45.325	74.723	104.120	133.518	162.916
16.000	*	70.506	104.482	138.458	172.434	206.410
-----						
10% COST INFLATION	*					
PRICES	*					
8.000	*	-43.841	-28.540	-13.239	2.063	17.364
10.000	*	-18.793	1.063	20.918	40.773	60.629
12.000	*	6.255	30.665	55.075	79.484	103.894
14.000	*	31.304	60.267	89.231	118.195	147.159
16.000	*	56.352	89.870	123.388	156.906	190.424
-----						
20% COST INFLATION	*					
PRICES	*					
8.000	*	-57.465	-42.525	-27.586	-12.646	2.294
10.000	*	-32.549	-13.080	6.390	25.860	45.330
12.000	*	-7.634	16.366	40.366	64.366	88.366
14.000	*	17.282	45.812	74.342	102.872	131.402
16.000	*	42.198	75.258	108.318	141.378	174.439

A DRYLAND RETURN OF 26.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

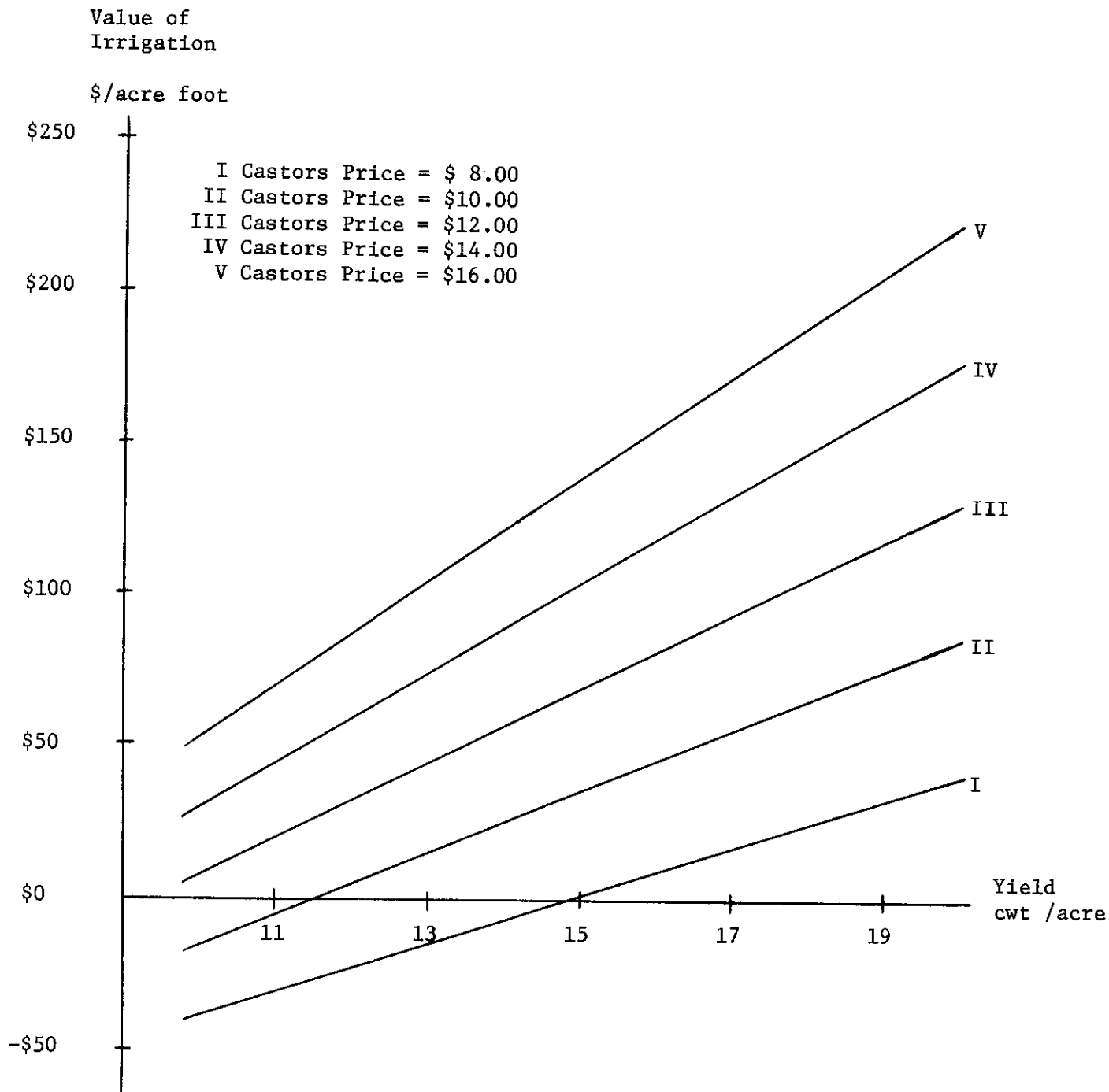


Figure Value of irrigation water applied to Castors, sideroll sprinkler, in High Plains IV for alternative Castor prices and yields with expected 1974 costs.

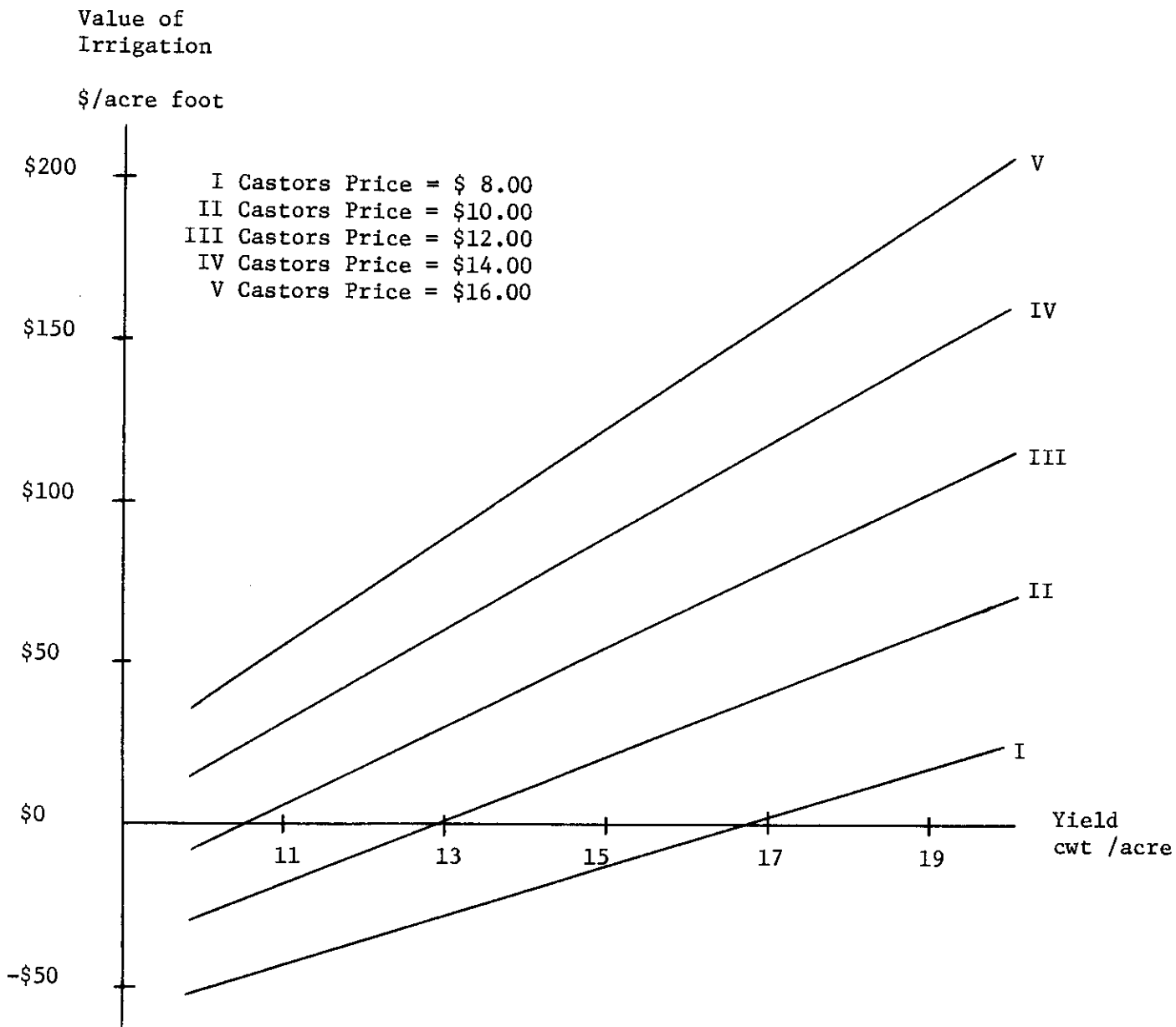


Figure Value of irrigation water applied to Castors, sideroll sprinkler, in High Plains IV for alternative Castor prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

\$/acre foot

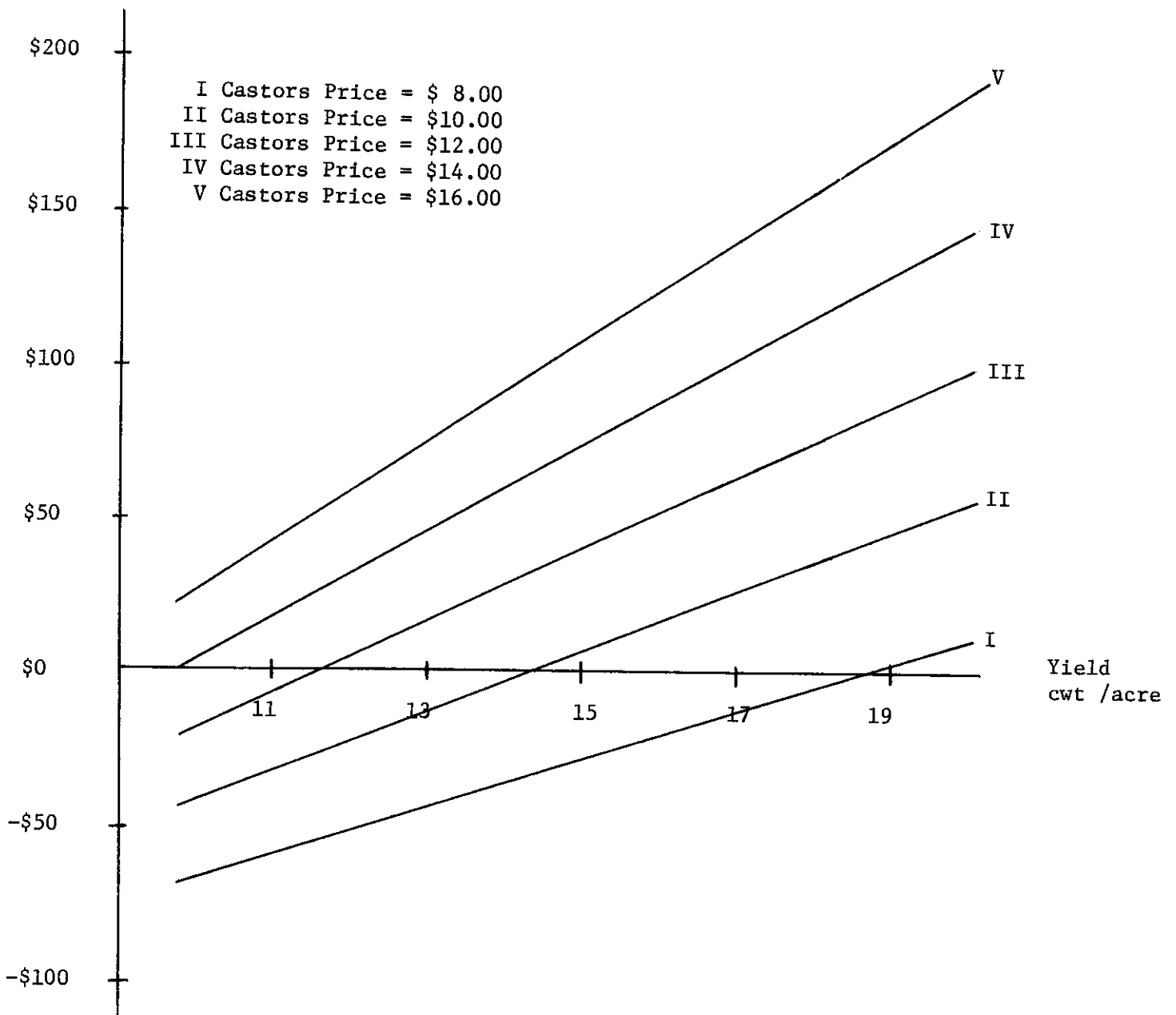


Figure Value of irrigation water applied to Castors, sideroll sprinkler, in High Plains IV for alternative Castor prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
COTTON  
SIDEROLL PP

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		225.0	275.0	325.0	375.0	425.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-116.364	-89.455	-62.545	-35.636	-8.727
	*					
0.300	*	-71.667	-30.364	10.939	52.242	93.545
	*					
0.400	*	-26.970	28.727	84.424	140.121	195.818
	*					
0.500	*	17.727	87.818	157.909	228.000	298.091
	*					
0.600	*	62.424	146.909	231.394	315.879	400.363
	*					
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-144.909	-119.067	-93.224	-67.382	-41.539
	*					
0.300	*	-102.561	-62.400	-22.239	17.921	58.082
	*					
0.400	*	-60.212	-5.733	48.745	103.224	157.703
	*					
0.500	*	-17.864	50.933	119.730	188.527	257.324
	*					
0.600	*	24.485	107.600	190.715	273.830	356.945
	*					
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-173.454	-148.679	-123.903	-99.127	-74.351
	*					
0.300	*	-133.455	-94.436	-55.418	-16.400	22.618
	*					
0.400	*	-93.454	-40.194	13.067	66.327	119.588
	*					
0.500	*	-53.455	14.048	81.552	149.055	216.558
	*					
0.600	*	-13.455	68.291	150.036	231.782	313.527
	*					

A DRYLAND YIELD OF 265.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



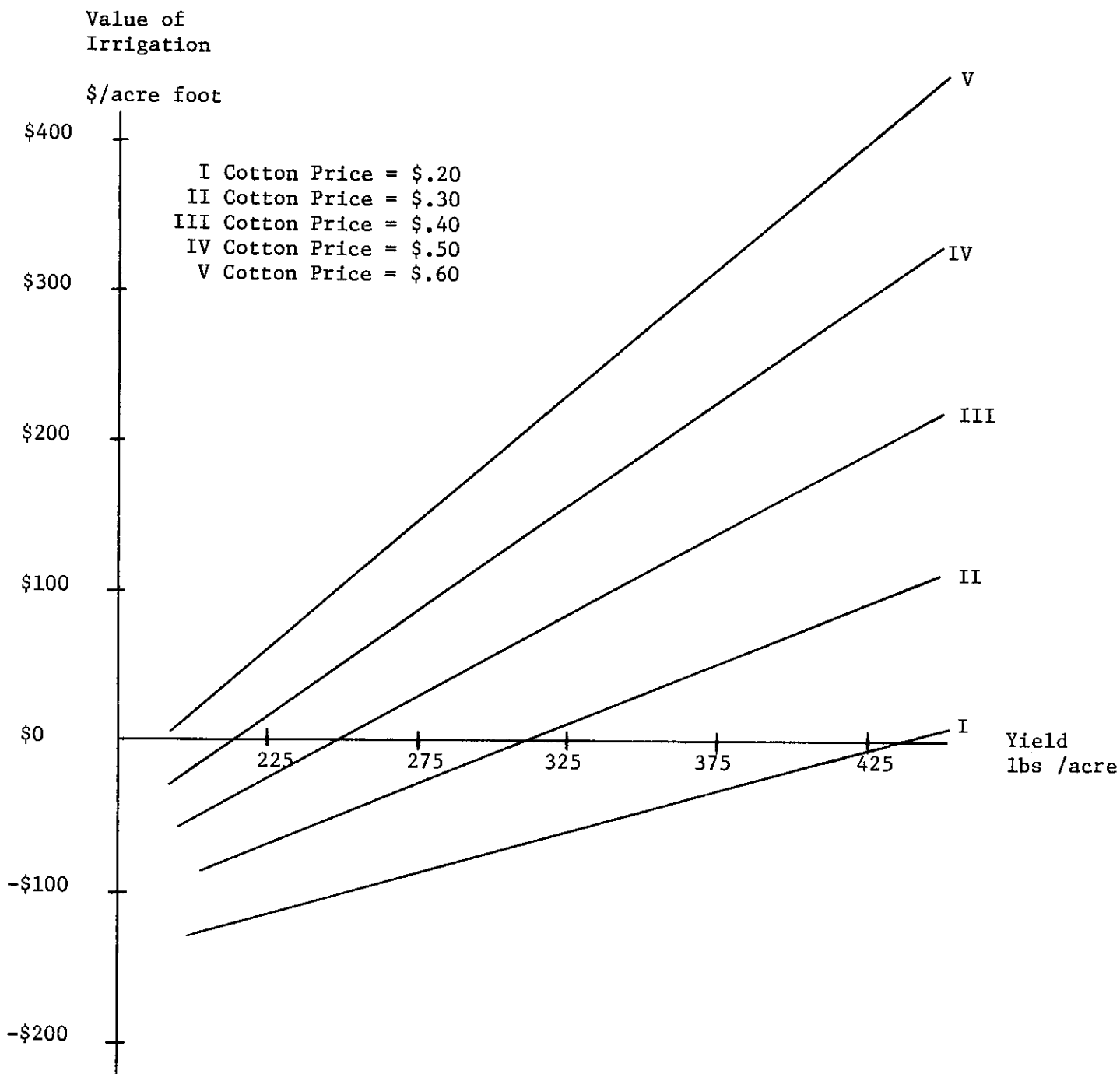


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs.

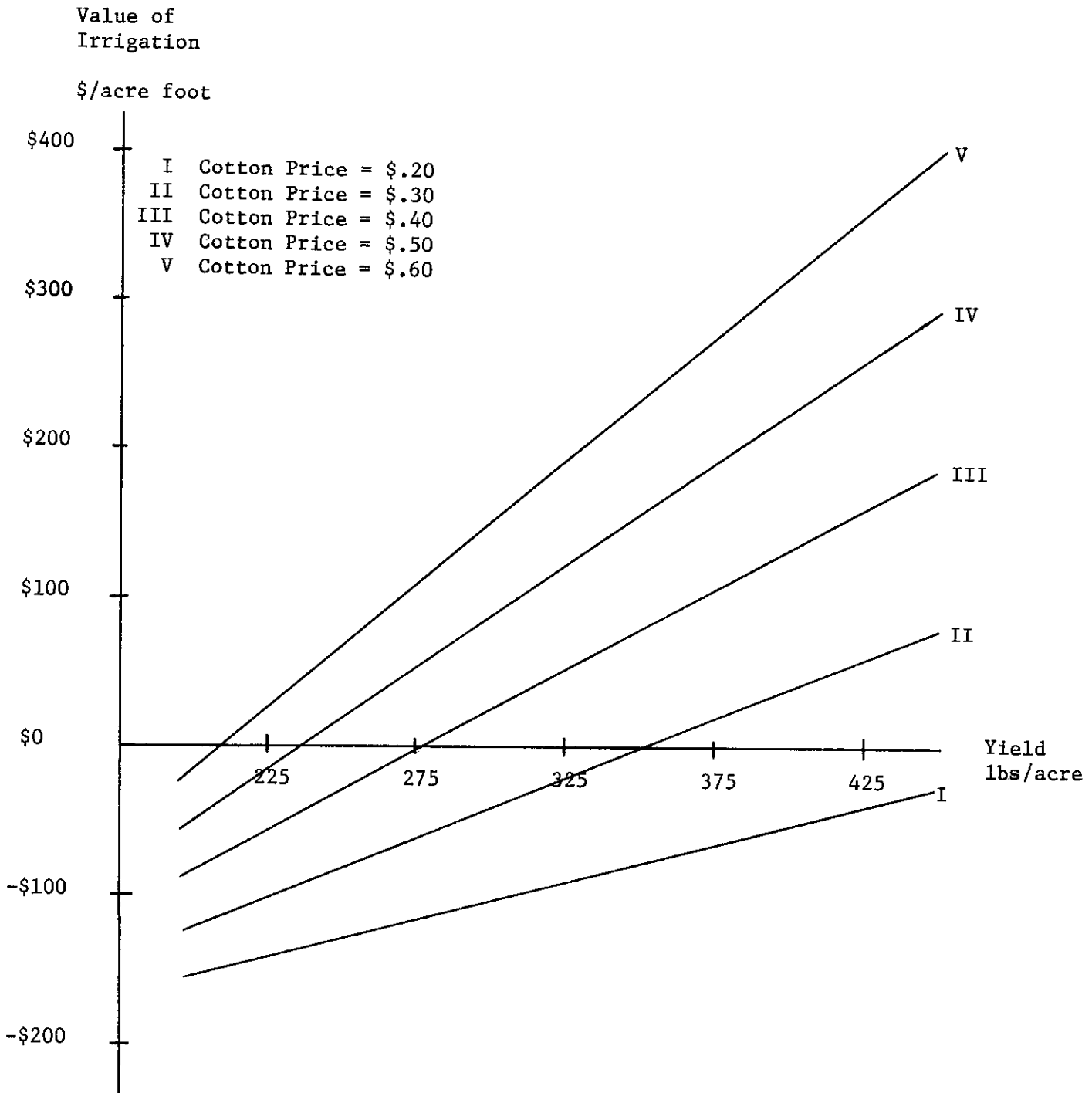


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant, for alternative Cotton prices yields with expected 1974 costs inflated 10 percent.

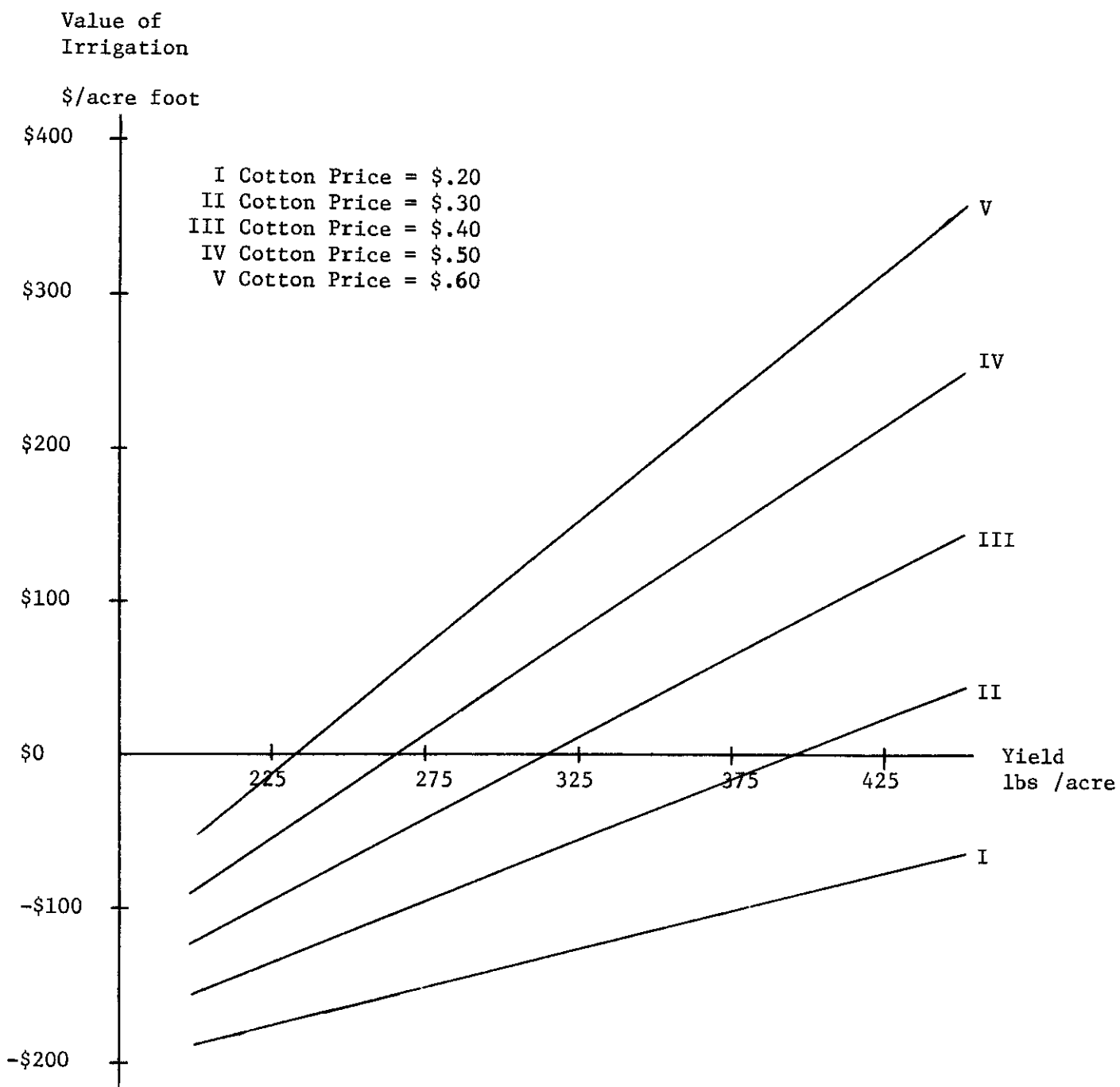


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
COTTON  
SIDEROLL PP+1

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		300.0	350.0	400.0	450.0	500.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-58.414	-43.103	-27.793	-12.483	2.828
0.300	*	-20.698	2.802	26.302	49.802	73.302
0.400	*	17.017	48.707	80.397	112.086	143.776
0.500	*	54.733	94.612	134.491	174.371	214.250
0.600	*	92.448	140.517	188.586	236.655	284.724
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-77.083	-62.379	-47.676	-32.972	-18.269
0.300	*	-40.768	-17.918	4.932	27.782	50.632
0.400	*	-4.453	26.543	57.540	88.536	119.533
0.500	*	31.861	71.004	110.147	149.291	188.433
0.600	*	68.176	115.466	162.755	210.045	257.334
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-95.752	-81.655	-67.559	-53.462	-39.365
0.300	*	-60.838	-38.638	-16.438	5.762	27.962
0.400	*	-25.924	4.379	34.683	64.986	95.290
0.500	*	8.990	47.397	85.803	124.210	162.617
0.600	*	43.904	90.414	136.924	183.434	229.945

A DRYLAND YIELD OF 265.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

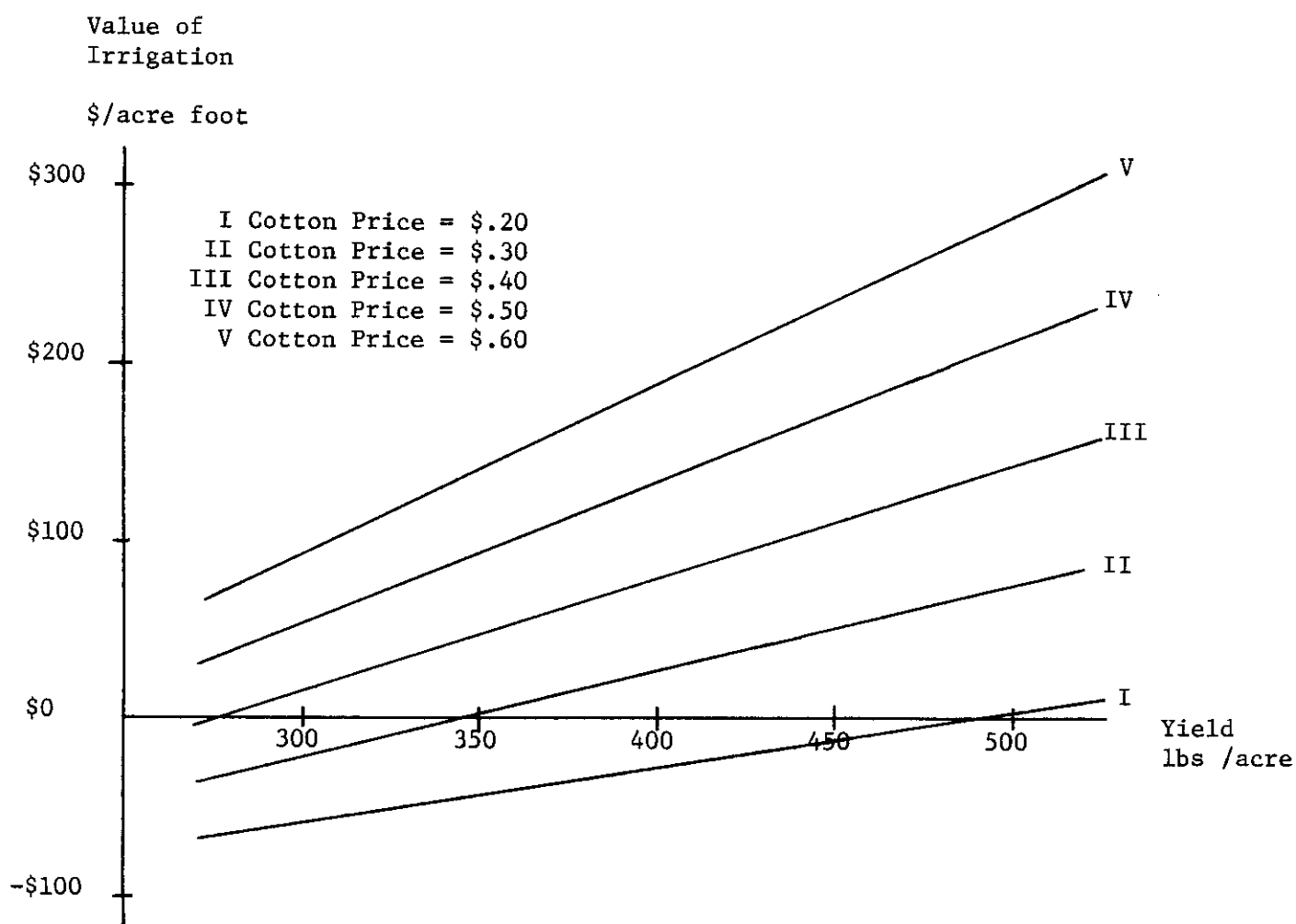


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus one postplant, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs.

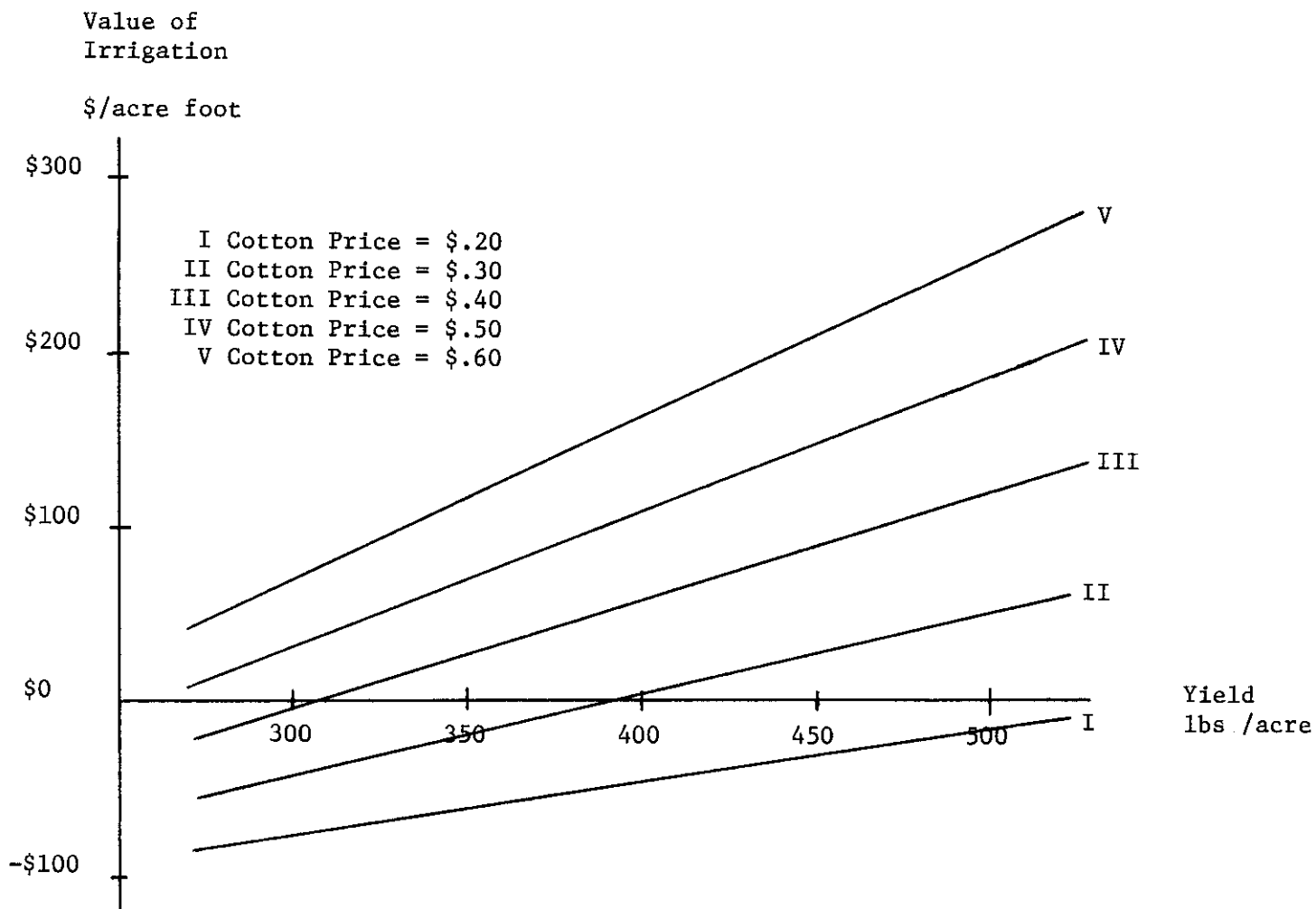


Figure Value of irrigation applied to Cotton, sideroll sprinkler, preplant plus one postplant, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

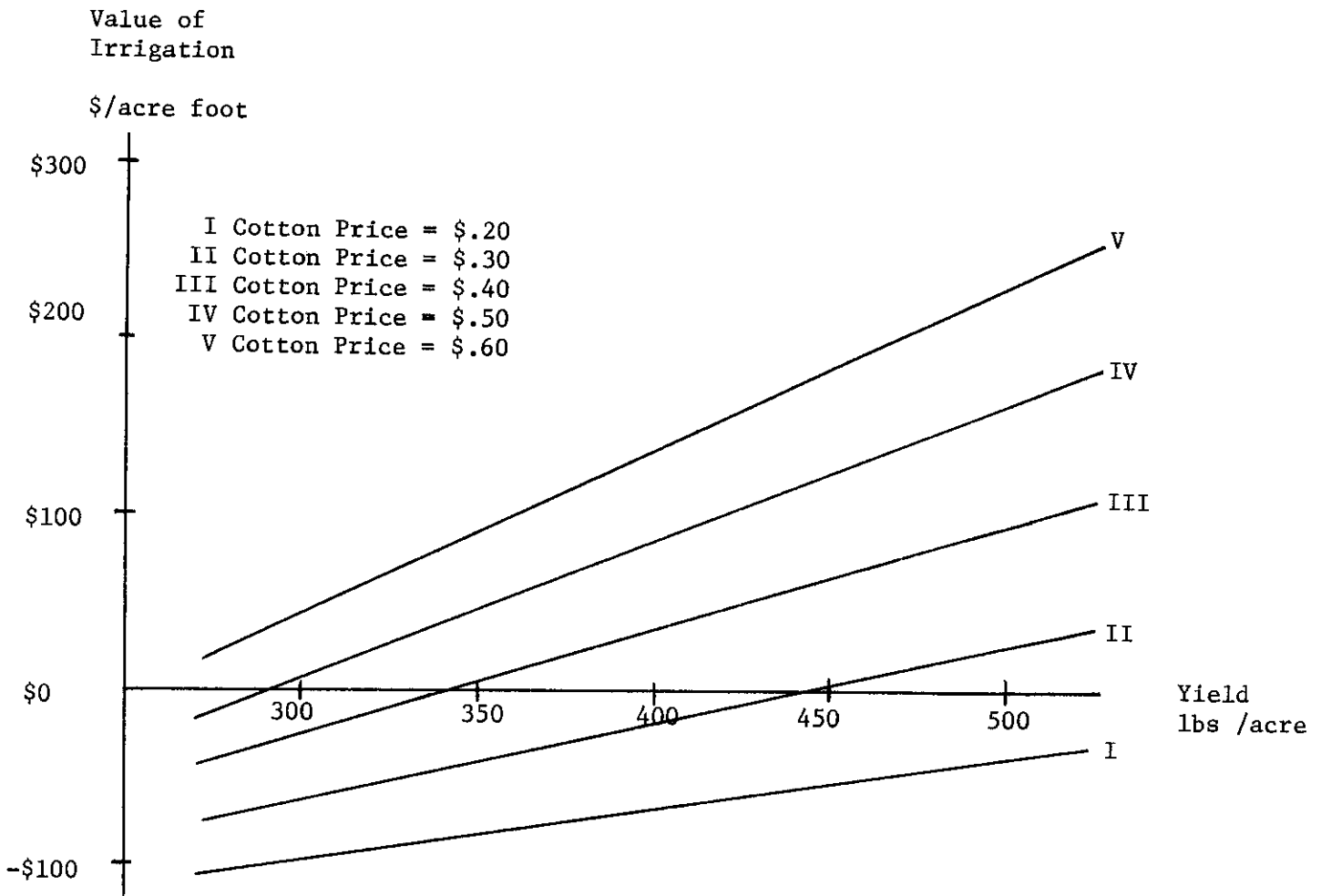


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus one postplant, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
COTTON  
SIDEROLL PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER	ACRE		
	*	375.0	425.0	475.0	525.0	575.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-47.120	-36.422	-25.723	-15.024	-4.325
0.300	*	-12.181	4.241	20.663	37.084	53.506
0.400	*	22.759	44.904	67.048	89.193	111.337
0.500	*	57.699	85.566	113.434	141.301	169.169
0.600	*	92.639	126.229	159.819	193.410	227.000
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-63.037	-52.763	-42.488	-32.213	-21.939
0.300	*	-29.122	-13.154	2.813	18.781	34.748
0.400	*	4.794	26.454	48.114	69.775	91.435
0.500	*	38.710	66.063	93.415	120.769	148.122
0.600	*	72.625	105.671	138.717	171.763	204.808
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-78.954	-69.104	-59.253	-49.402	-39.552
0.300	*	-46.063	-30.549	-15.036	0.477	15.990
0.400	*	-13.171	8.005	29.181	50.357	71.532
0.500	*	19.721	46.559	73.397	100.236	127.075
0.600	*	52.612	85.113	117.614	150.116	182.617

A DRYLAND YIELD OF 265.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



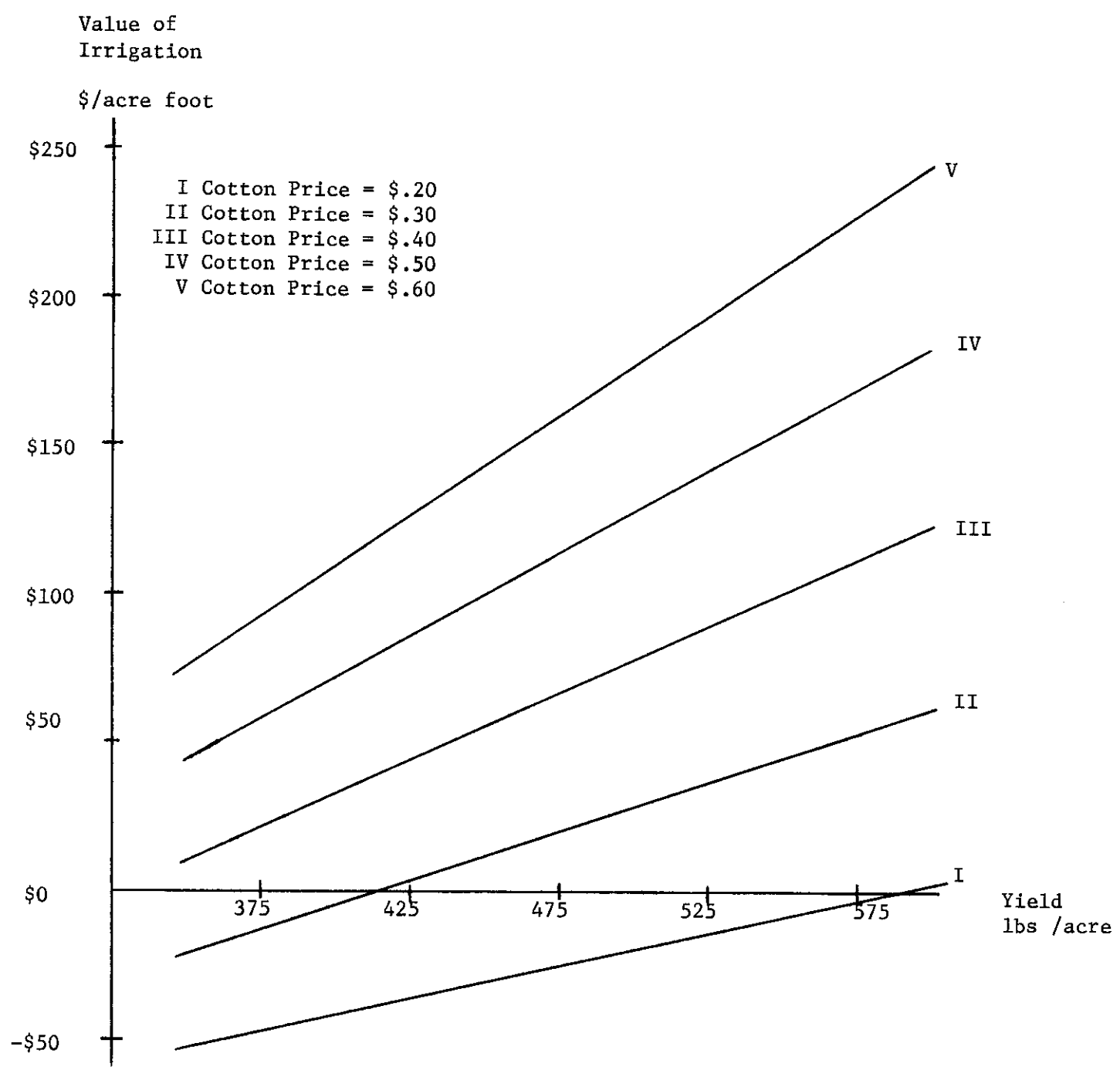


Figure Value of irrigation applied to Cotton, sideroll sprinkler, preplant plus two postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs.

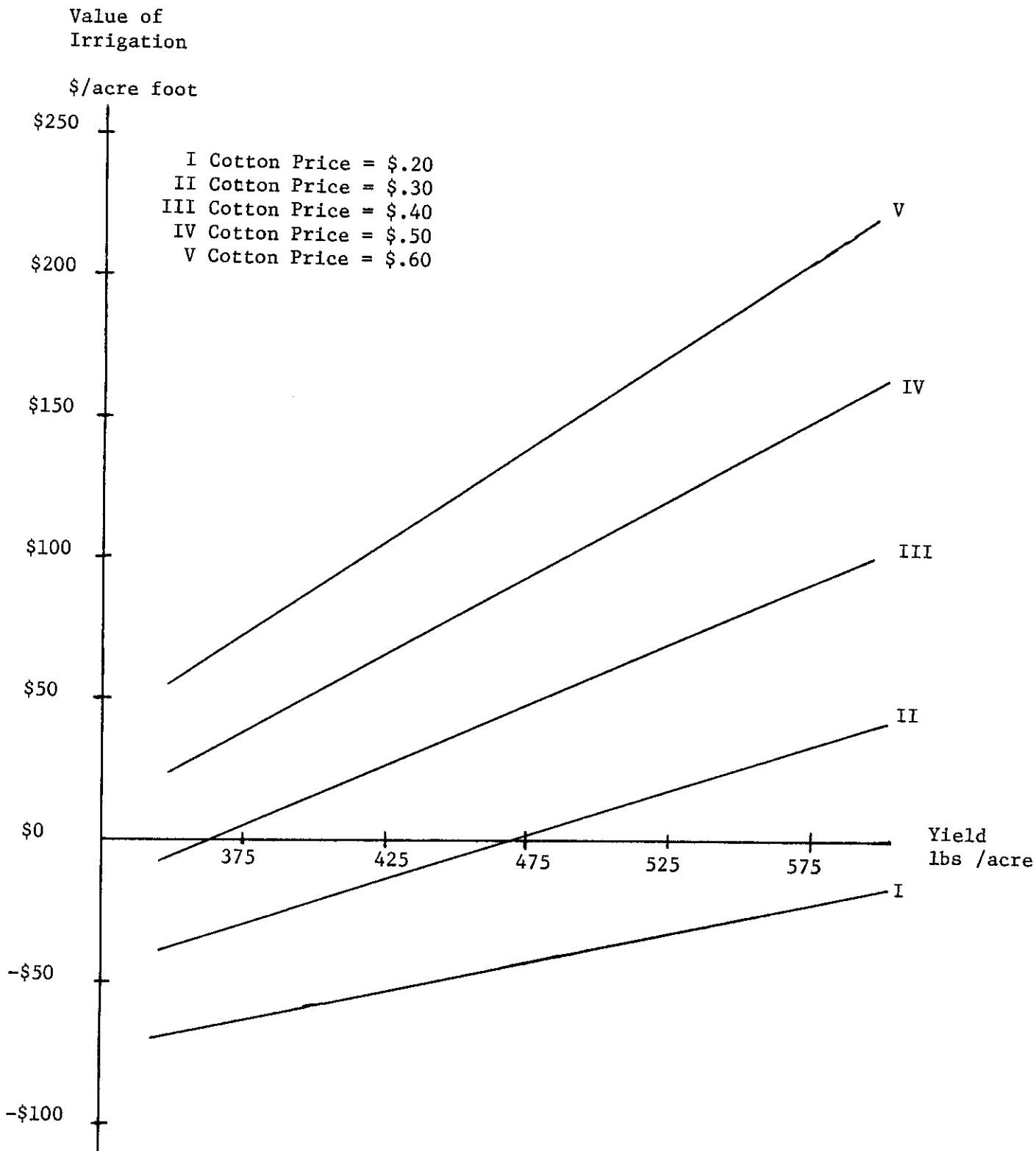


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus two postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

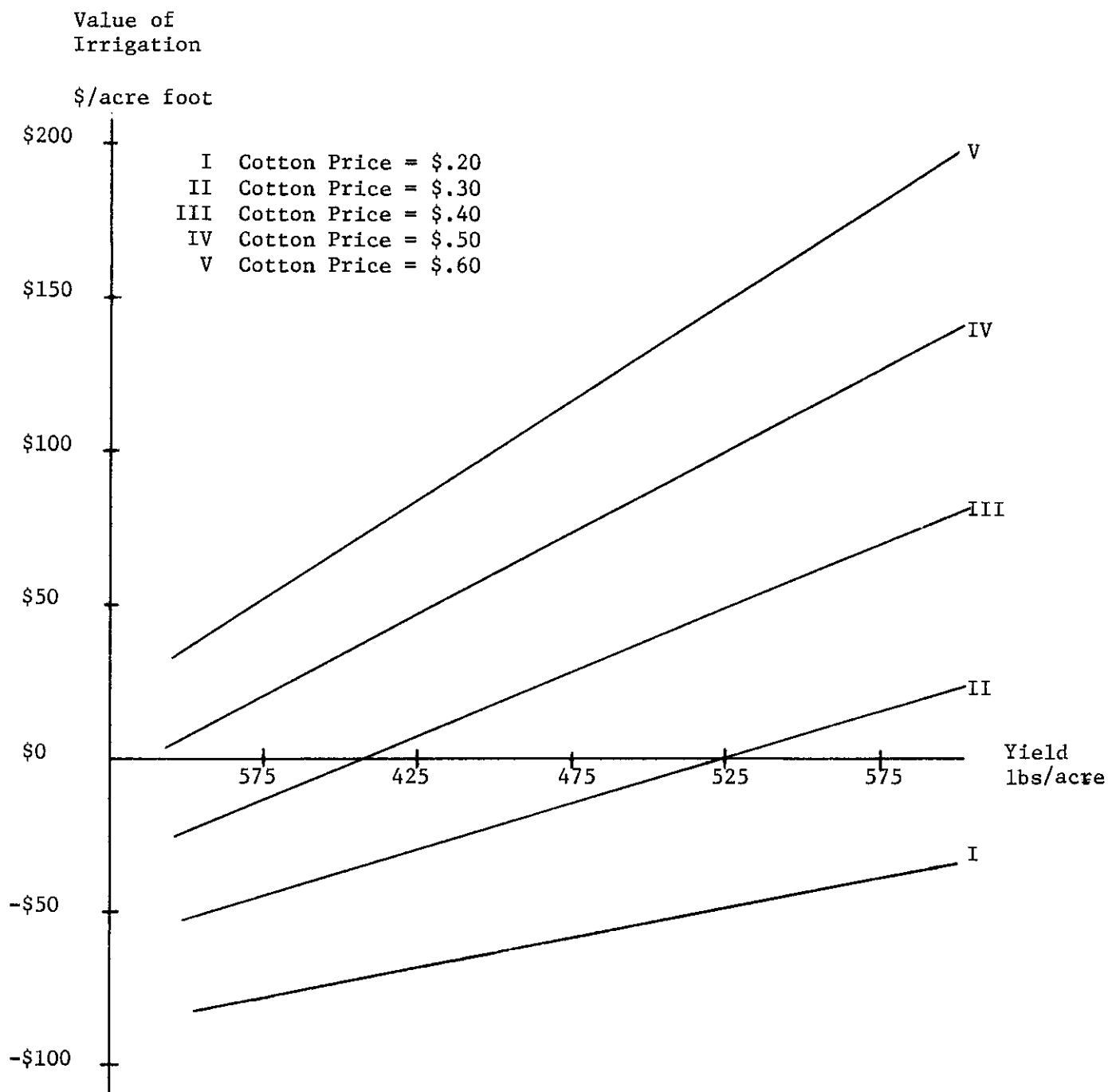


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus two postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
COTTON  
SIDEROLL PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		450.0	500.0	550.0	600.0	650.0
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-30.398	-22.176	-13.954	-5.731	2.491
0.300	*	3.051	15.671	28.292	40.912	53.532
0.400	*	36.500	53.519	70.537	87.555	104.574
0.500	*	69.949	91.366	112.782	134.199	155.616
0.600	*	103.398	129.213	155.028	180.842	206.657
10% COST INFLATION	*					
PRICES	*					
0.200	*	-43.771	-35.875	-27.979	-20.082	-12.186
0.300	*	-11.144	1.127	13.399	25.670	37.941
0.400	*	21.483	38.130	54.776	71.422	88.068
0.500	*	54.111	75.132	96.153	117.174	138.196
0.600	*	86.738	112.134	137.530	162.927	188.323
20% COST INFLATION	*					
PRICES	*					
0.200	*	-57.144	-49.574	-42.004	-34.433	-26.863
0.300	*	-25.339	-13.417	-1.494	10.428	22.350
0.400	*	6.467	22.741	39.015	55.289	71.563
0.500	*	38.272	58.898	79.524	100.150	120.776
0.600	*	70.078	95.056	120.033	145.011	169.989

A DRYLAND YIELD OF 265.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

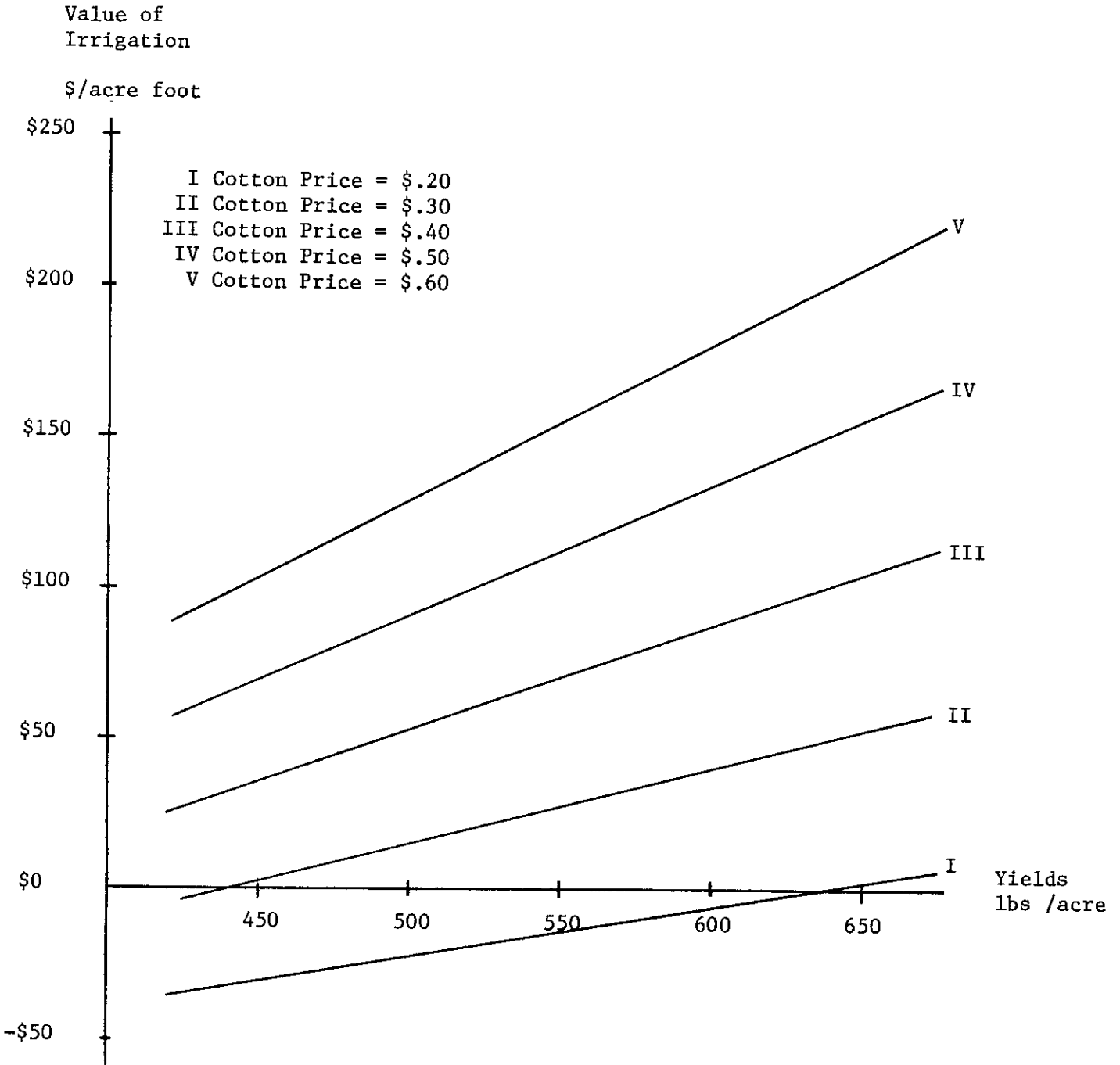


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus three postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs.

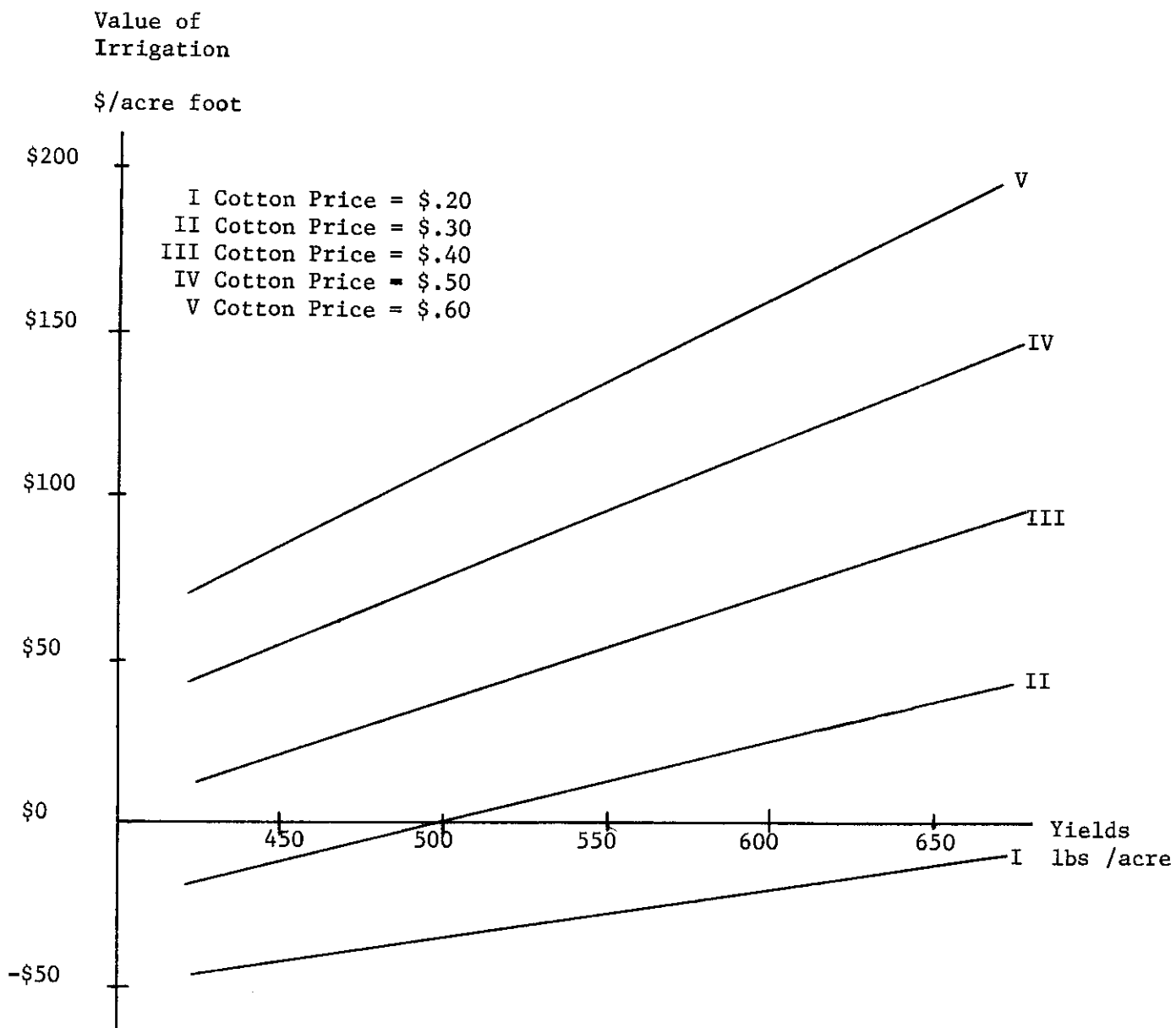


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus three postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

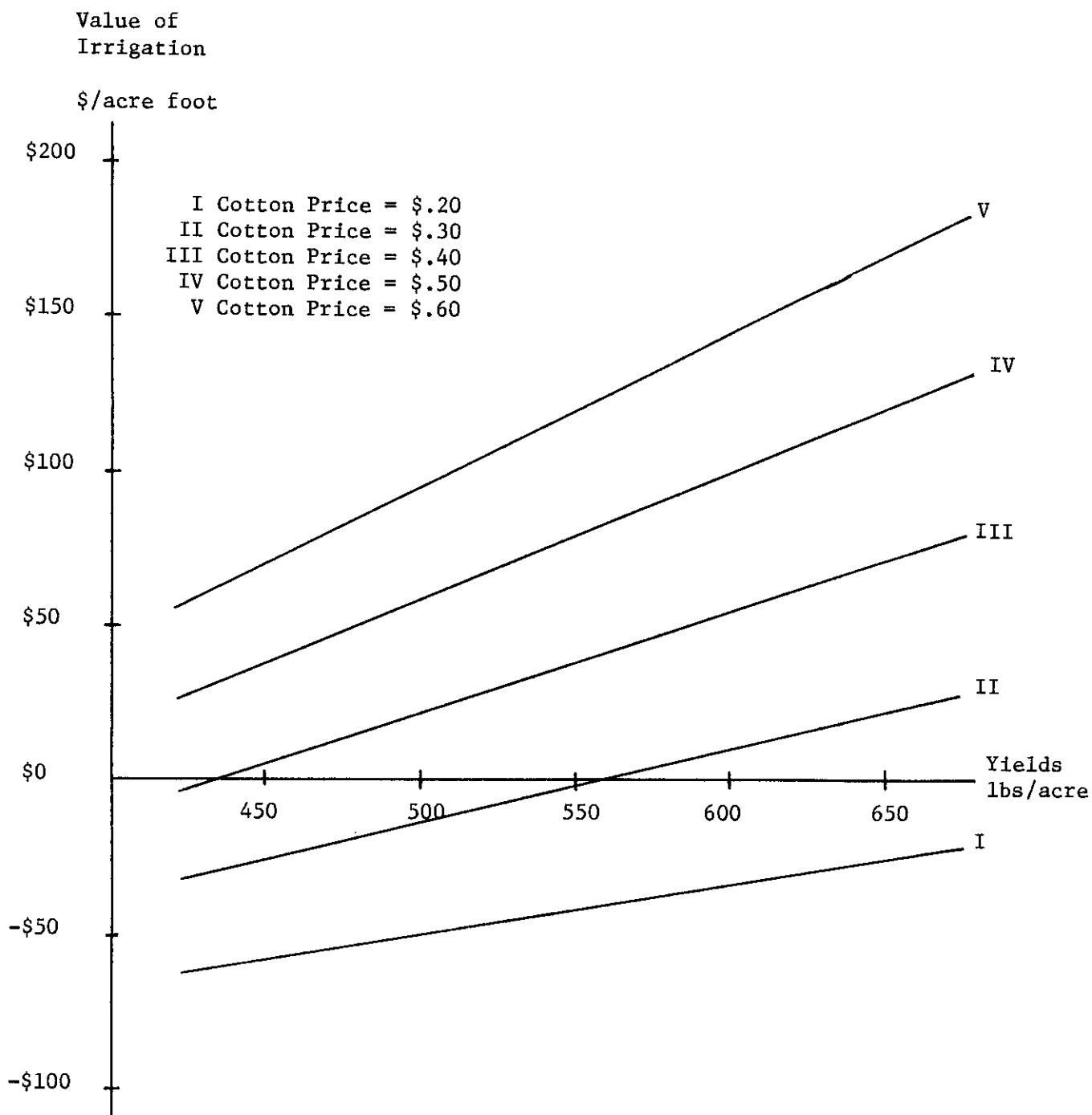


Figure Value of irrigation water applied to Cotton, sideroll sprinkler, preplant plus three postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
COTTON  
PIVOT PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		LBS	PER ACRE			
	*	375.0	425.0	475.0	525.0	575.0
-----						
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-54.879	-44.181	-33.482	-22.783	-12.084
0.300	*	-19.940	-3.518	12.904	29.325	45.747
0.400	*	15.000	37.145	59.289	81.434	103.578
0.500	*	49.940	77.807	105.674	133.542	161.409
0.600	*	84.880	118.470	152.060	185.651	219.241
-----						
10% COST INFLATION	*					
PRICES	*					
0.200	*	-71.572	-61.298	-51.023	-40.748	-30.473
0.300	*	-37.657	-21.689	-5.722	10.246	26.213
0.400	*	-3.741	17.919	39.580	61.240	82.900
0.500	*	30.175	57.528	84.881	112.234	139.587
0.600	*	64.090	97.136	130.182	163.228	196.273
-----						
20% COST INFLATION	*					
PRICES	*					
0.200	*	-88.265	-78.414	-68.564	-58.713	-48.863
0.300	*	-55.373	-39.860	-24.347	-8.834	6.680
0.400	*	-22.482	-1.306	19.870	41.046	62.222
0.500	*	10.410	37.248	64.087	90.925	117.764
0.600	*	43.301	75.802	108.303	140.805	173.306

A DRYLAND YIELD OF 265.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



Value of  
Irrigation

\$/acre foot

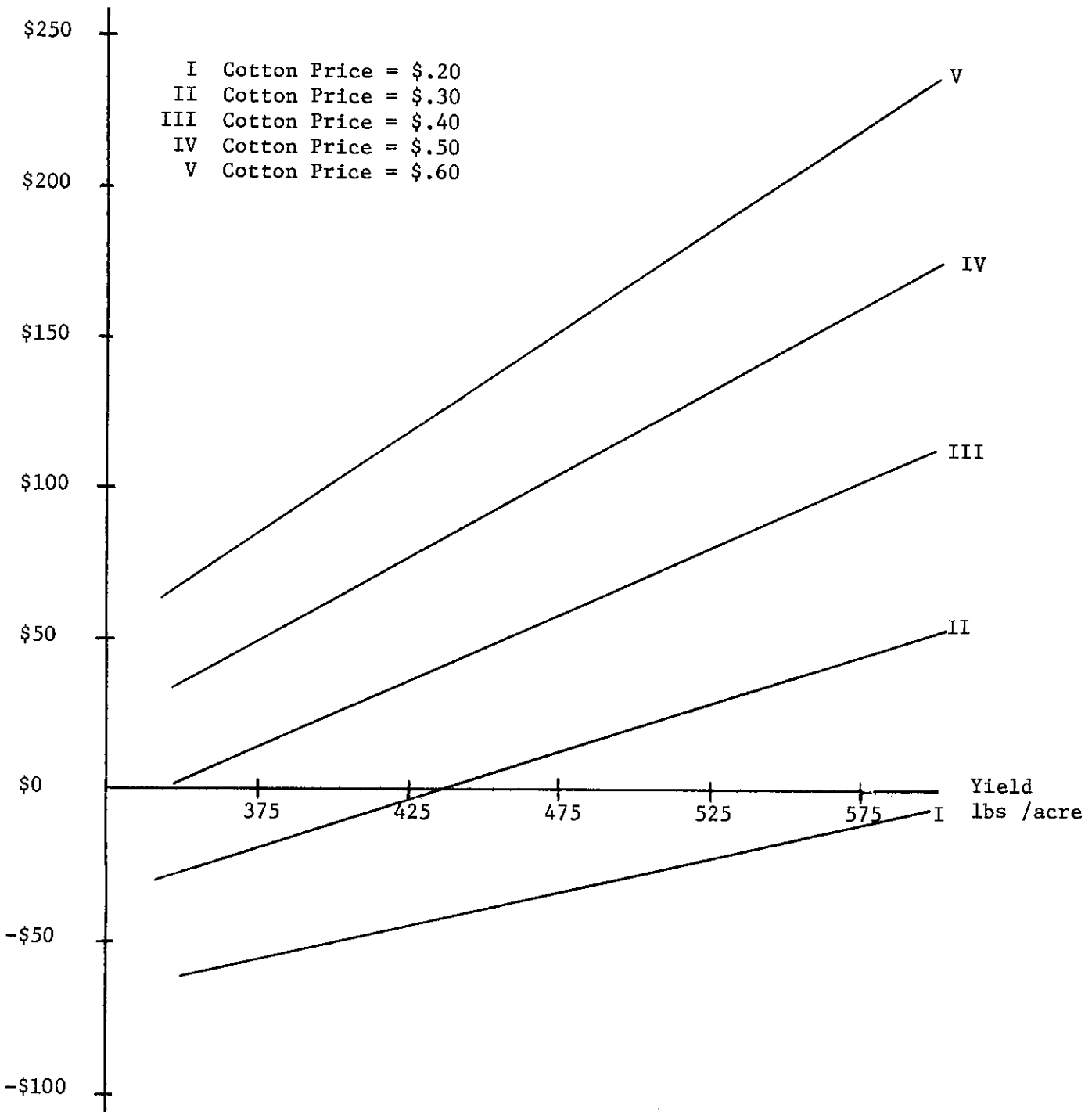


Figure Value of irrigation water applied to Cotton, center pivot, preplant plus two postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs.

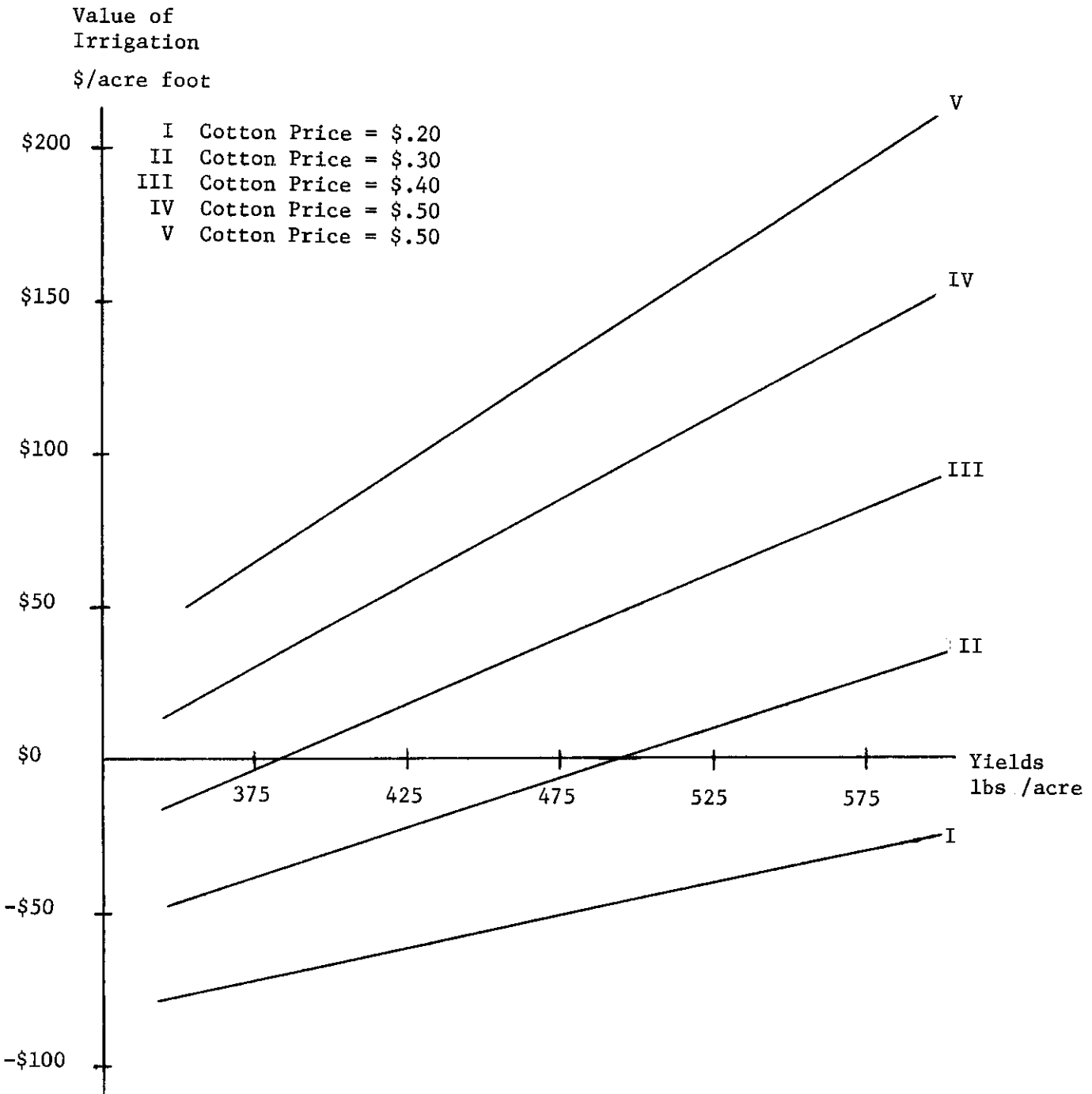


Figure Value of irrigation water applied to Cotton, center pivot, preplant plus two postplants, in High Plains IV for alternative Cotton prices and yields with expect 1974 costs inflated 10 percent.

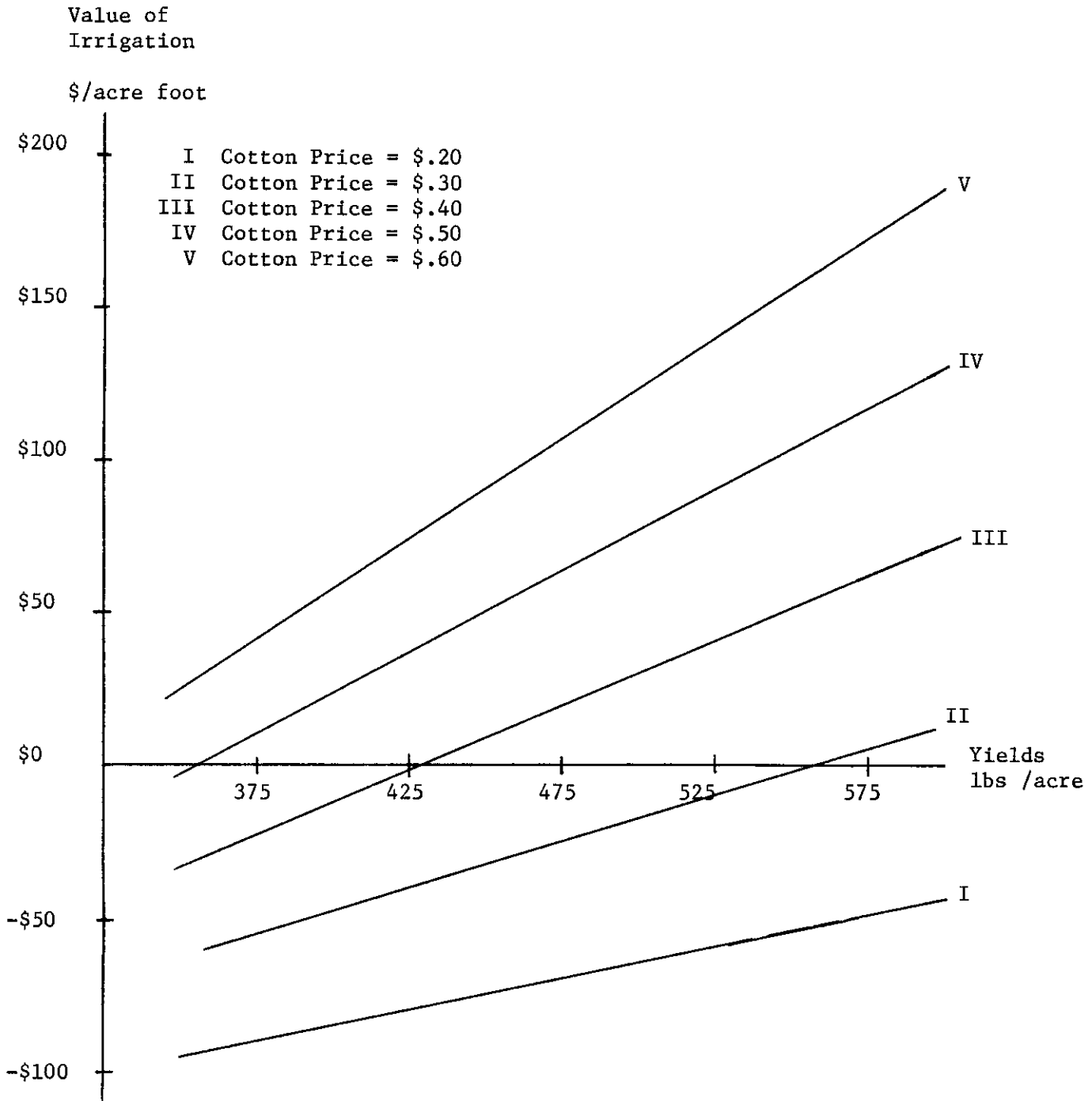


Figure Value of irrigation water applied to Cotton, center pivot, preplant plus two postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
COTTON  
PIVOT PP+3

PRODUCTION COSTS AND PRICES	*	YIELD UNDER IRRIGATION				
		450.0	500.0	550.0	600.0	650.0
PRODUCTION COSTS 1974	*					
PRICES	*					
0.200	*	-39.435	-31.213	-22.991	-14.769	-6.546
0.300	*	-5.986	6.634	19.255	31.875	44.495
0.400	*	27.463	44.481	61.500	78.518	95.537
0.500	*	60.912	82.329	103.745	125.162	146.579
0.600	*	94.361	120.176	145.991	171.805	197.620
10% COST INFLATION	*					
PRICES	*					
0.200	*	-53.712	-45.816	-37.919	-30.023	-22.127
0.300	*	-21.085	-8.813	3.458	15.729	28.000
0.400	*	11.543	28.189	44.835	61.481	78.128
0.500	*	44.170	65.191	86.212	107.234	128.255
0.600	*	76.797	102.194	127.590	152.986	178.382
20% COST INFLATION	*					
PRICES	*					
0.200	*	-67.989	-60.418	-52.848	-45.278	-37.707
0.300	*	-36.183	-24.261	-12.339	-0.417	11.506
0.400	*	-4.378	11.896	28.170	44.444	60.719
0.500	*	27.428	48.054	68.680	89.305	109.931
0.600	*	59.233	84.211	109.189	134.167	159.144

A DRYLAND YIELD OF 265.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

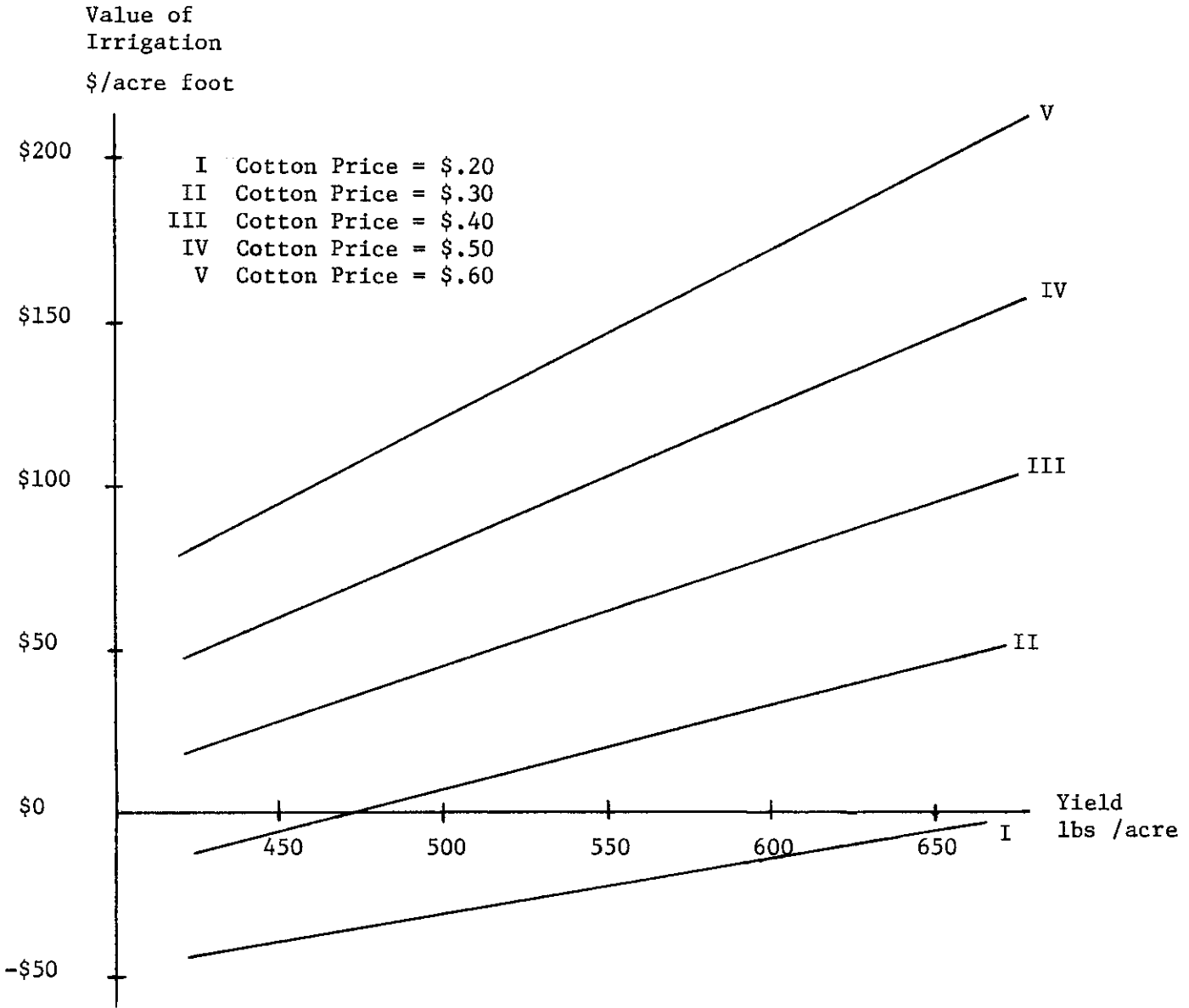


Figure Value of irrigation water applied to Cotton, center pivot, preplant plus three postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs.

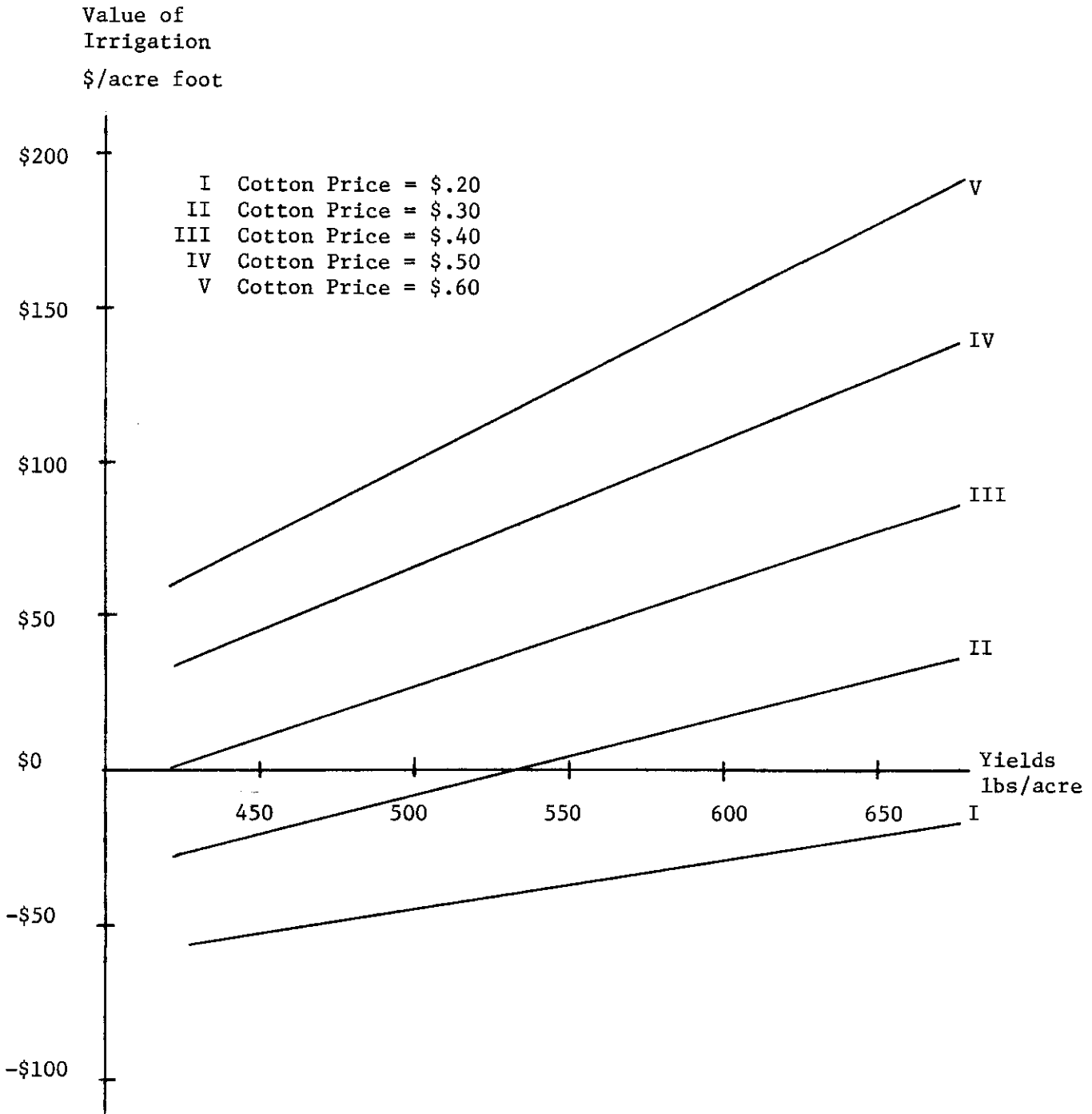


Figure Value of irrigation water applied to Cotton, center pivot, preplant plus three postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

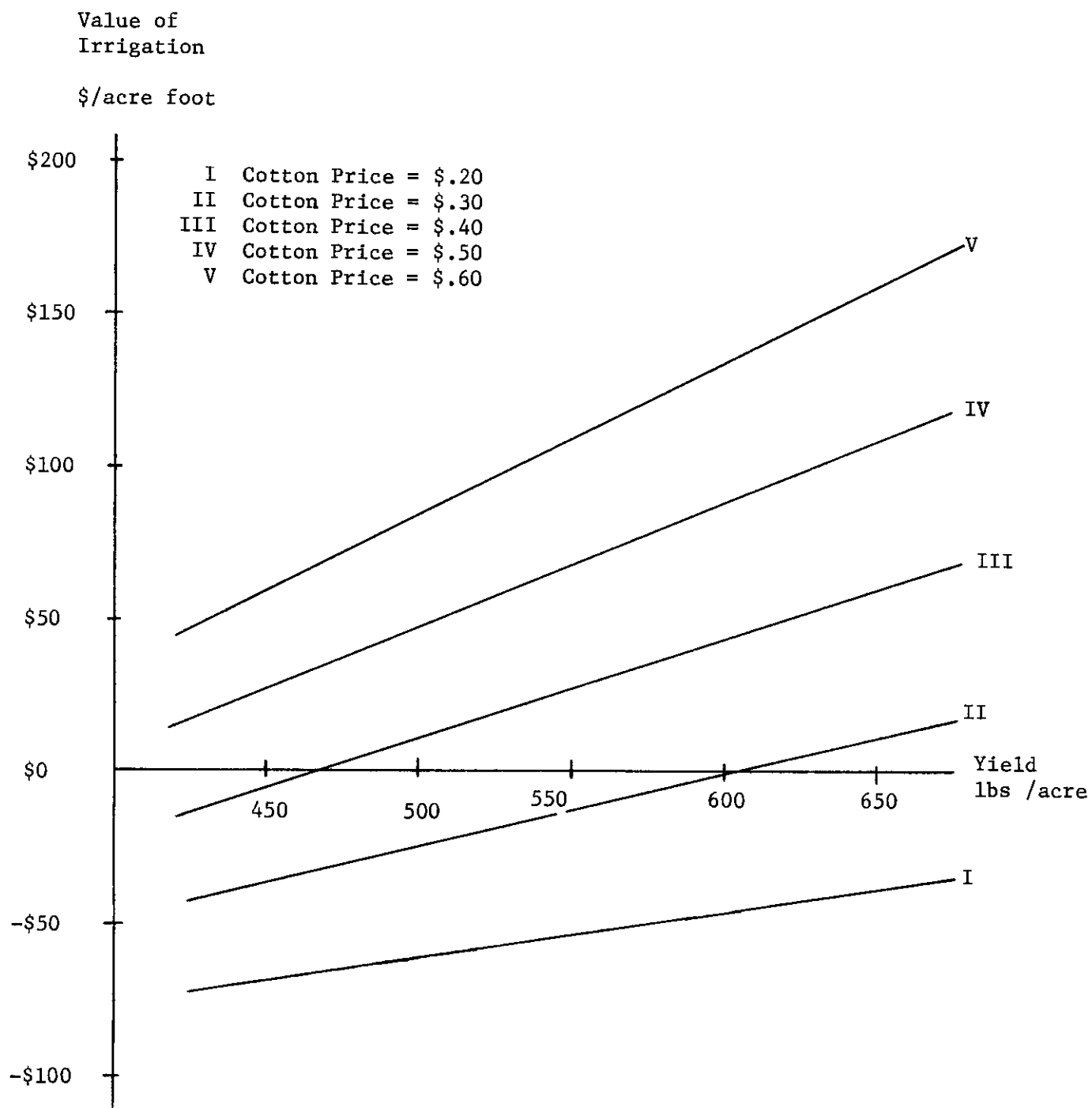


Figure Value of irrigation water applied to Cotton, center pivot preplant plus three postplants, in High Plains IV for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
GRAIN SORGHUM  
SIDEROLL PP+2

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		15.0	25.0	35.0	45.0	55.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-60.433	-42.360	-24.288	-6.216	11.857
2.500	*	-54.559	-30.764	-6.969	16.827	40.622
3.000	*	-48.685	-19.167	10.351	39.869	69.387
3.500	*	-42.811	-7.570	27.671	62.912	98.153
4.000	*	-36.938	4.026	44.990	85.954	126.918
10% COST INFLATION	*					
PRICES	*					
2.000	*	-70.090	-52.620	-35.151	-17.681	-0.211
2.500	*	-64.533	-41.370	-18.208	4.955	28.118
3.000	*	-58.975	-30.120	-1.264	27.591	56.446
3.500	*	-53.418	-18.870	15.679	50.227	84.775
4.000	*	-47.860	-7.619	32.622	72.863	113.104
20% COST INFLATION	*					
PRICES	*					
2.000	*	-79.748	-62.881	-46.013	-29.146	-12.278
2.500	*	-74.507	-51.977	-29.447	-6.916	15.614
3.000	*	-69.266	-41.073	-12.880	15.313	43.506
3.500	*	-64.024	-30.169	3.687	37.542	71.398
4.000	*	-58.783	-19.265	20.253	59.771	99.289

A DRYLAND YIELD OF 13.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



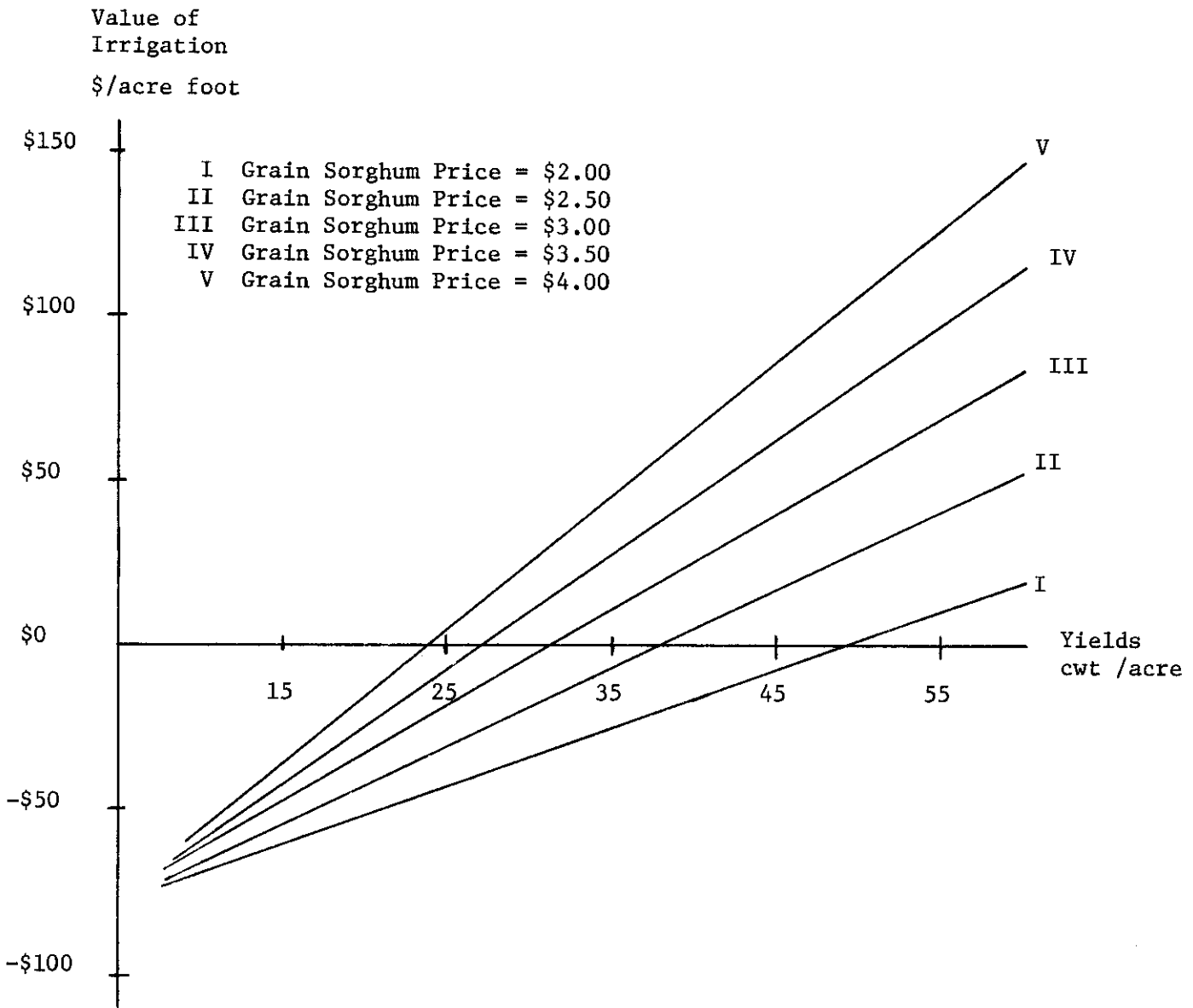


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus two postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs.

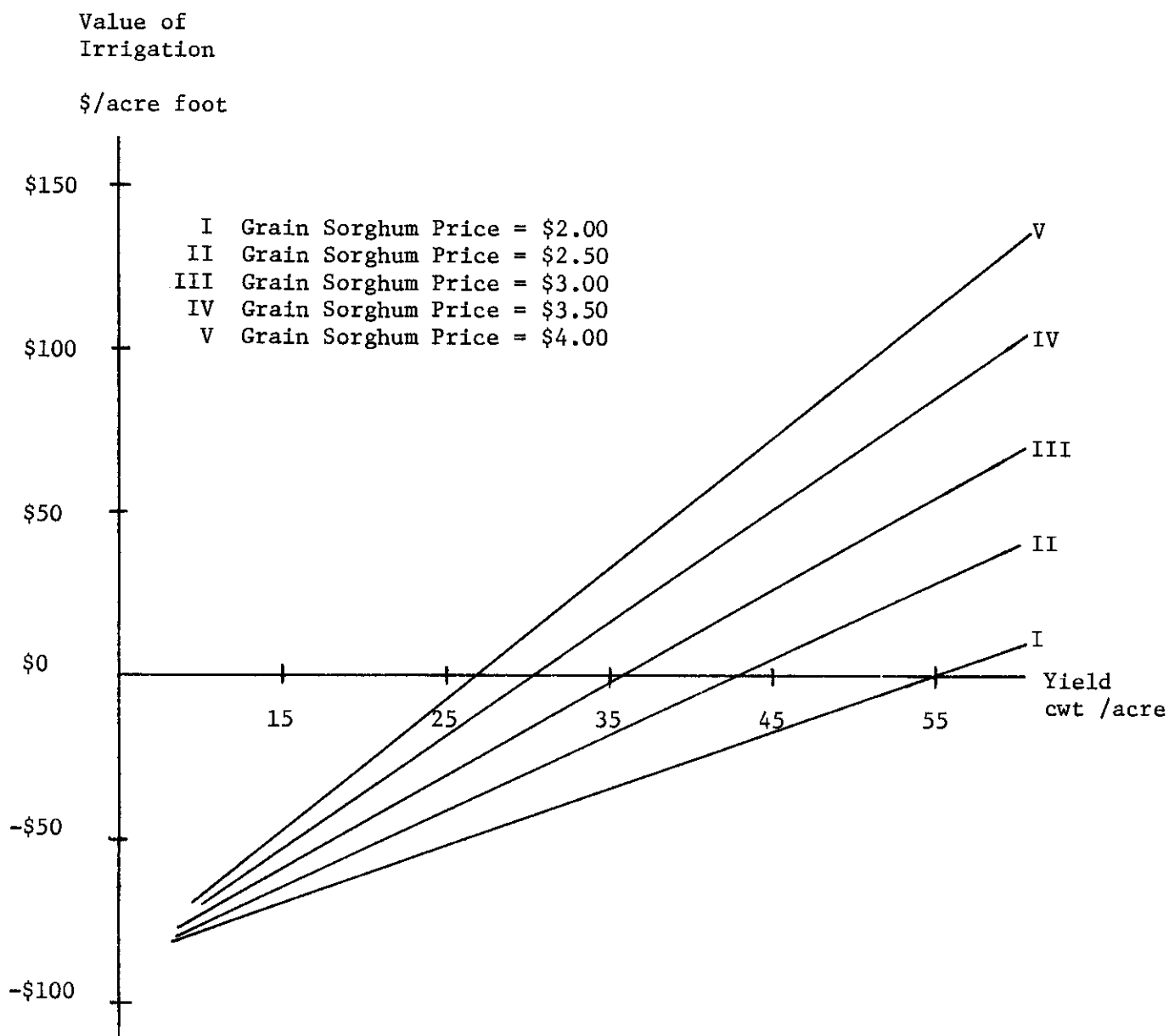


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus two postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

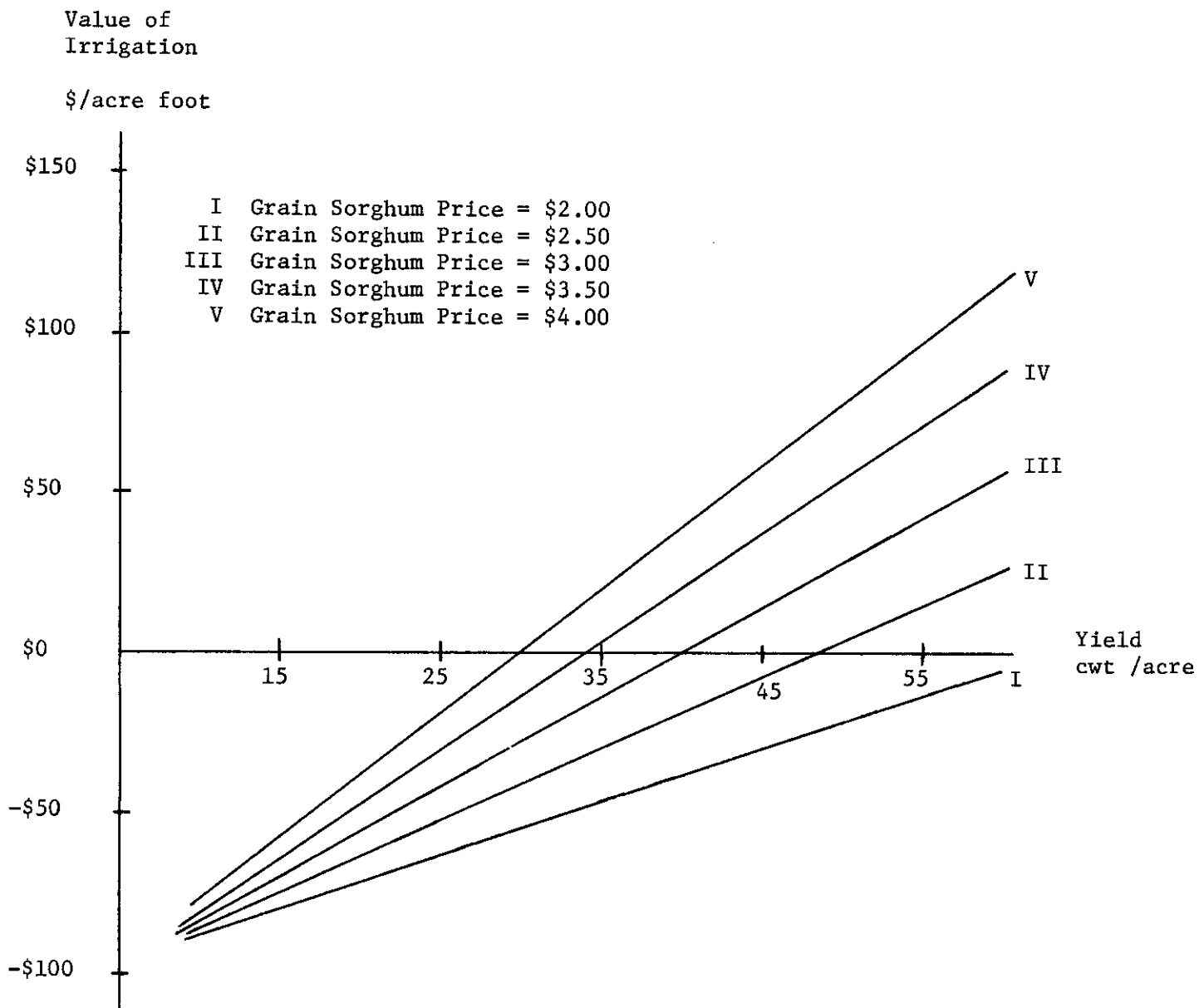


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus two postplants, in. High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
GRAIN SORGHUM  
SIDEROLL PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		20.0	30.0	40.0	50.0	60.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-53.508	-39.620	-25.731	-11.842	2.047
2.500	*	-46.795	-28.508	-10.221	8.066	26.353
3.000	*	-40.082	-17.397	5.288	27.973	50.659
3.500	*	-33.369	-6.286	20.798	47.881	74.964
4.000	*	-26.656	4.826	36.307	67.789	99.270
10% COST INFLATION	*					
PRICES	*					
2.000	*	-62.563	-49.137	-35.711	-22.285	-8.859
2.500	*	-56.104	-38.303	-20.503	-2.702	15.099
3.000	*	-49.646	-27.470	-5.294	16.882	39.058
3.500	*	-43.187	-16.636	9.915	36.466	63.016
4.000	*	-36.729	-5.803	25.123	56.049	86.975
20% COST INFLATION	*					
PRICES	*					
2.000	*	-71.617	-58.655	-45.692	-32.729	-19.766
2.500	*	-65.414	-48.099	-30.784	-13.469	3.846
3.000	*	-59.210	-37.543	-15.876	5.790	27.457
3.500	*	-53.006	-26.987	-0.969	25.050	51.068
4.000	*	-46.802	-16.431	13.939	44.309	74.680

A DRYLAND YIELD OF 13.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

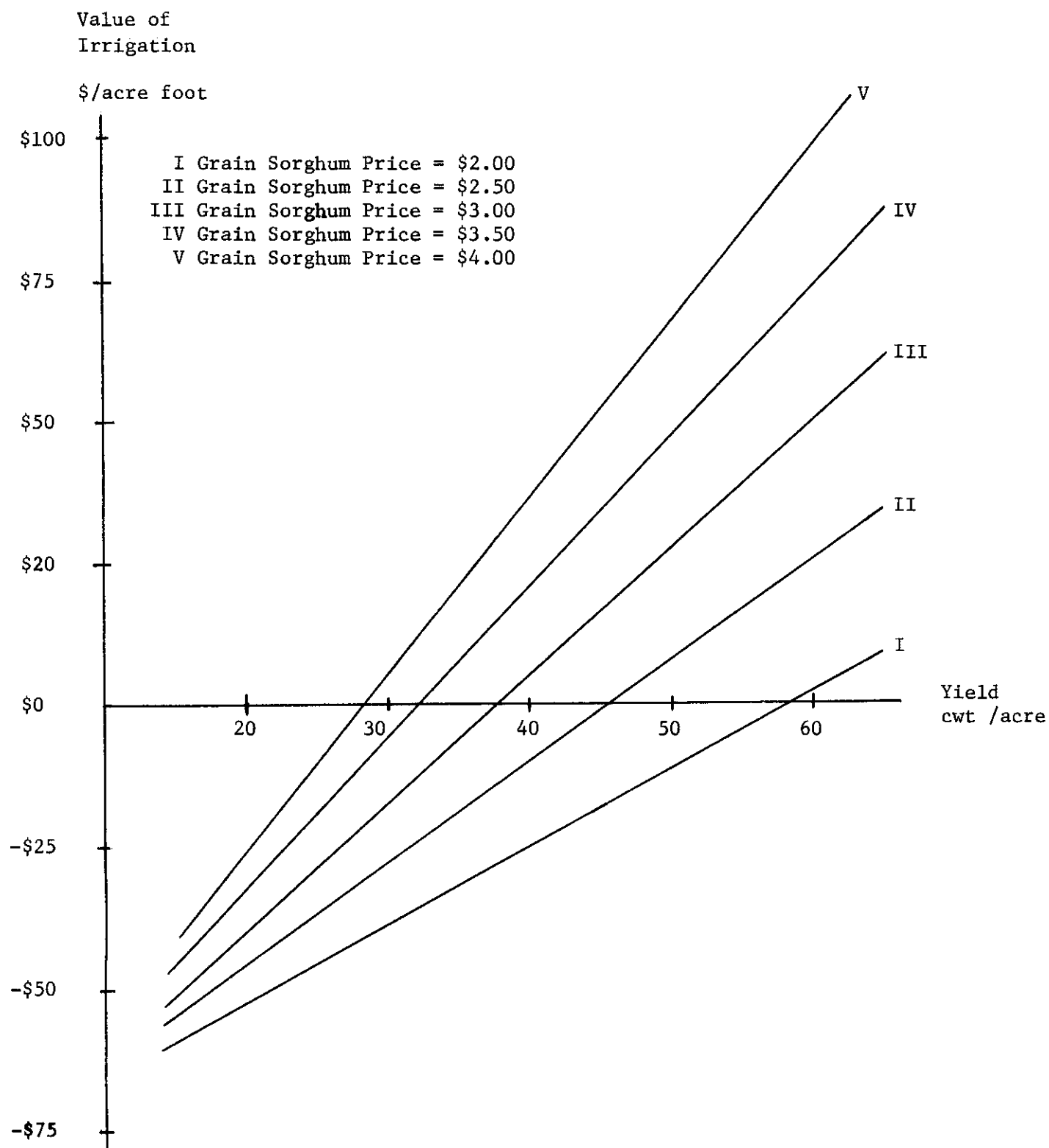


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus three postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs.

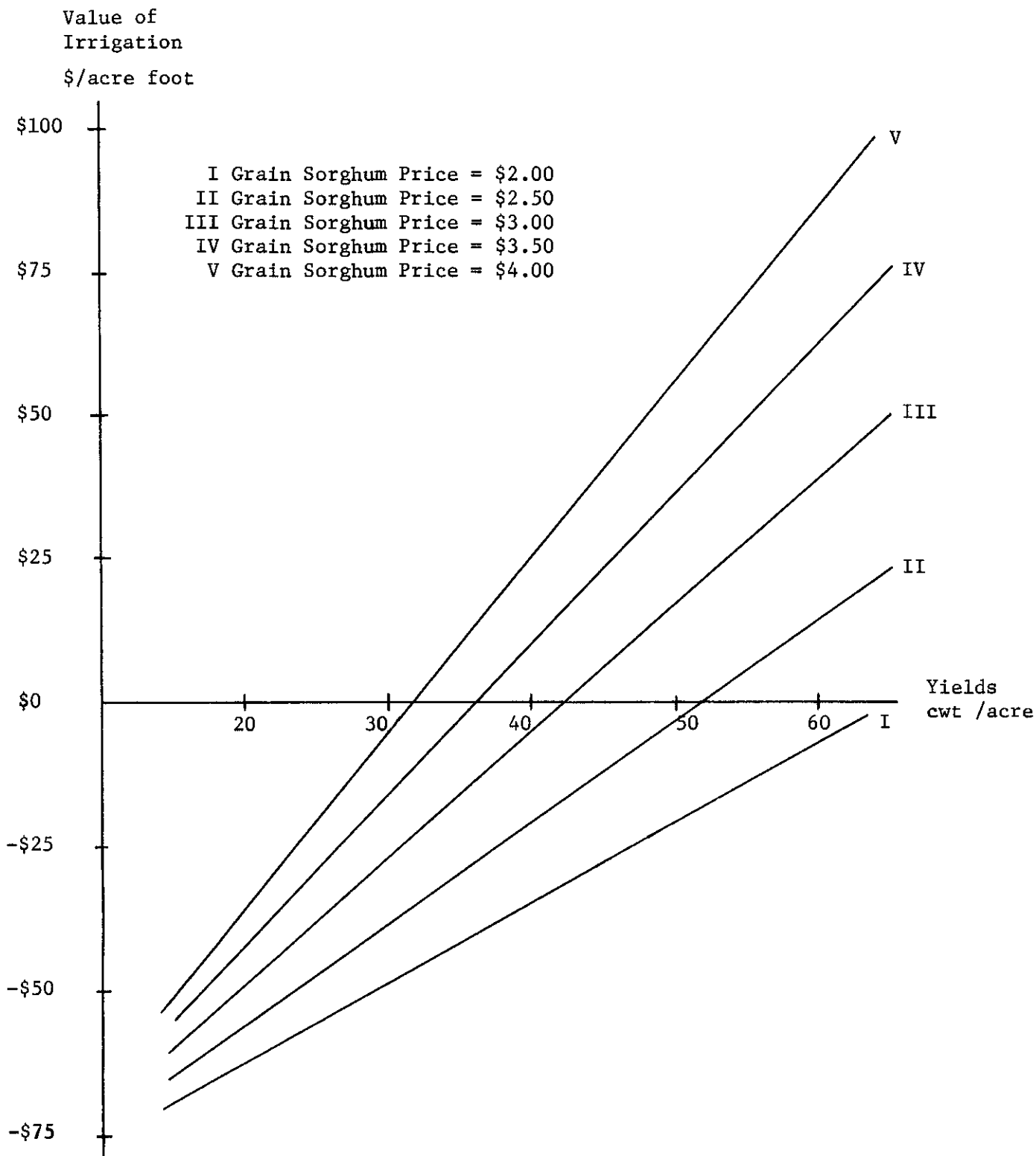


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus three postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

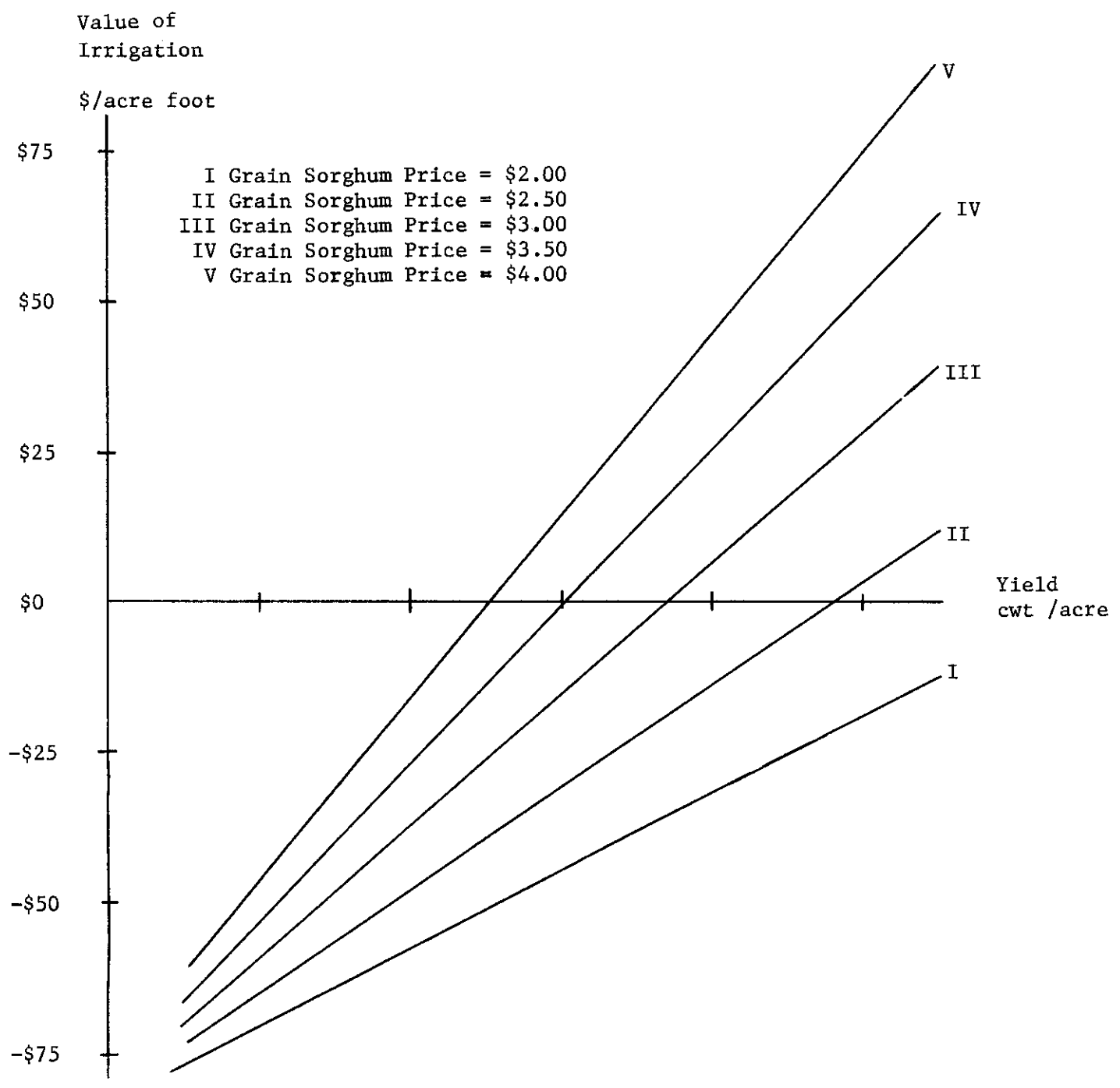


Figure Value of irrigation water applied to Grain Sorghum, sideroll sprinkler, preplant plus three postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
GRAIN SORGHUM  
PIVOT PP+3

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		30.0	40.0	50.0	60.0	70.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-51.638	-37.749	-23.860	-9.971	3.918
2.500	*	-40.527	-22.240	-3.952	14.334	32.621
3.000	*	-29.415	-6.730	15.955	38.640	61.325
3.500	*	-18.304	8.779	35.863	62.946	90.029
4.000	*	-7.193	24.289	55.770	87.252	118.733
10% COST INFLATION	*					
PRICES	*					
2.000	*	-62.357	-48.931	-35.506	-22.080	-8.654
2.500	*	-51.524	-33.723	-15.922	1.879	19.680
3.000	*	-40.690	-18.514	3.662	25.838	48.013
3.500	*	-29.857	-3.306	23.245	49.796	76.347
4.000	*	-19.023	11.903	42.829	73.755	104.681
20% COST INFLATION	*					
PRICES	*					
2.000	*	-73.077	-60.114	-47.151	-34.188	-21.225
2.500	*	-62.521	-45.206	-27.891	-10.577	6.738
3.000	*	-51.965	-30.298	-8.632	13.035	34.702
3.500	*	-41.409	-15.391	10.628	36.646	62.665
4.000	*	-30.854	-0.483	29.887	60.258	90.628

A DRYLAND YIELD OF 13.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



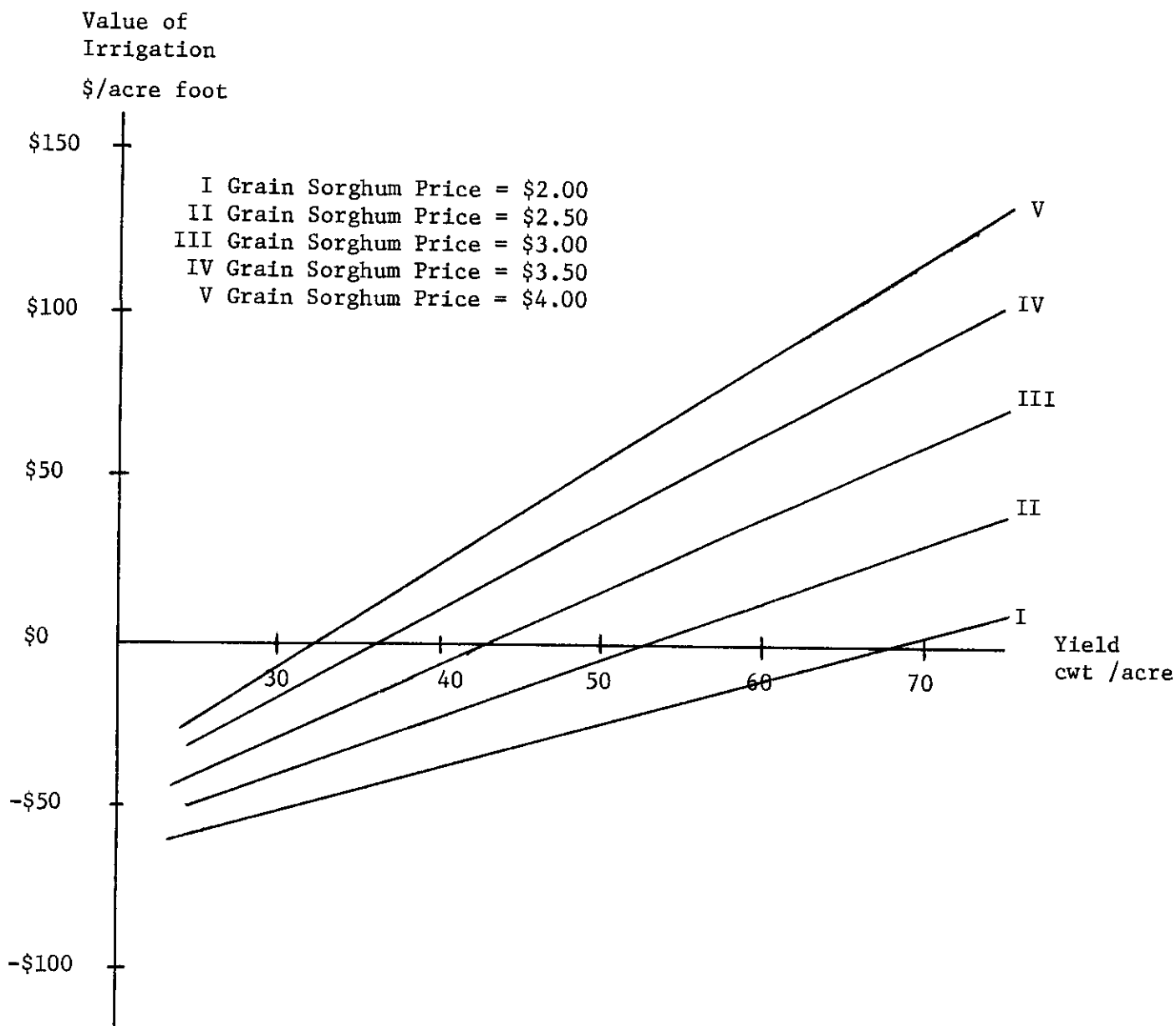


Figure Value of irrigation water applied to Grain Sorghum, center pivot, preplant plus three postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs.

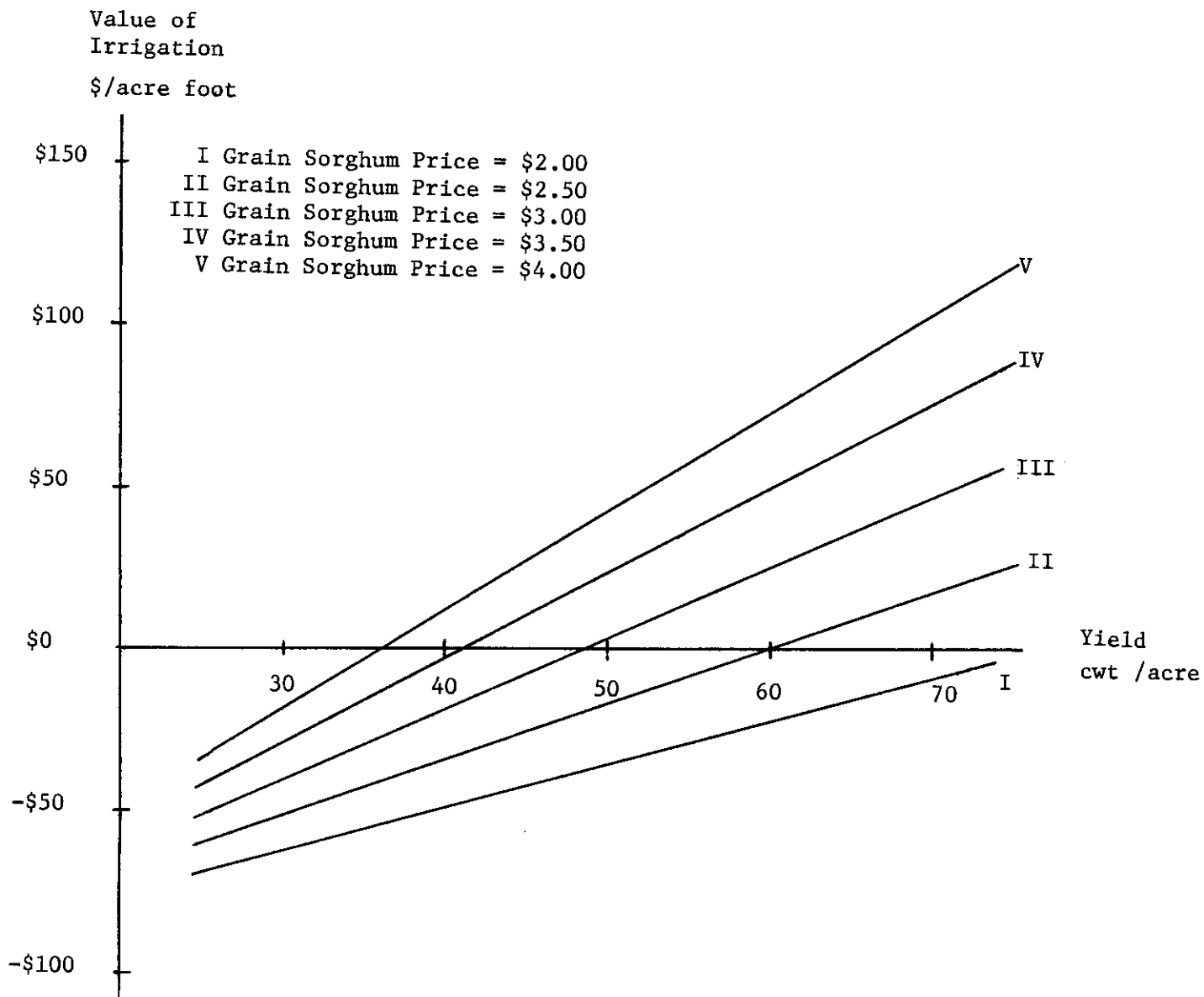


Figure Value of irrigation water applied to Grain Sorghum, center pivot, preplant plus three postplants, in High Plains I<sup>W</sup> for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

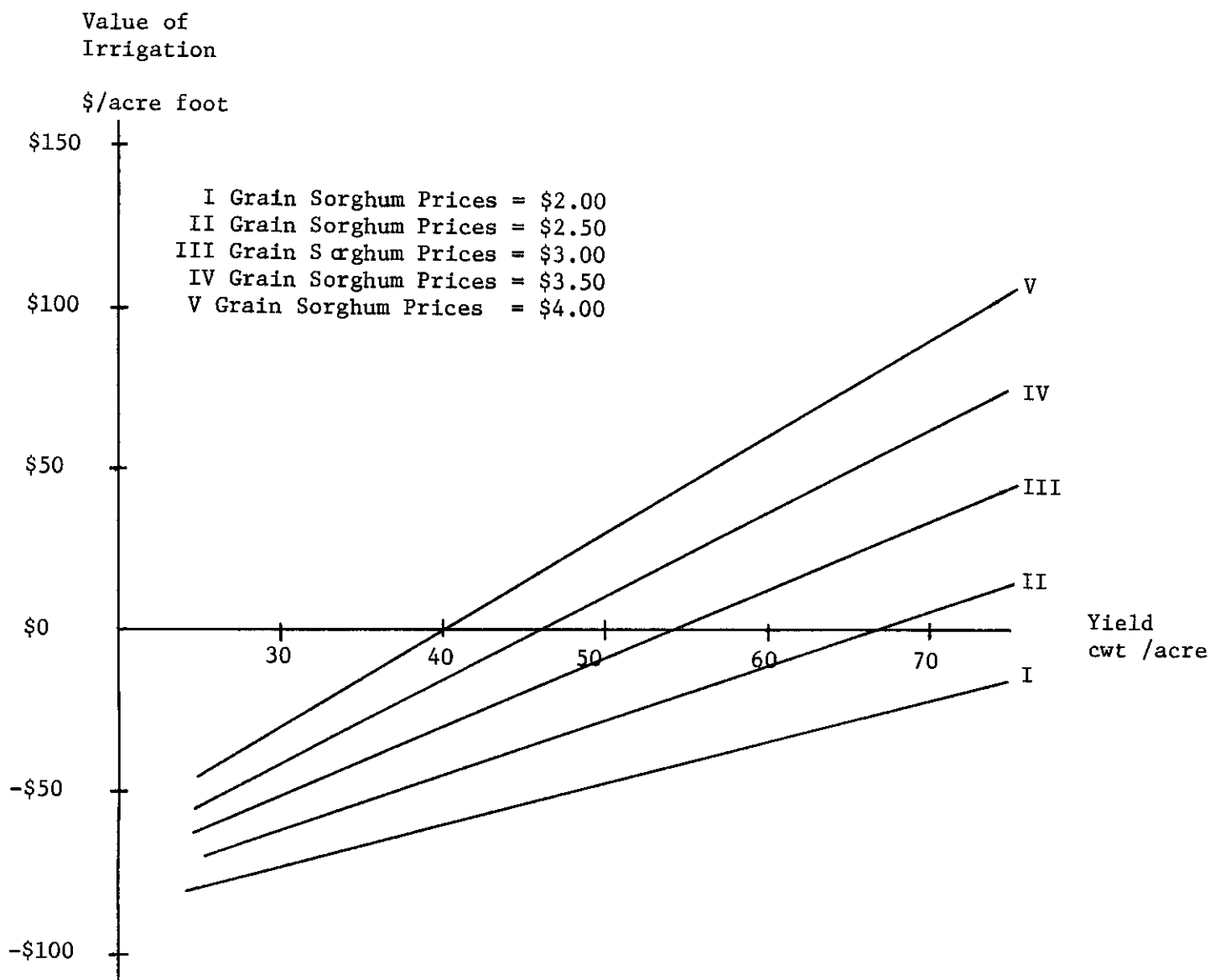


Figure Value of irrigation water applied to Grain Sorghum, center pivot, preplant plus three postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
GRAIN SORGHUM  
PIVOT PP+4

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		40.0	50.0	60.0	70.0	80.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-41.819	-30.541	-19.262	-7.984	3.294
2.500	*	-29.225	-14.375	0.475	15.324	30.174
3.000	*	-16.631	1.791	20.212	38.633	57.054
3.500	*	-4.036	17.956	39.949	61.941	83.934
4.000	*	8.558	34.122	59.686	85.249	110.813
10% COST INFLATION	*					
PRICES	*					
2.000	*	-52.016	-41.114	-30.211	-19.309	-8.407
2.500	*	-39.666	-25.211	-10.756	3.699	18.154
3.000	*	-27.316	-9.309	8.699	26.706	44.714
3.500	*	-14.966	6.594	28.154	49.714	71.274
4.000	*	-2.617	22.496	47.609	72.722	97.835
20% COST INFLATION	*					
PRICES	*					
2.000	*	-62.213	-51.686	-41.160	-30.634	-20.107
2.500	*	-50.107	-36.047	-21.987	-7.927	6.133
3.000	*	-38.002	-20.408	-2.814	14.780	32.374
3.500	*	-25.896	-4.768	16.359	37.487	58.615
4.000	*	-13.791	10.871	35.532	60.194	84.856

A DRYLAND YIELD OF 13.5 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

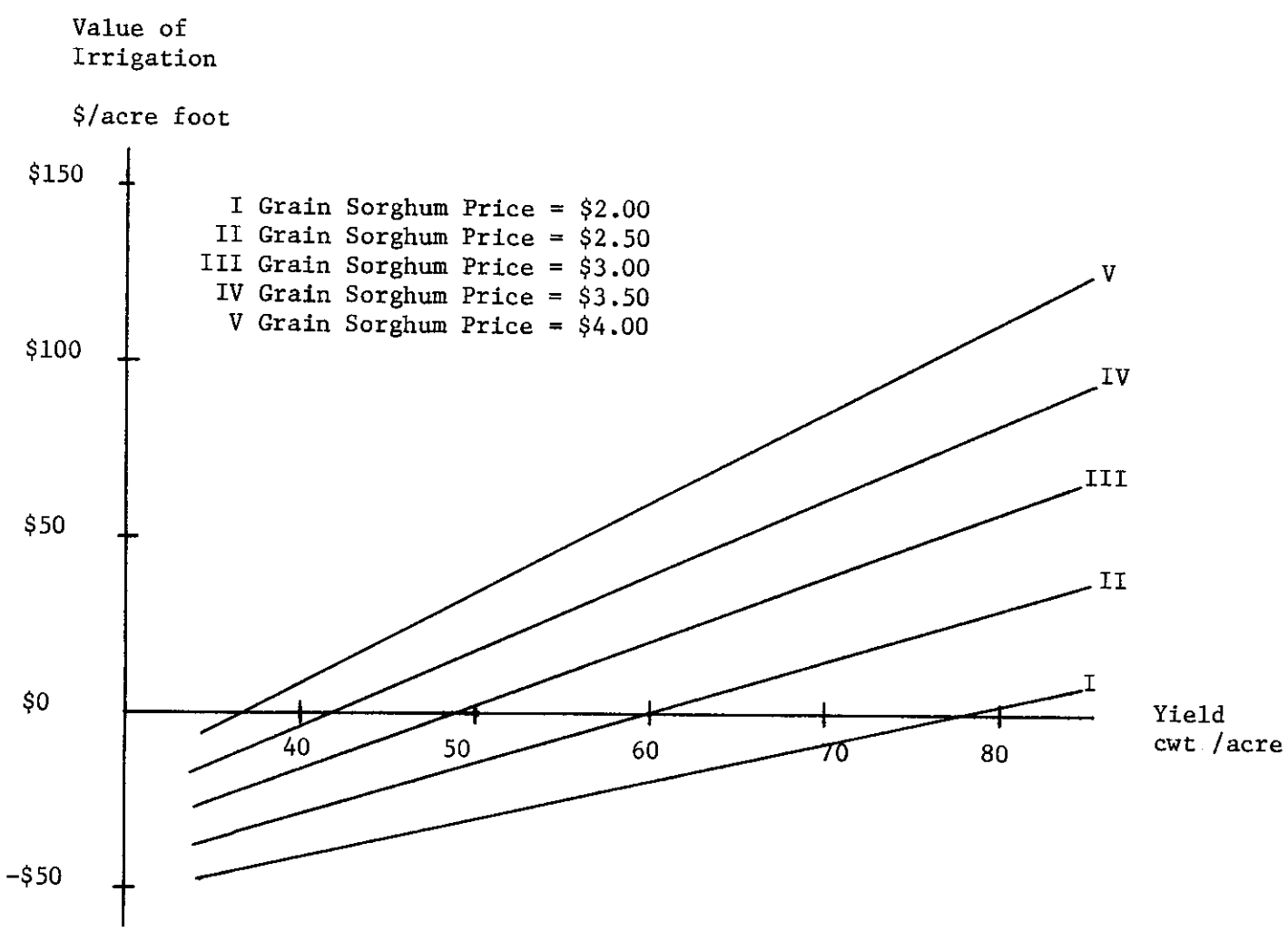


Figure Value of irrigation water applied to Grain Sorghum, center pivot, preplant plus four postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs.

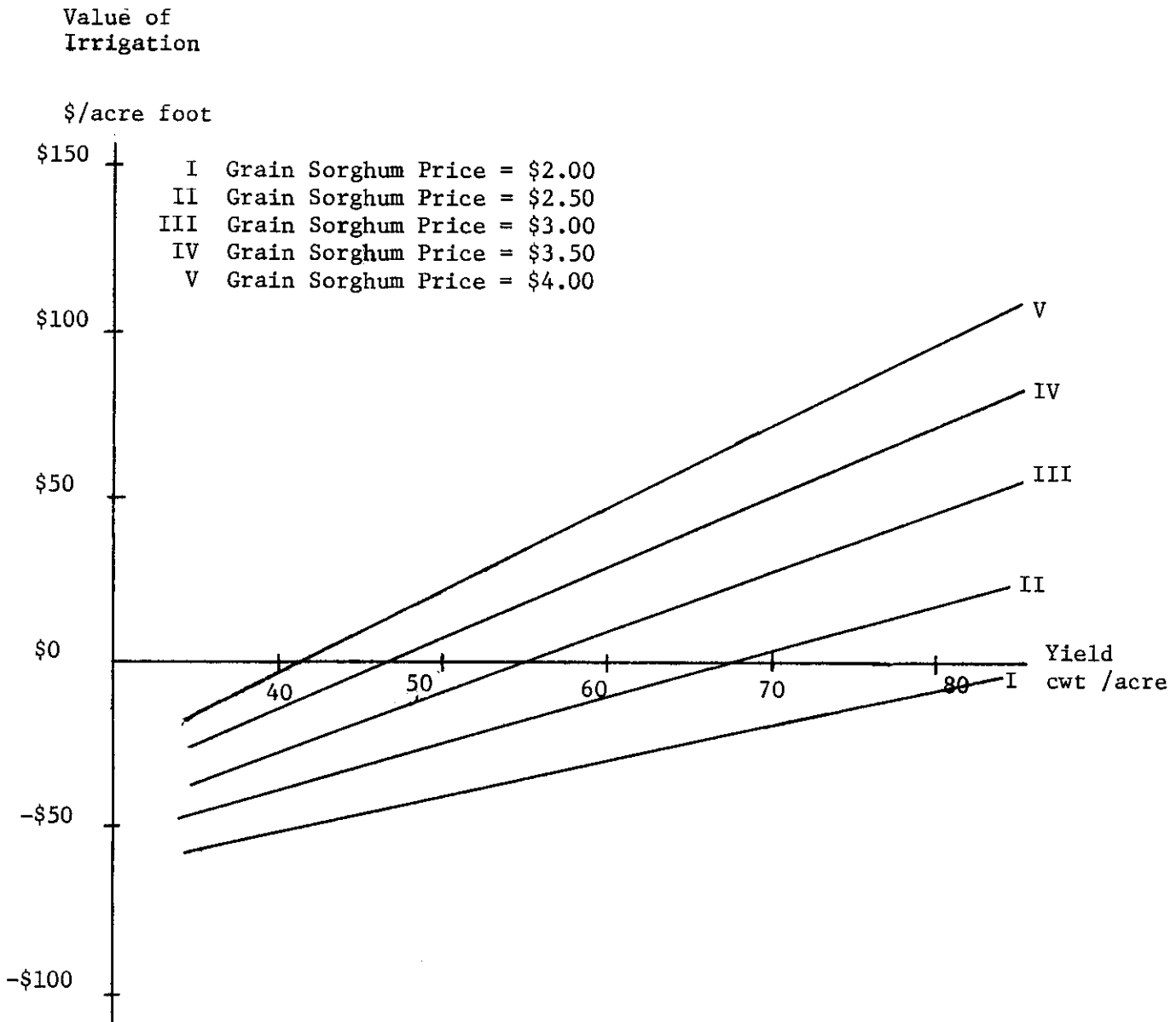


Figure Value of irrigation water applied to Grain Sorghum, center pivot, preplant plus four postplants, in High Plains. IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.

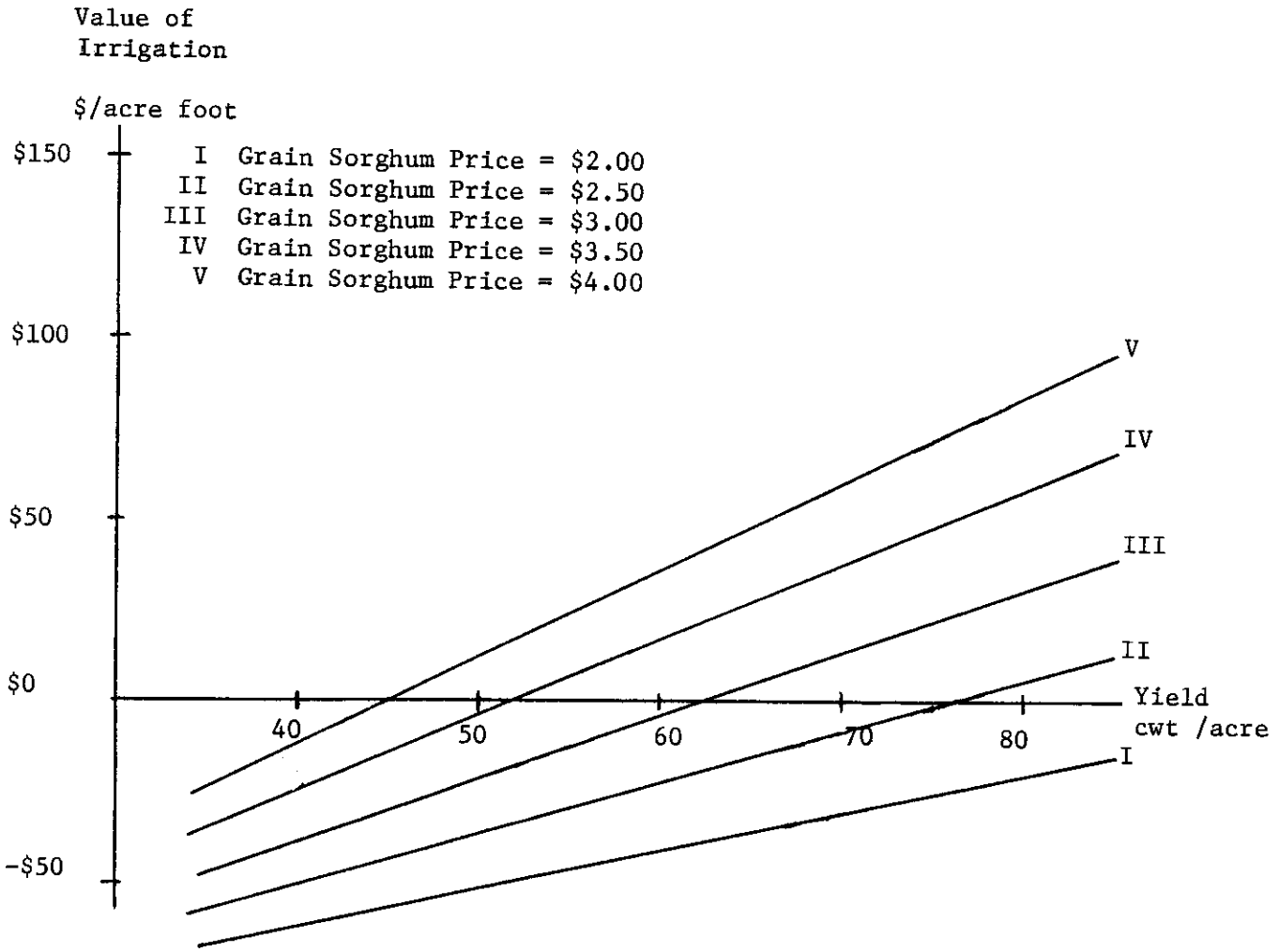


Figure Value of irrigation water applied to Grain Sorghum, center pivot, preplant plus four postplants, in High Plains IV for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

HIGH PLAINS IV  
SOUTHERN PEAS  
SIDEROLL

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		11.0	13.0	15.0	17.0	19.0
PRODUCTION COSTS 1974	*					
PRICES	*					
10.000	*	-7.313	15.217	37.747	60.277	82.807
12.500	*	24.163	52.416	80.669	108.922	137.175
15.000	*	55.639	89.614	123.590	157.566	191.542
17.500	*	87.114	126.813	166.512	206.211	245.910
20.000	*	118.590	164.012	209.434	254.855	300.277
10% COST INFLATION	*					
PRICES	*					
10.000	*	-21.298	1.076	23.449	45.823	68.196
12.500	*	10.013	38.079	66.145	94.211	122.278
15.000	*	41.323	75.082	108.841	142.600	176.359
17.500	*	72.633	112.085	151.537	190.989	230.440
20.000	*	103.943	149.088	194.233	239.377	284.521
20% COST INFLATION	*					
PRICES	*					
10.000	*	-35.282	-13.065	9.152	31.369	53.586
12.500	*	-4.137	23.742	51.622	79.501	107.381
15.000	*	27.007	60.549	94.092	127.634	161.176
17.500	*	58.152	97.357	136.561	175.766	214.971
20.000	*	89.296	134.164	179.031	223.899	268.766

A DRYLAND RETURN OF 26.500 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.



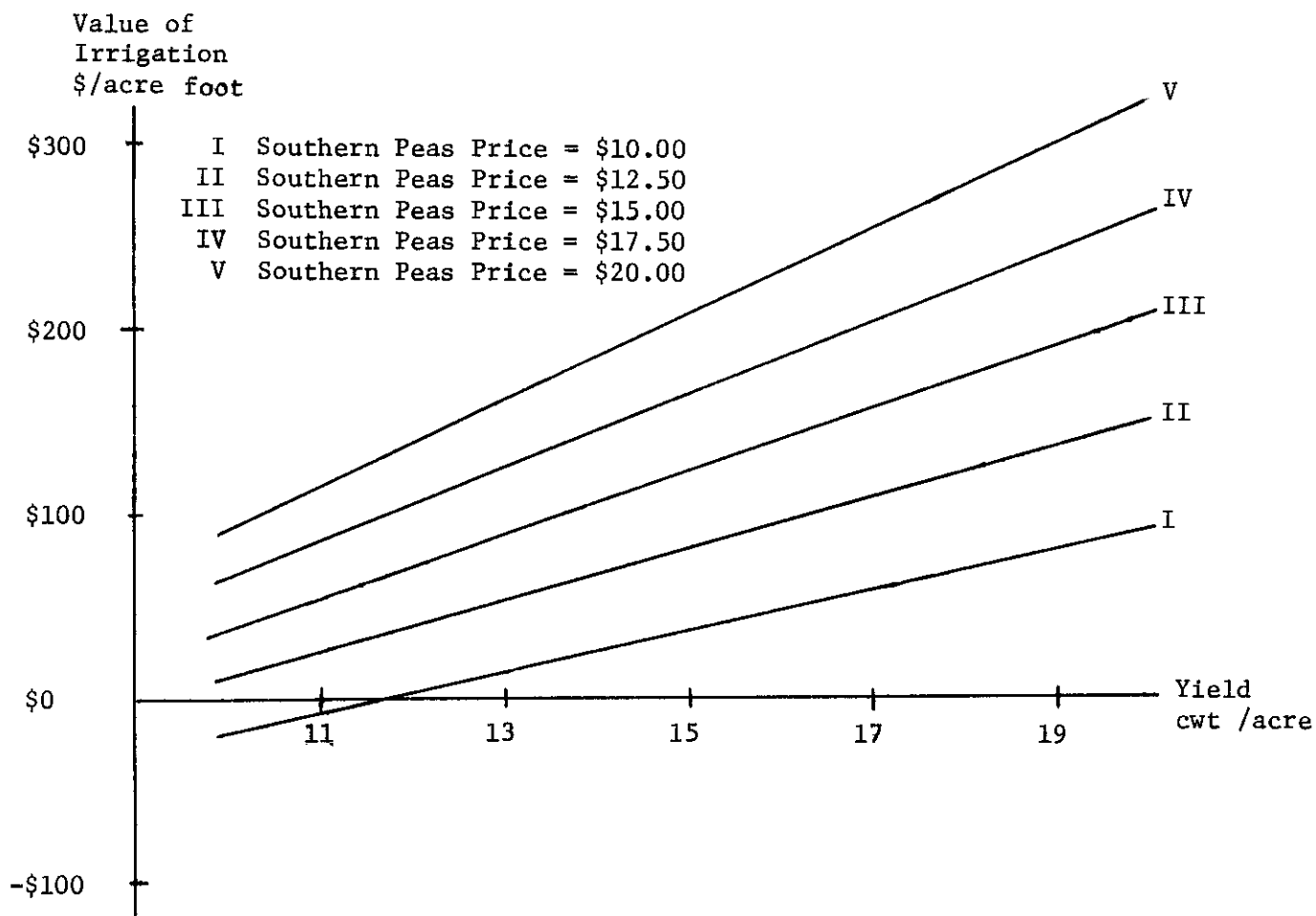


Figure Value of irrigation water applied to Southern Peas, sideroll sprinkler, in High Plains IV for alternative Southern Pea prices and yields with expected 1974 costs.

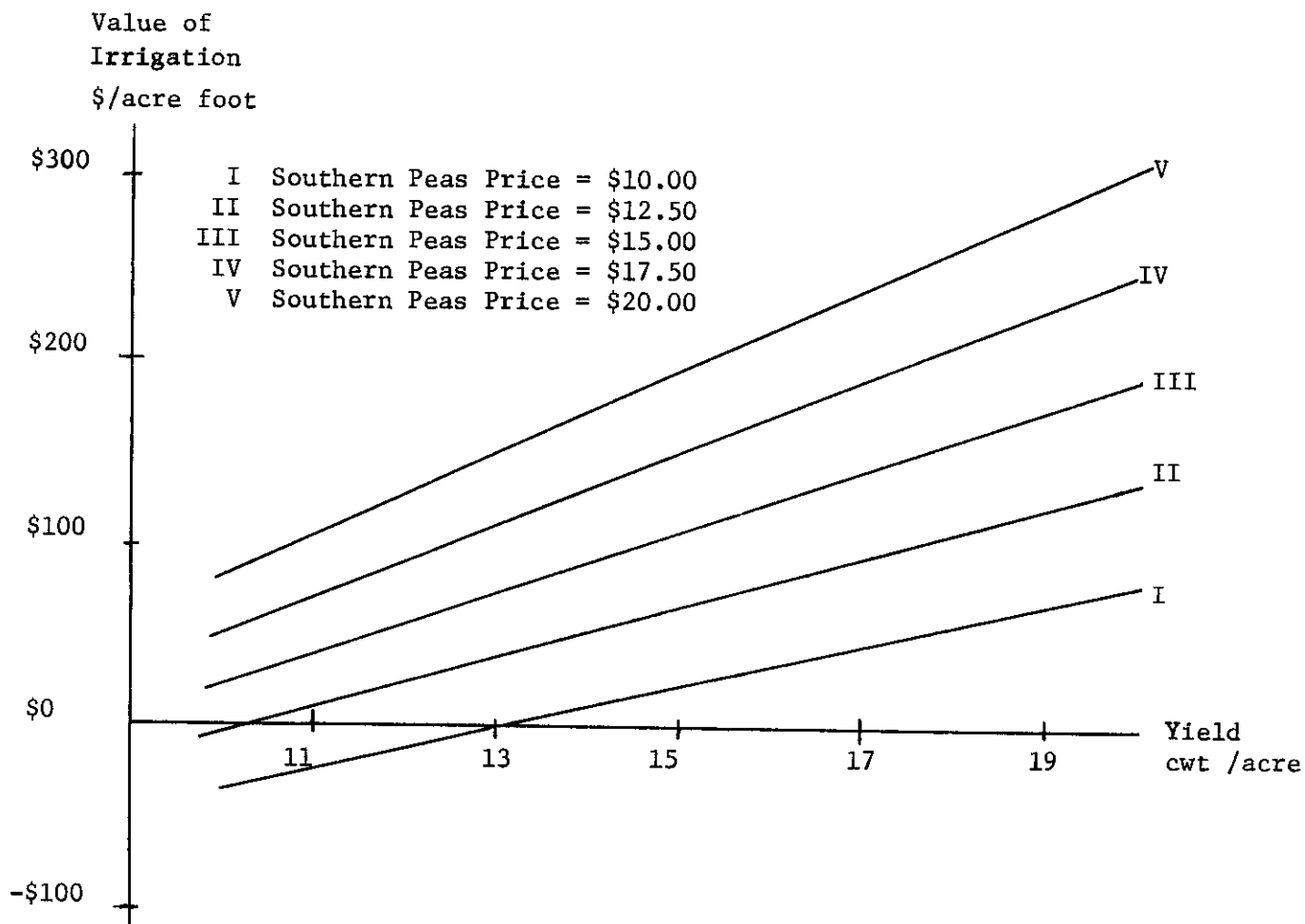


Figure Value of irrigation water applied to Southern Peas, sideroll sprinkler, in High Plains IV for alternative Southern Pea prices and yields with expected 1974 costs inflated 10 percent.

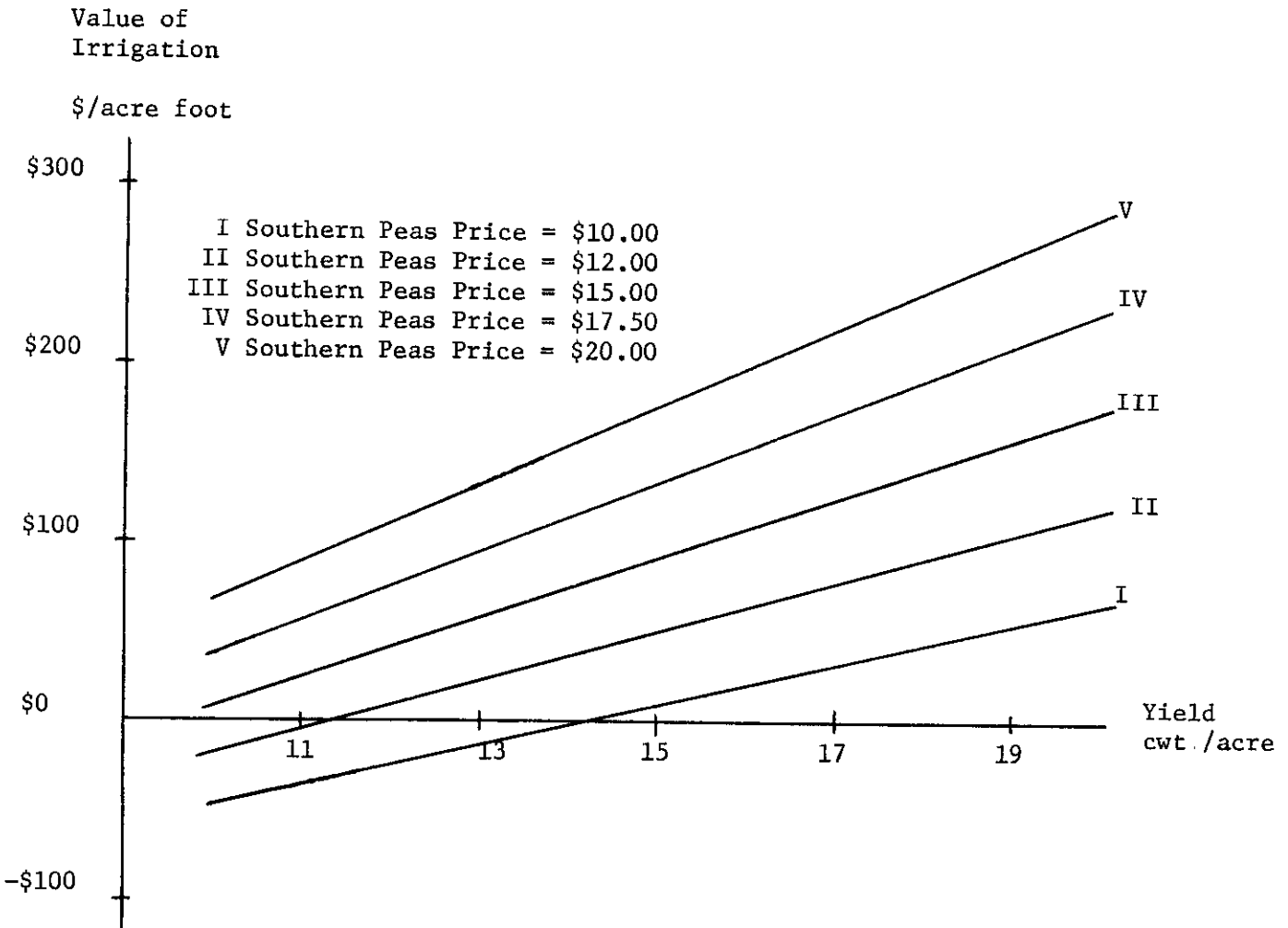


Figure Value of irrigation water applied to Southern Peas sideroll sprinkler, in High Plains IV for alternative Southern Pea prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

HIGH PLAINS IV  
WHEAT

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		15.0	25.0	35.0	45.0	55.0
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-55.402	-42.949	-30.495	-18.041	-5.587
2.500	*	-45.911	-24.661	-3.411	17.839	39.089
3.500	*	-36.420	-6.374	23.673	53.719	83.765
4.500	*	-26.929	11.914	50.756	89.599	128.441
5.500	*	-17.438	30.201	77.840	125.479	173.118
10% COST INFLATION	*					
PRICES	*					
1.500	*	-63.026	-50.716	-38.405	-26.095	-13.785
2.500	*	-53.974	-32.914	-11.854	9.206	30.266
3.500	*	-44.923	-15.113	14.697	44.507	74.318
4.500	*	-35.872	2.688	41.249	79.809	118.369
5.500	*	-26.820	20.490	67.800	115.110	162.420
20% COST INFLATION	*					
PRICES	*					
1.500	*	-70.649	-58.483	-46.316	-34.149	-21.983
2.500	*	-62.038	-41.167	-20.297	0.573	21.444
3.500	*	-53.426	-23.852	5.722	35.296	64.870
4.500	*	-44.815	-6.537	31.741	70.019	108.296
5.500	*	-36.203	10.778	57.760	104.741	151.723

A DRYLAND YIELD OF 12.0 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

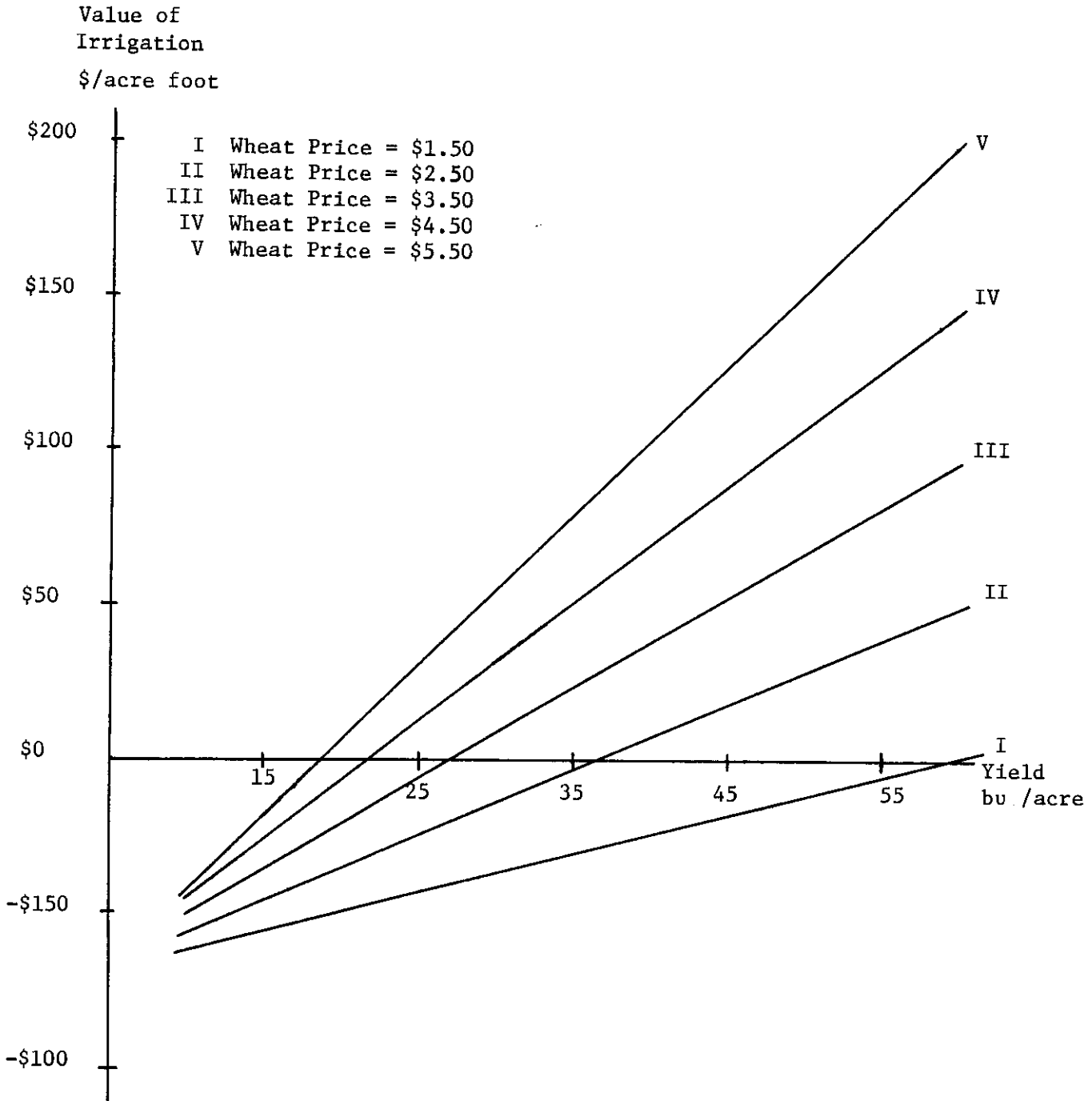


Figure Value of irrigation water applied to Wheat in High Plains IV for alternative Wheat prices and yields with expected 1974 costs.

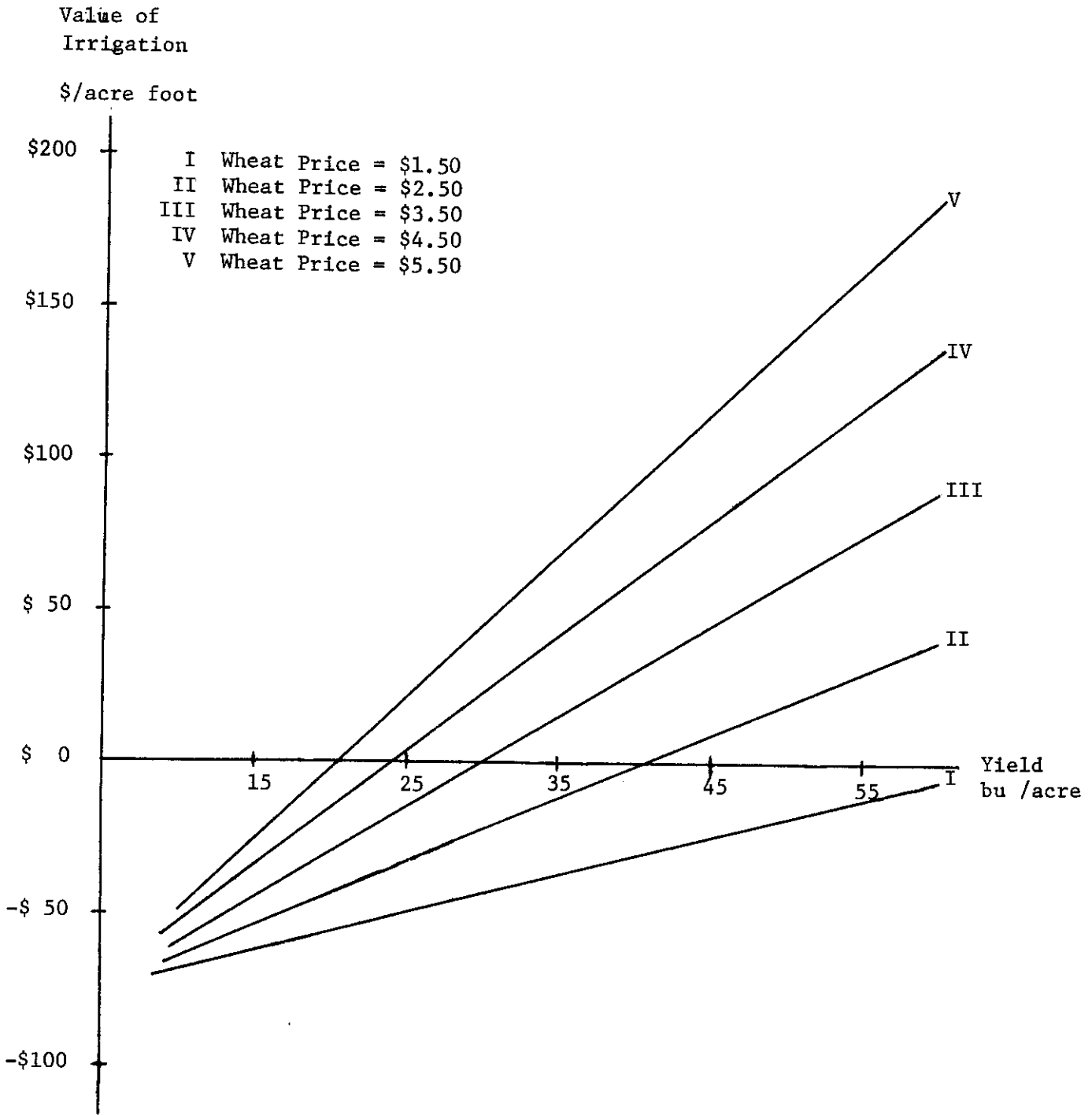


Figure Value of irrigation water applied to Wheat in High Plains IV for alternative Wheat prices and yield with expected 1974 costs inflated 10 percent

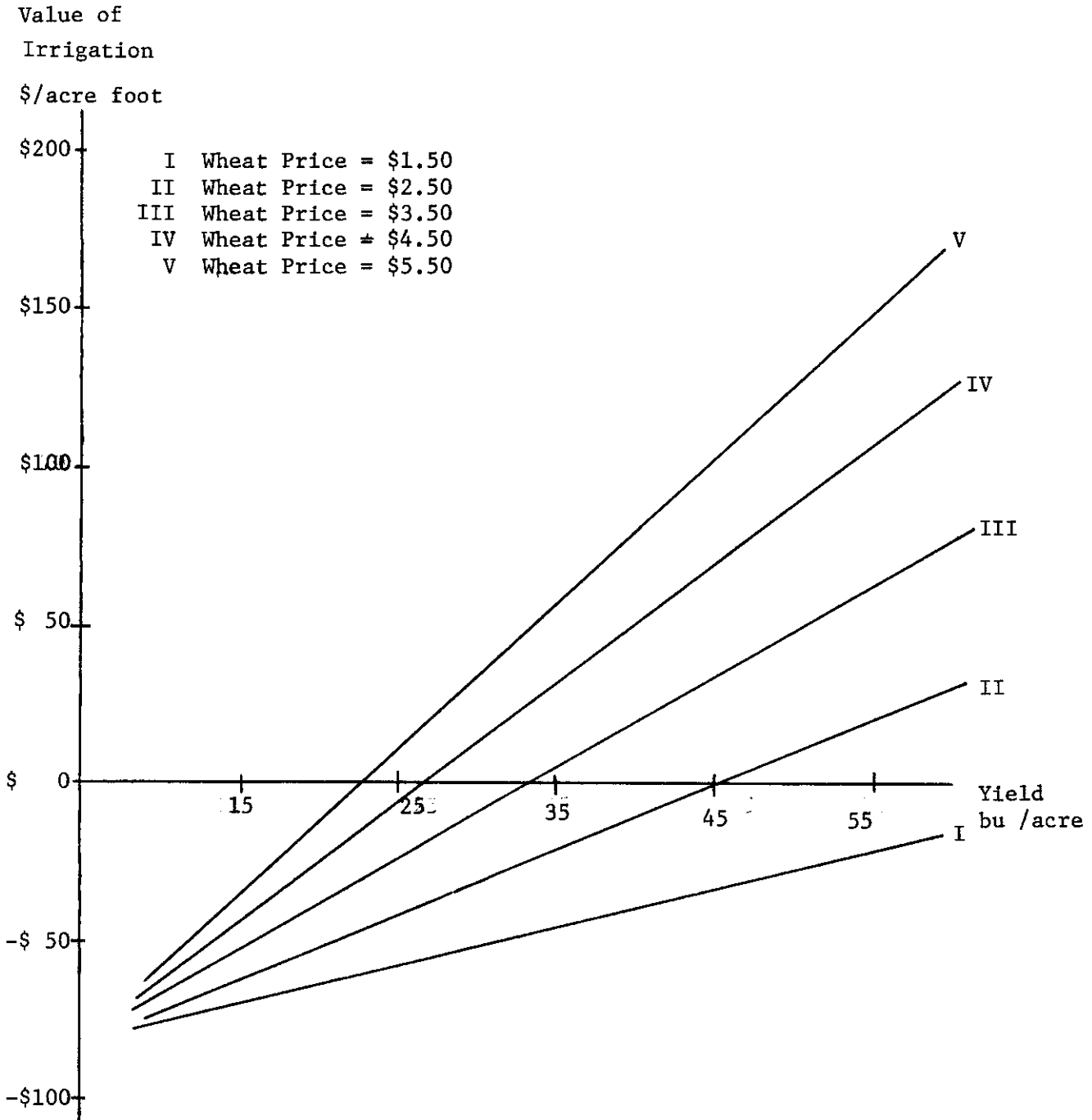


Figure Value of irrigation water applied to Wheat in High Plains IV for alternative Wheat prices and yields with expected 1974 costs inflated 20 percent.

# **Texas Rio Grande Valley**



### Lower Rio Grande Valley

This area is comprised of Willacy, Hidalgo and Cameron counties. Although groundwater is available, most irrigation water is provided by water districts from the Rio Grande river. Flood or furrow irrigation systems were included, but new technology such as trickle systems are beginning to be used.

Most crops are annual, but citrus is an important agricultural product in the area. Citrus was included in the analysis assuming a mature grove. A cost including establishment is included.

A land charge was estimated as: (1) all annual crops -- \$30 per acre (a typical cash lease charge) and (2) citrus -- \$70 per acre.

The alternative yields and prices used in this analysis are presented in the following table.



Crop	Unit	Yields					Prices				
		600	700	800	900	1000	1.00	1.50	2.00	2.50	3.00
Cabbage	bag	600	700	800	900	1000	1.00	1.50	2.00	2.50	3.00
Cantaloupe	crate	200	250	300	350	400	4.00	5.00	6.00	7.00	8.00
Carrots	bag	200	250	300	350	400	2.50	3.00	3.50	4.00	4.50
Coastal Bermuda Hay	ton	5	6	7	8	9	20.00	30.00	40.00	50.00	60.00
Corn Grain	bu.	45	50	55	60	65	1.50	2.00	2.50	3.00	3.50
Corn Silage	ton	6	6	10	12	14	6.00	8.00	10.00	12.00	14.00
Cotton	lbs.	350	450	550	650	750	.35	.45	.55	.65	.75
Grain Sorghum	cwt.	20	30	40	50	60	2.00	2.50	3.00	3.50	4.00
Grapefruit	ton	14	15	16	17	18	20.00	30.00	40.00	50.00	60.00
Onions	bag	300	400	500	600	700	1.00	2.00	3.00	4.00	5.00
Oranges	ton	7	8	9	10	11	10.00	20.00	30.00	40.00	50.00
Sorghum Silage	ton	9	12	15	18	21	4.50	5.50	6.50	7.50	8.50
Tomatoes	crate	135	150	165	180	195	2.00	3.00	4.00	5.00	6.00

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
CABBAGE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		600.0	700.0	800.0	900.0	1000.0
PRODUCTION COSTS 1974	*					
PRICES	*					
1.000	*	-463.626	-495.316	-527.007	-558.697	-590.387
1.500	*	-262.922	-261.162	-259.401	-257.640	-255.880
2.000	*	-62.218	-27.007	8.204	43.416	78.627
2.500	*	138.486	207.148	275.810	344.472	413.134
3.000	*	339.190	441.303	543.416	645.528	747.641
10% COST INFLATION	*					
PRICES	*					
1.000	*	-552.243	-594.144	-636.045	-677.947	-719.848
1.500	*	-352.595	-361.221	-369.848	-378.475	-387.102
2.000	*	-152.947	-128.299	-103.651	-79.003	-54.355
2.500	*	46.701	104.624	162.546	220.469	278.391
3.000	*	246.349	337.546	428.743	519.940	611.137
20% COST INFLATION	*					
PRICES	*					
1.000	*	-640.859	-692.971	-745.084	-797.197	-849.309
1.500	*	-442.267	-461.281	-480.295	-499.309	-518.323
2.000	*	-243.676	-229.591	-215.507	-201.422	-187.338
2.500	*	-45.084	2.099	49.282	96.465	143.648
3.000	*	153.507	233.789	314.071	394.353	474.634

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

\$/acre foot

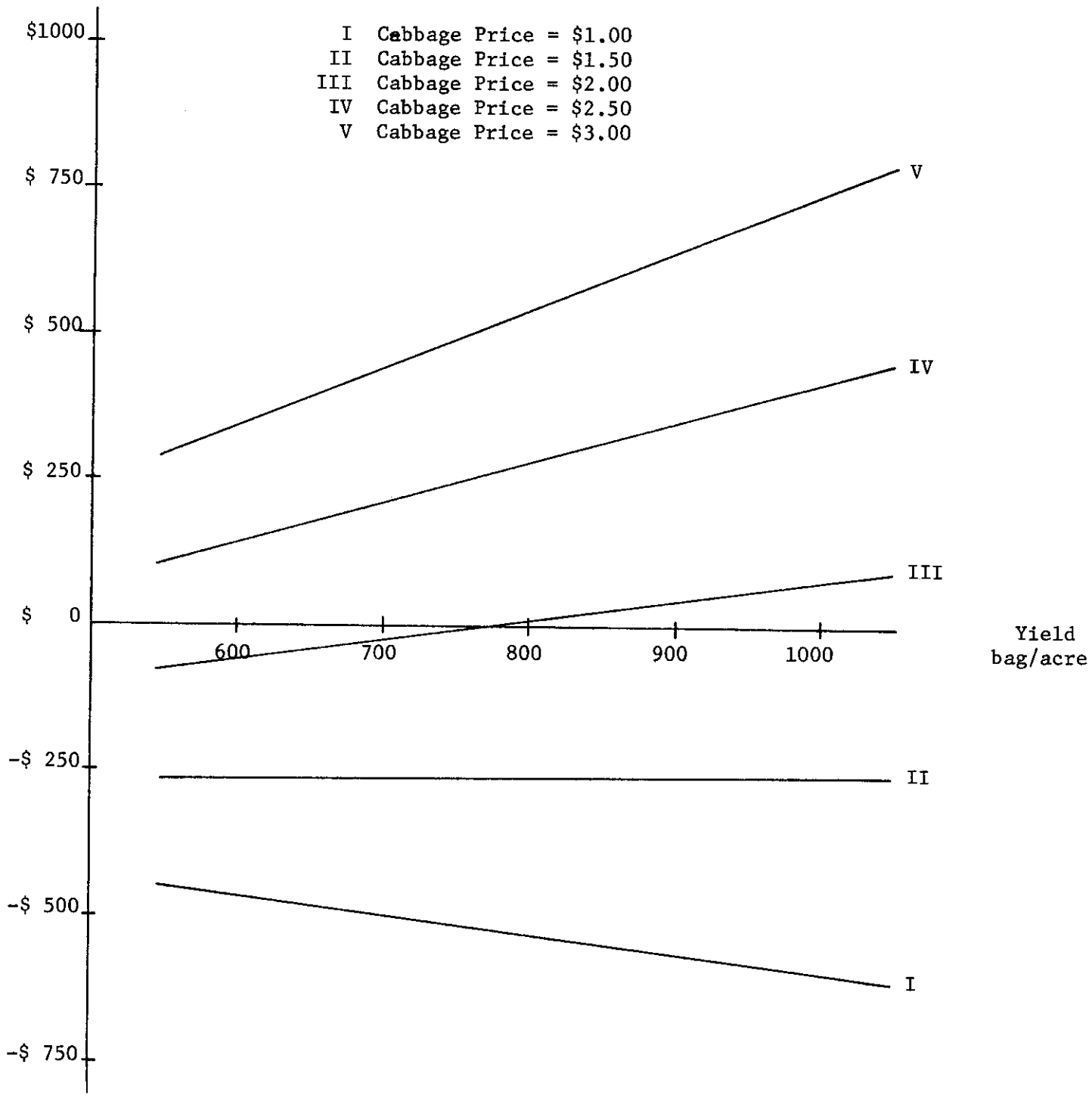


Figure Value of irrigation water applied to Cabbage in Rio Grande Valley for alternative Cabbage prices and yields with expected 1974 costs.

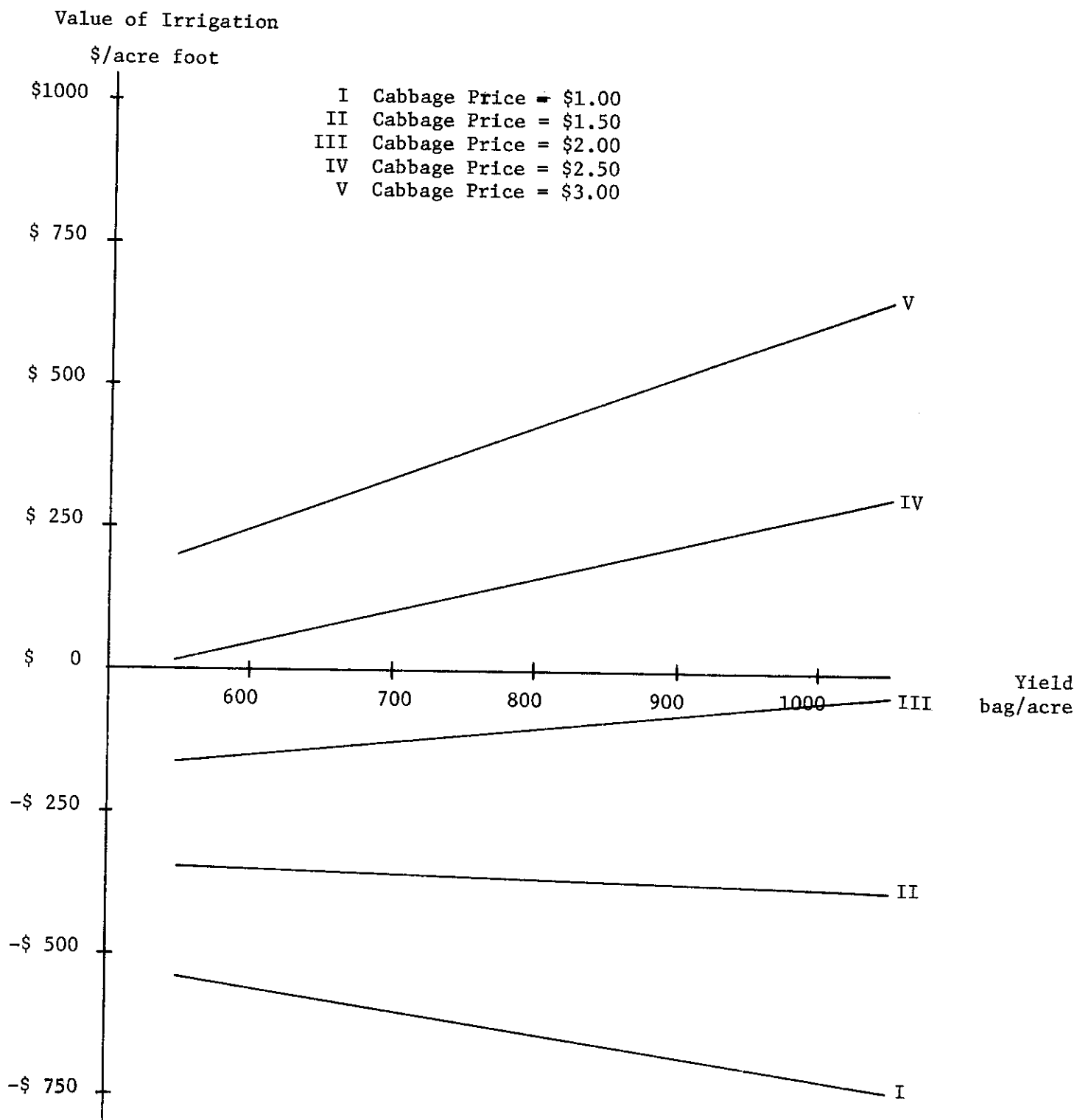
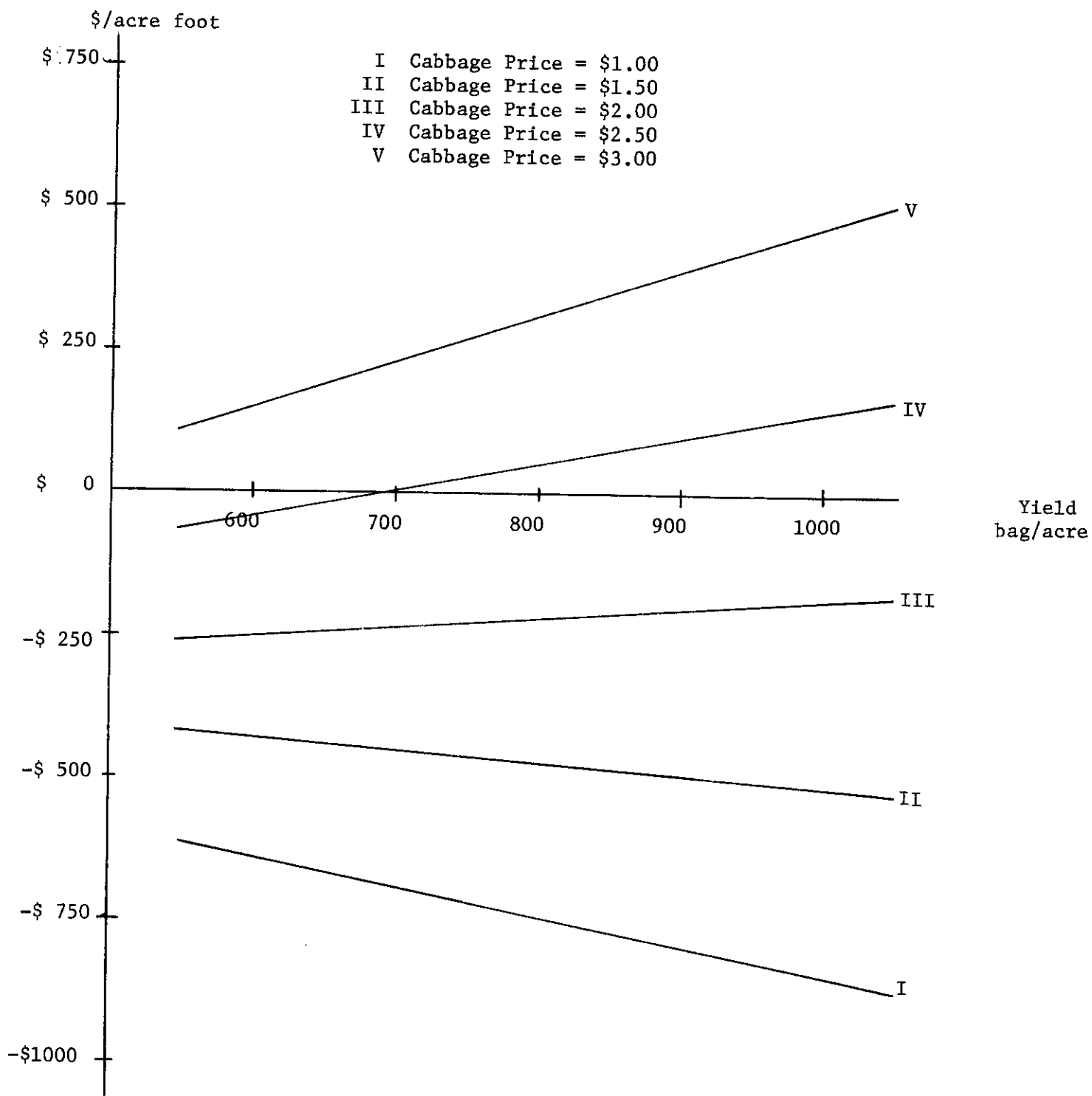


Figure Value of irrigation water applied to Cabbage in Rio Grande Valley for alternative Cabbage prices and yields with expected 1974 costs inflated 10 percent.

## Value of Irrigation



Figure

Value of irrigation water applied to Cabbage in Rio Grande Valley for alternative Cabbage prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
CANTALOUPS

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION CRATE PER ACRE				
		200.0	250.0	300.0	350.0	400.0
PRODUCTION COSTS 1974	*					
PRICES	*					
4.000	*	48.928	99.826	150.725	201.623	252.521
5.000	*	162.701	242.042	321.383	400.725	480.066
6.000	*	276.473	384.258	492.042	599.826	707.611
7.000	*	390.246	526.473	662.701	798.928	935.156
8.000	*	504.018	668.688	833.359	998.030	1162.700
10% COST INFLATION	*					
PRICES	*					
4.000	*	5.917	49.929	93.941	137.953	181.965
5.000	*	119.091	191.396	263.701	336.007	408.312
6.000	*	232.264	332.863	433.462	534.061	634.659
7.000	*	345.438	474.330	603.222	732.115	861.007
8.000	*	458.611	615.797	772.983	930.168	1087.354
20% COST INFLATION	*					
PRICES	*					
4.000	*	-37.094	0.031	37.157	74.283	111.409
5.000	*	75.481	140.750	206.019	271.289	336.558
6.000	*	188.055	281.469	374.882	468.295	561.708
7.000	*	300.630	422.187	543.744	665.301	786.858
8.000	*	413.205	562.906	712.606	862.307	1012.007

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

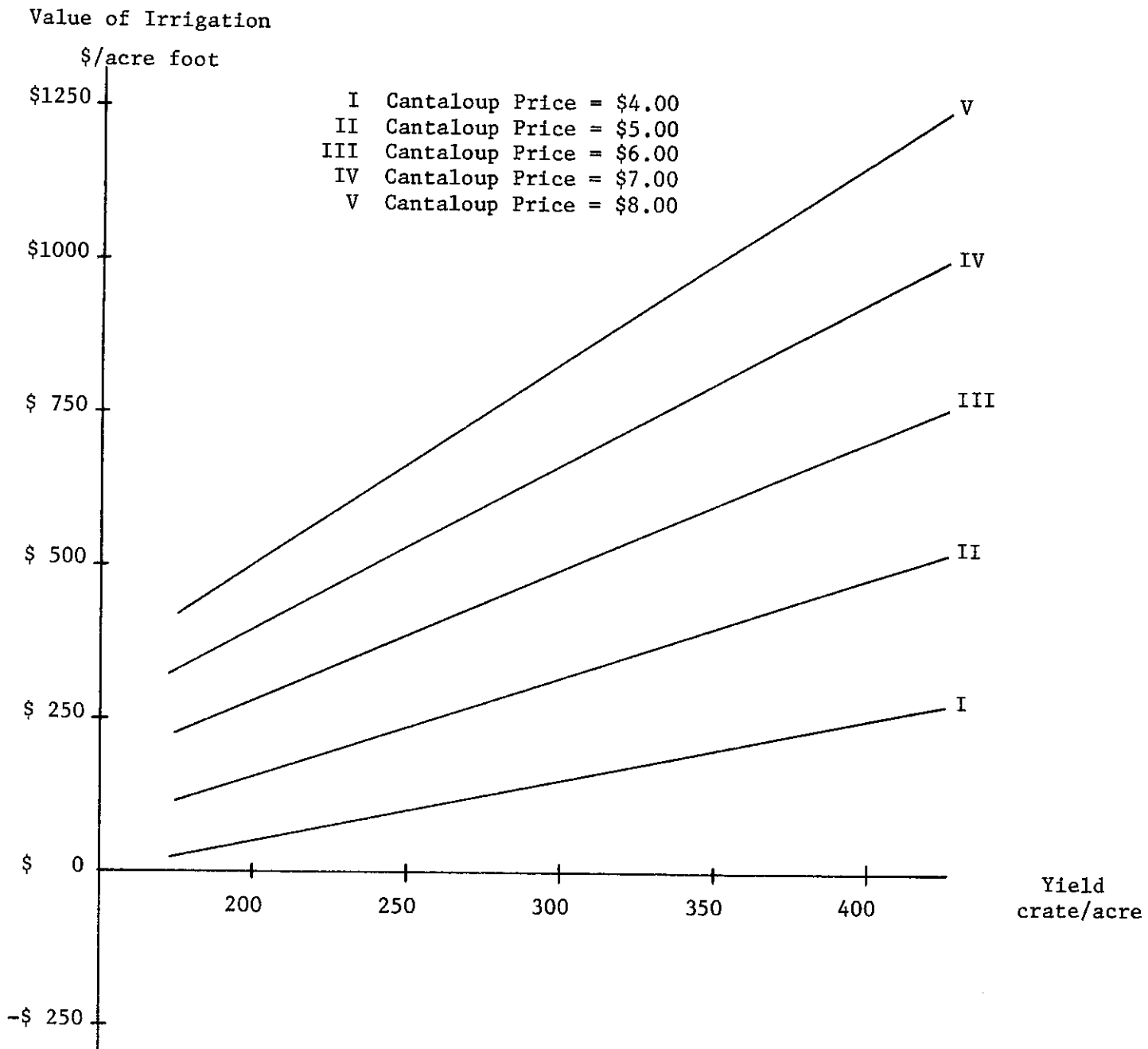


Figure Value of irrigation water applied to Cantaloups in Rio Grande Valley for alternative Cantaloup prices and yields with expected 1974 costs.

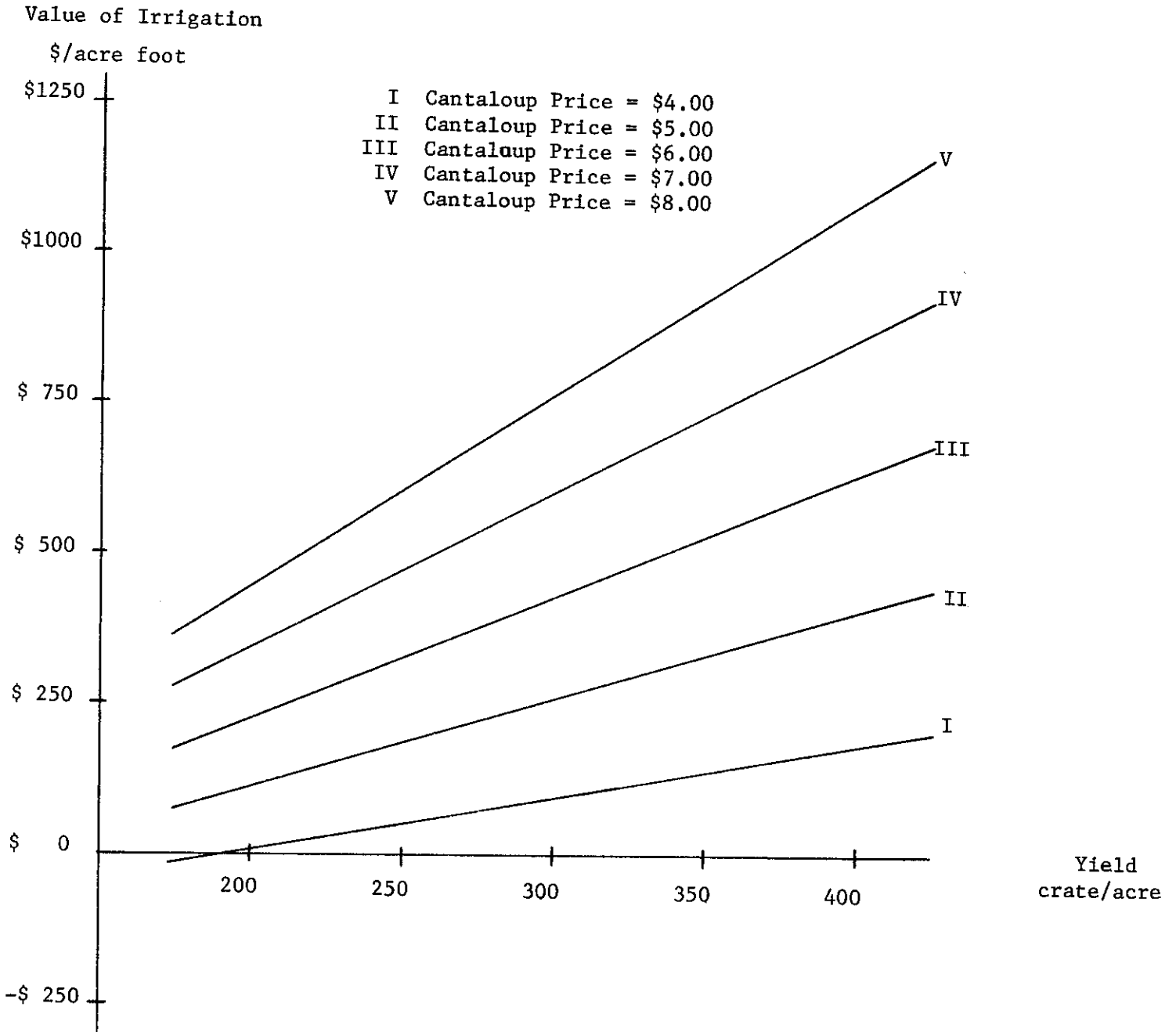


Figure Value of irrigation water applied to Cantaloups in Rio Grande Valley for alternative Cantaloupe prices and yields with expected 1974 costs inflated 10 percent.



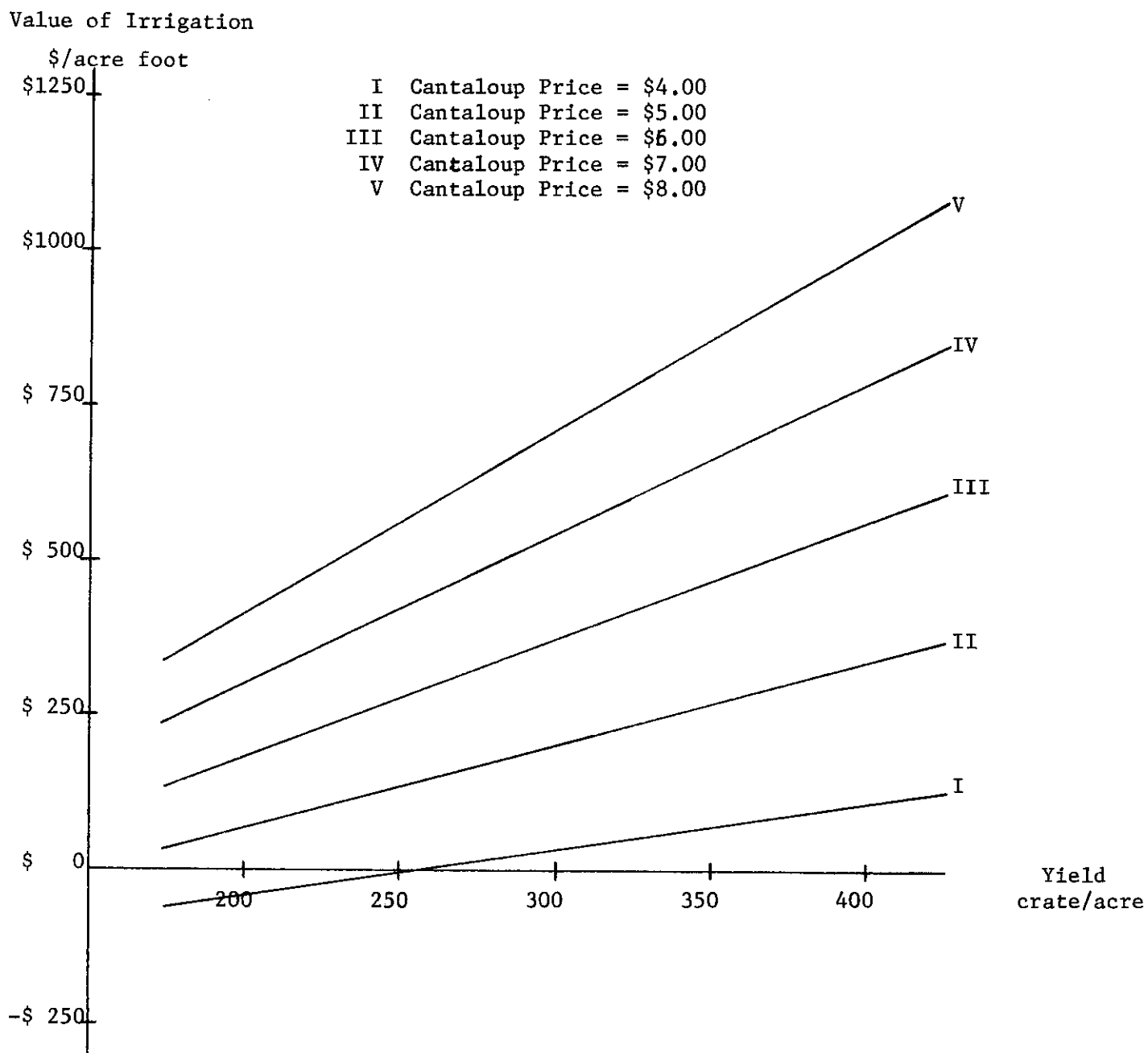


Figure Value of irrigation water applied to Cantaloups in Rio Grande Valley for alternative Cantaloup prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
CARROTS

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		200.0	250.0	300.0	350.0	400.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.500	*	-133.976	-131.731	-129.485	-127.240	-124.994
3.000	*	-77.090	-60.623	-44.156	-27.689	-11.222
3.500	*	-20.204	10.485	41.174	71.862	102.551
4.000	*	36.683	81.593	126.503	171.413	216.323
4.500	*	93.569	152.701	211.832	270.964	330.096
10% COST INFLATION	*					
PRICES	*					
2.500	*	-177.314	-182.329	-187.344	-192.359	-197.374
3.000	*	-120.727	-111.595	-102.463	-93.332	-84.200
3.500	*	-64.140	-40.862	-17.583	5.695	28.974
4.000	*	-7.553	29.872	67.297	104.722	142.147
4.500	*	49.034	100.606	152.177	203.749	255.321
20% COST INFLATION	*					
PRICES	*					
2.500	*	-220.651	-232.927	-245.202	-257.478	-269.753
3.000	*	-164.364	-162.568	-160.771	-158.975	-157.178
3.500	*	-108.077	-92.208	-76.340	-60.472	-44.603
4.000	*	-51.789	-21.849	8.091	38.031	67.971
4.500	*	4.498	48.510	92.522	136.534	180.546

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

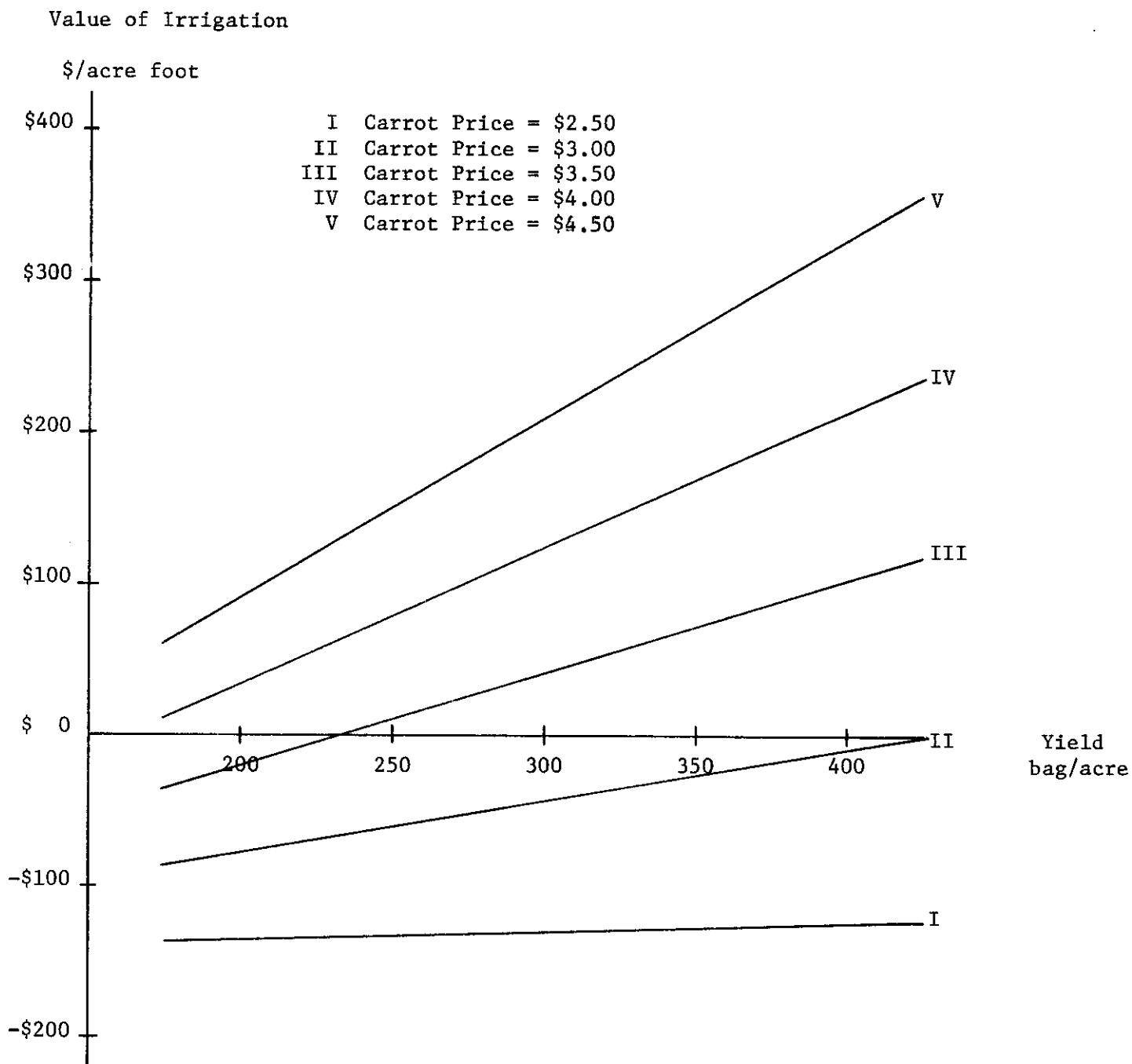


Figure Value of irrigation water applied to Carrots in Rio Grande Valley for alternative Carrot prices and yields with expected 1974 costs.

## Value of Irrigation

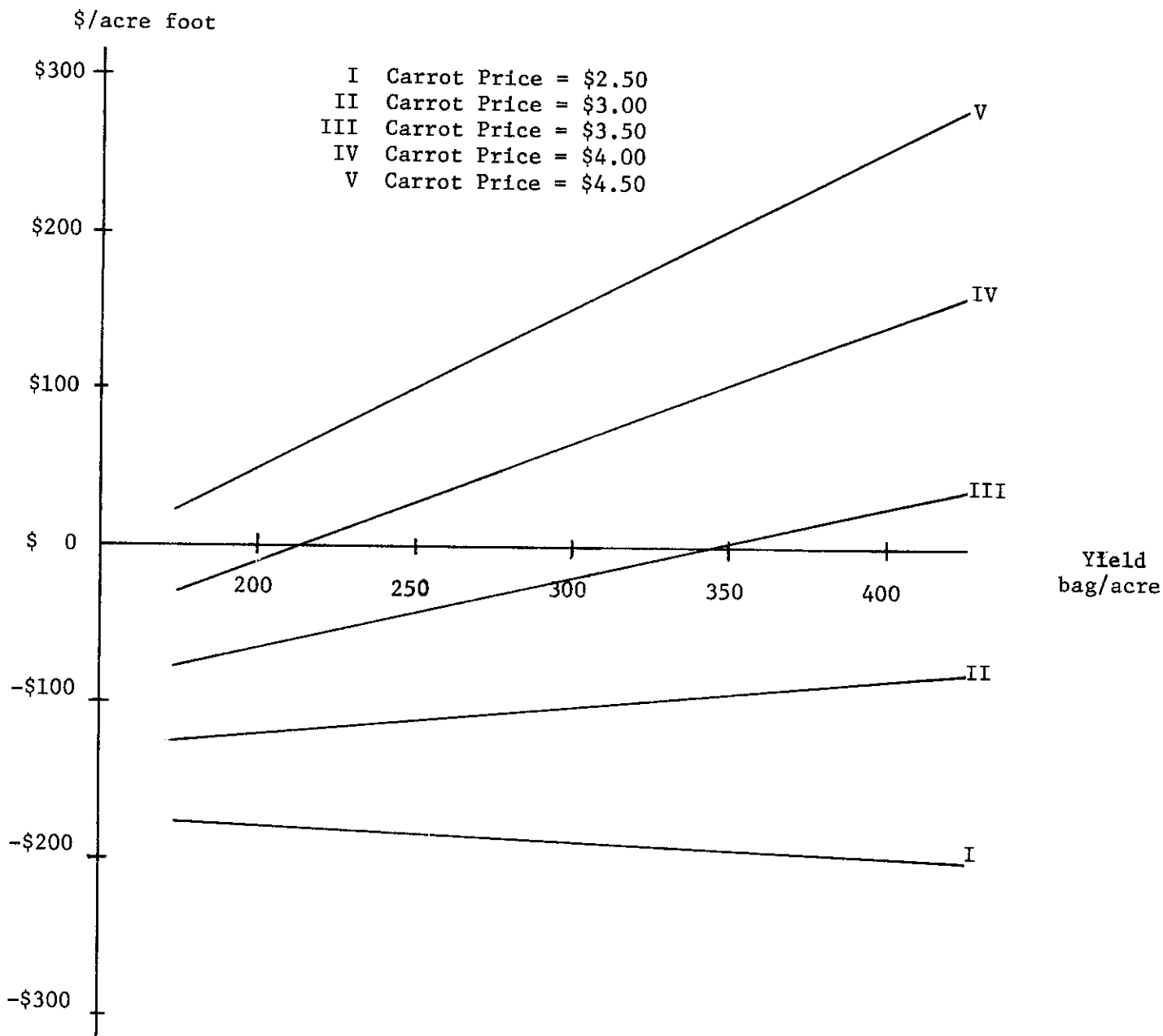


Figure Value of irrigation water applied to Carrots in Rio Grande Valley for alternative Carrot prices and yields with expected 1974 costs inflated 10 percent.

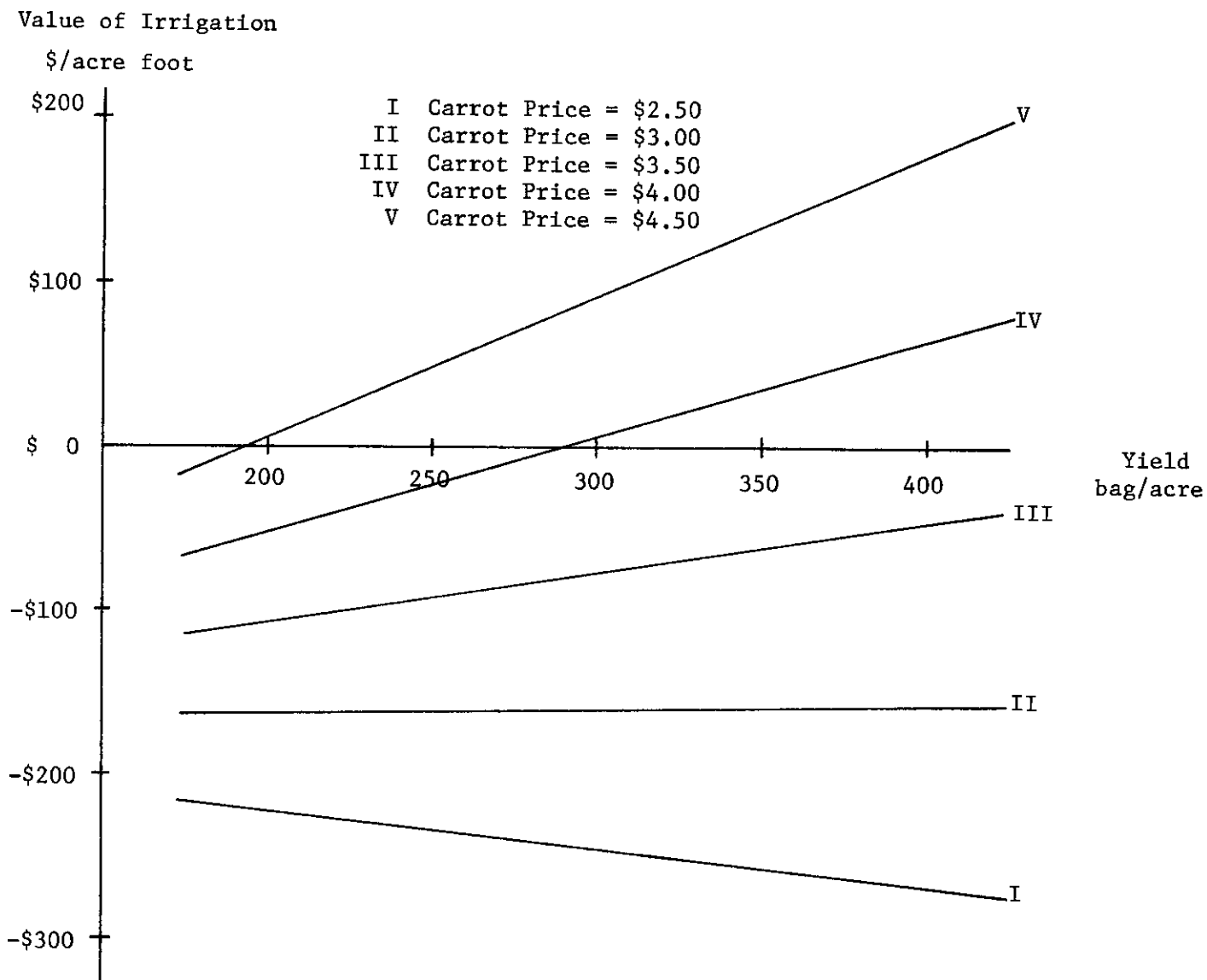


Figure Value of irrigation water applied to Carrots in Rio Grande Valley for alternative Carrot prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
COASTAL BERMUDA HAY

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		5.0	6.0	7.0	8.0	9.0
PRODUCTION COSTS 1974	*					
PRICES	*					
20.000	*	-83.566	-85.074	-86.583	-88.091	-89.600
30.000	*	-56.423	-52.503	-48.583	-44.663	-40.743
40.000	*	-29.280	-19.931	-10.583	-1.234	8.114
50.000	*	-2.137	12.640	27.417	42.194	56.972
60.000	*	25.006	45.211	65.417	85.623	105.829
10% COST INFLATION	*					
PRICES	*					
20.000	*	-97.636	-100.439	-103.241	-106.043	-108.846
30.000	*	-70.636	-68.039	-65.441	-62.843	-60.246
40.000	*	-43.636	-35.639	-27.641	-19.643	-11.646
50.000	*	-16.636	-3.239	10.159	23.557	36.955
60.000	*	10.364	29.161	47.959	66.757	85.554
20% COST INFLATION	*					
PRICES	*					
20.000	*	-111.707	-115.803	-119.899	-123.995	-128.091
30.000	*	-84.850	-83.575	-82.299	-81.024	-79.748
40.000	*	-57.993	-51.346	-44.699	-38.052	-31.406
50.000	*	-31.136	-19.118	-7.099	4.919	16.937
60.000	*	-4.279	13.111	30.501	47.890	65.280

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

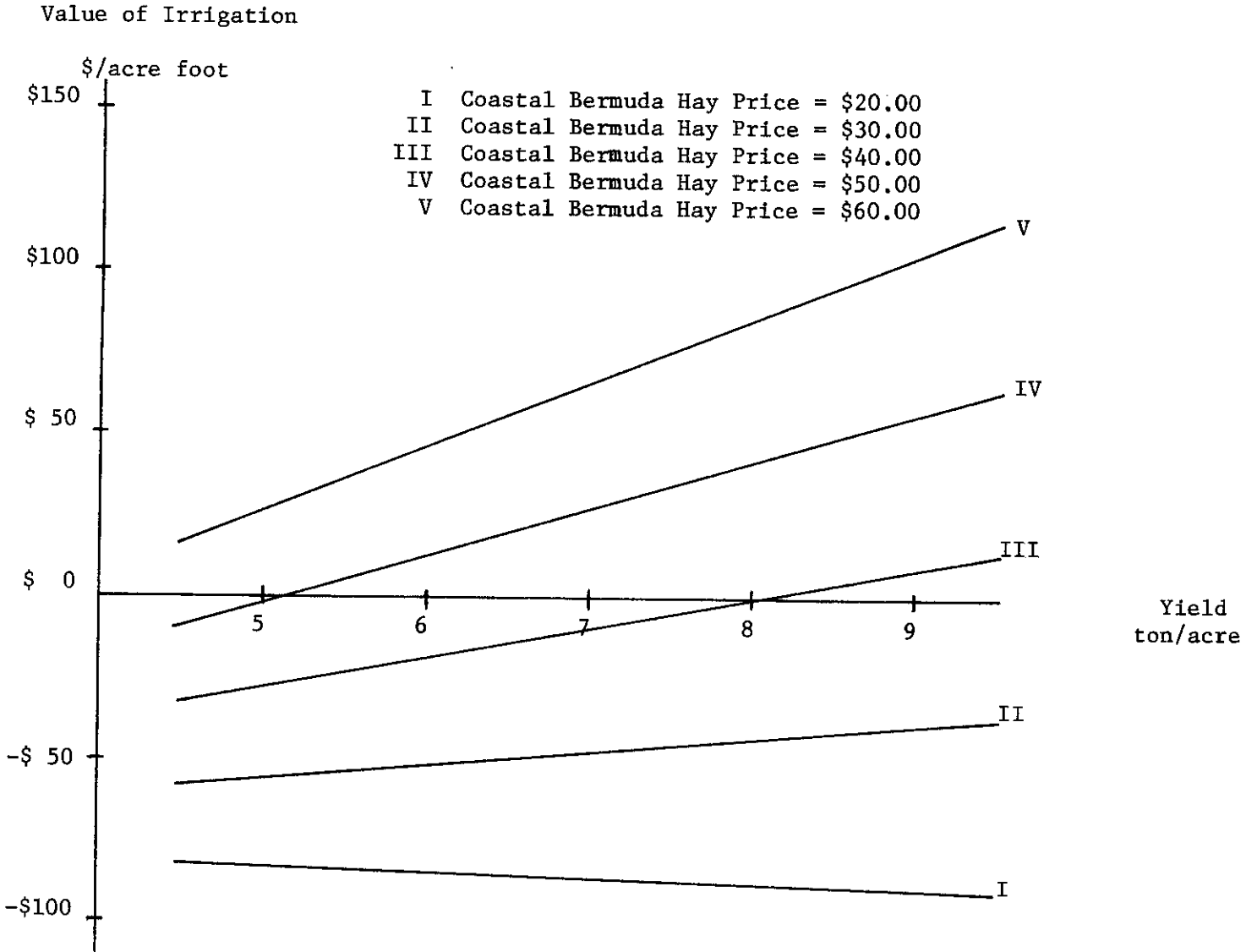


Figure Value of irrigation water applied to Coastal Bermuda Hay in Rio Grande Valley for alternative Coastal Bermuda Hay prices and yields with expected 1974 costs.

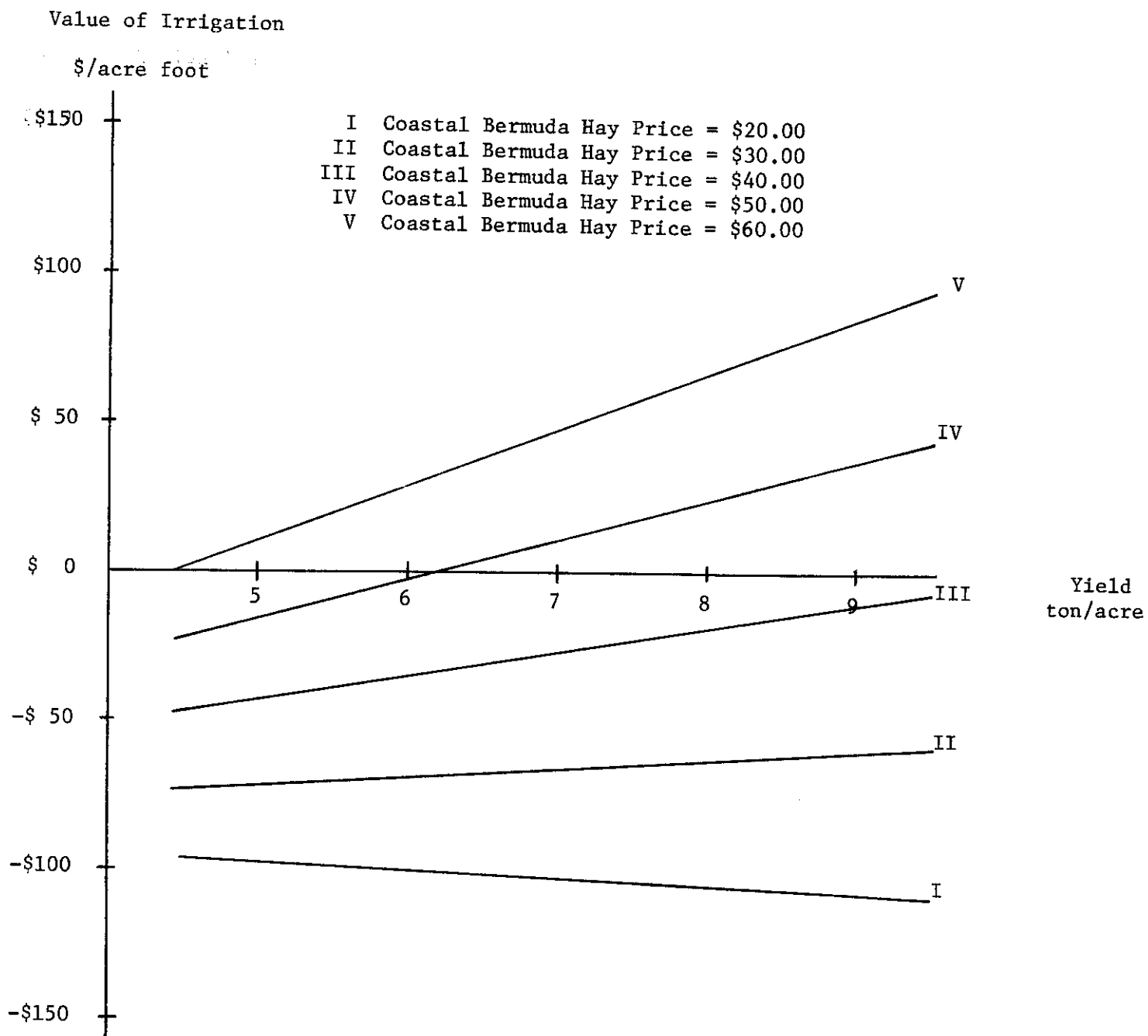


Figure Value of irrigation water applied to Coastal Bermuda Hay in Rio Grande Valley for alternative Coastal Bermuda Hay prices and yields with expected 1974 costs inflated 10 percent.



Value of Irrigation

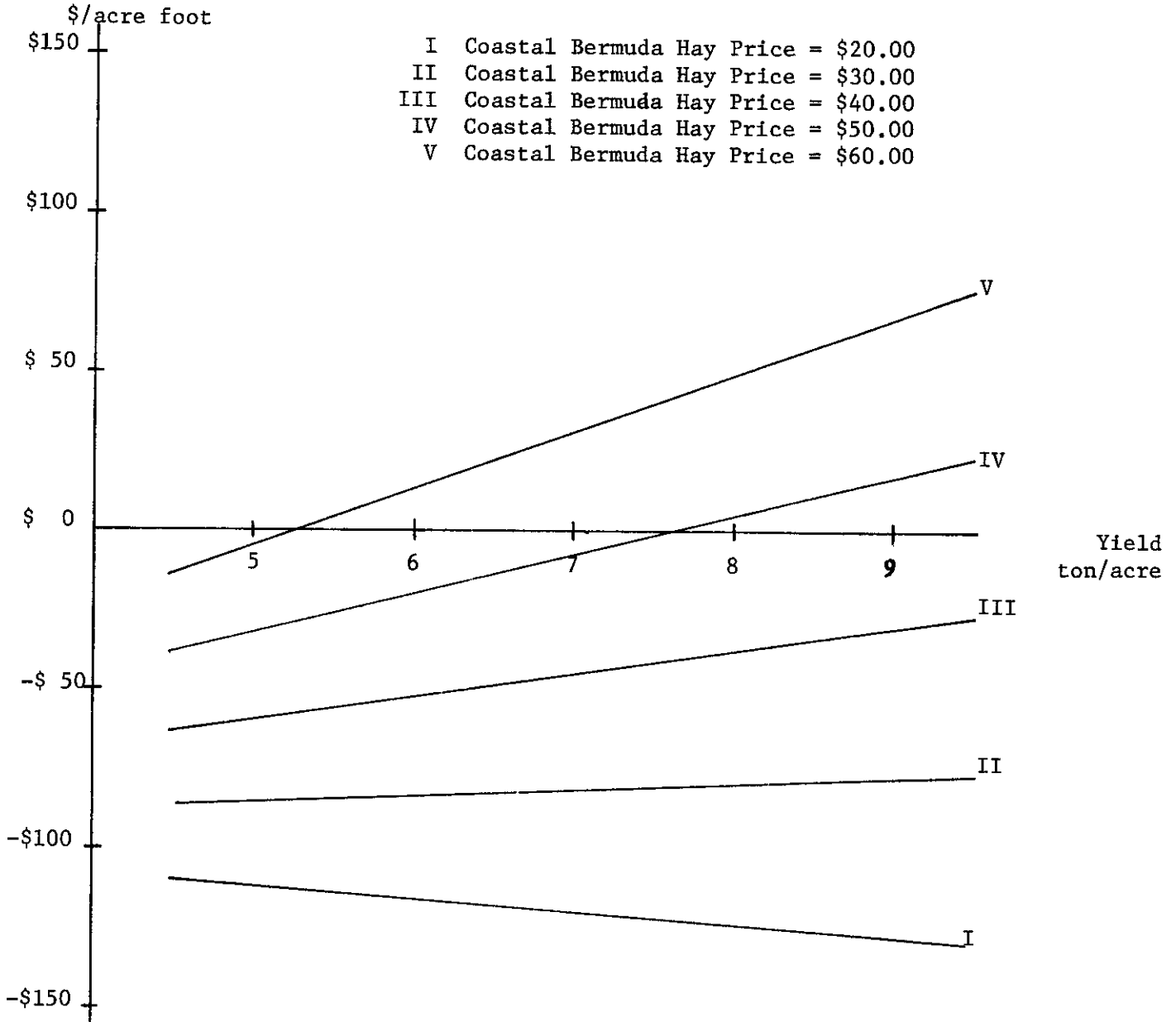


Figure Value of irrigation water applied to Coastal Bermuda Hay in Rio Grande Valley for alternative Coastal Bermuda Hay prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
CORN GRAIN

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		45.0	50.0	55.0	60.0	65.0
PRODUCTION COSTS 1974	*					
PRICES	*					
1.500	*	-72.255	-65.530	-58.805	-52.080	-45.355
2.000	*	-50.880	-41.780	-32.680	-23.580	-14.480
2.500	*	-29.505	-18.030	-6.555	4.920	16.395
3.000	*	-8.130	5.720	19.570	33.420	47.270
3.500	*	13.245	29.470	45.695	61.920	78.145
10% COST INFLATION	*					
PRICES	*					
1.500	*	-86.230	-79.583	-72.935	-66.288	-59.640
2.000	*	-64.968	-55.958	-46.948	-37.938	-28.928
2.500	*	-43.705	-32.333	-20.960	-9.588	1.785
3.000	*	-22.443	-8.708	5.027	18.762	32.497
3.500	*	-1.180	14.917	31.015	47.112	63.210
20% COST INFLATION	*					
PRICES	*					
1.500	*	-100.206	-93.636	-87.066	-80.496	-73.926
2.000	*	-79.056	-70.136	-61.216	-52.296	-43.376
2.500	*	-57.906	-46.636	-35.366	-24.096	-12.826
3.000	*	-36.756	-23.136	-9.516	4.104	17.724
3.500	*	-15.606	0.364	16.334	32.304	48.274

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

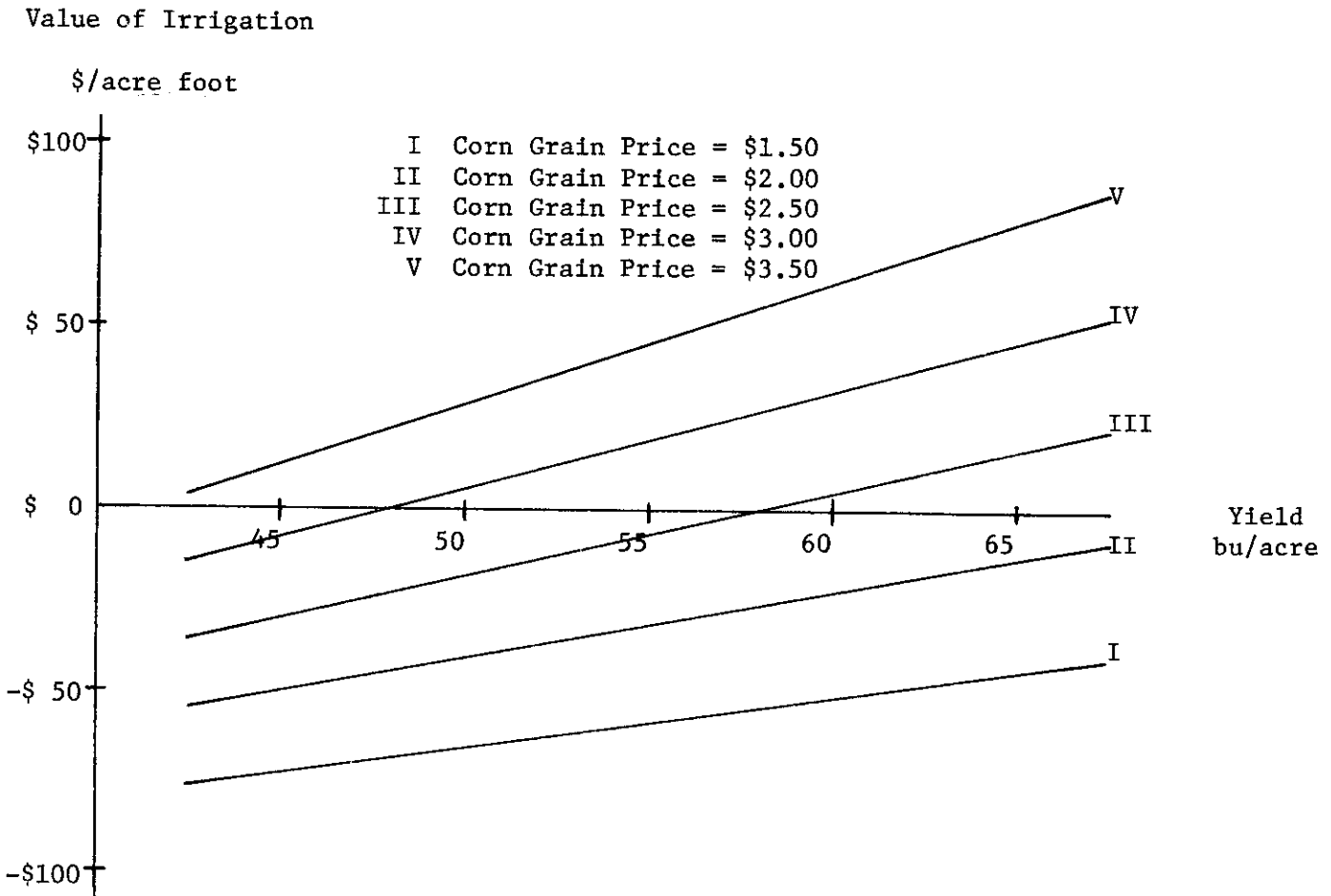


Figure Value of irrigation water applied to Corn Grain in Rio Grande Valley for alternative Corn Grain prices and yields with expected 1974 costs.

## Value of Irrigation

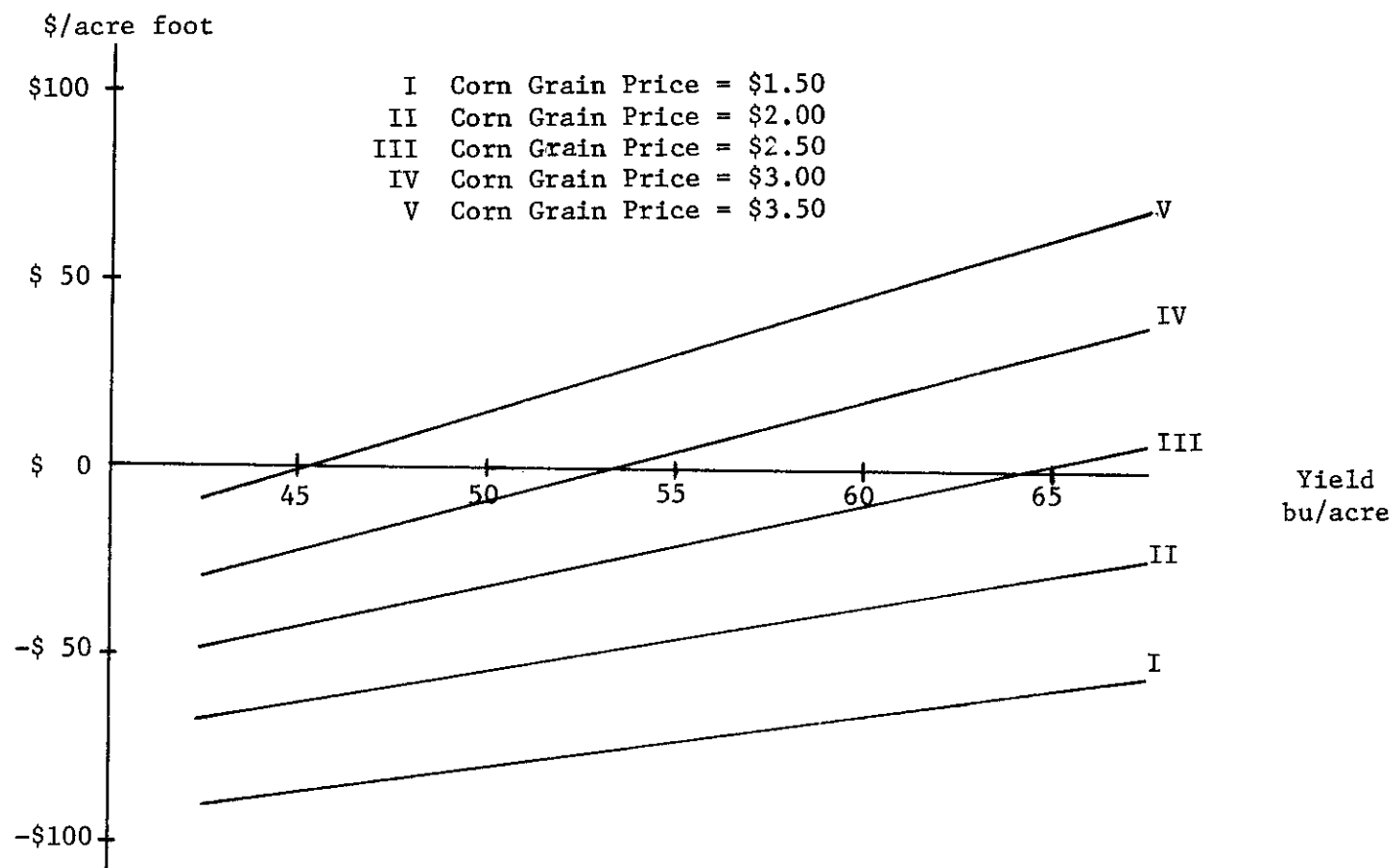


Figure Value of irrigation water applied to Corn Grain in Rio Grande Valley for alternative Corn Grain prices and yields with expected 1974 costs inflated 10 percent.

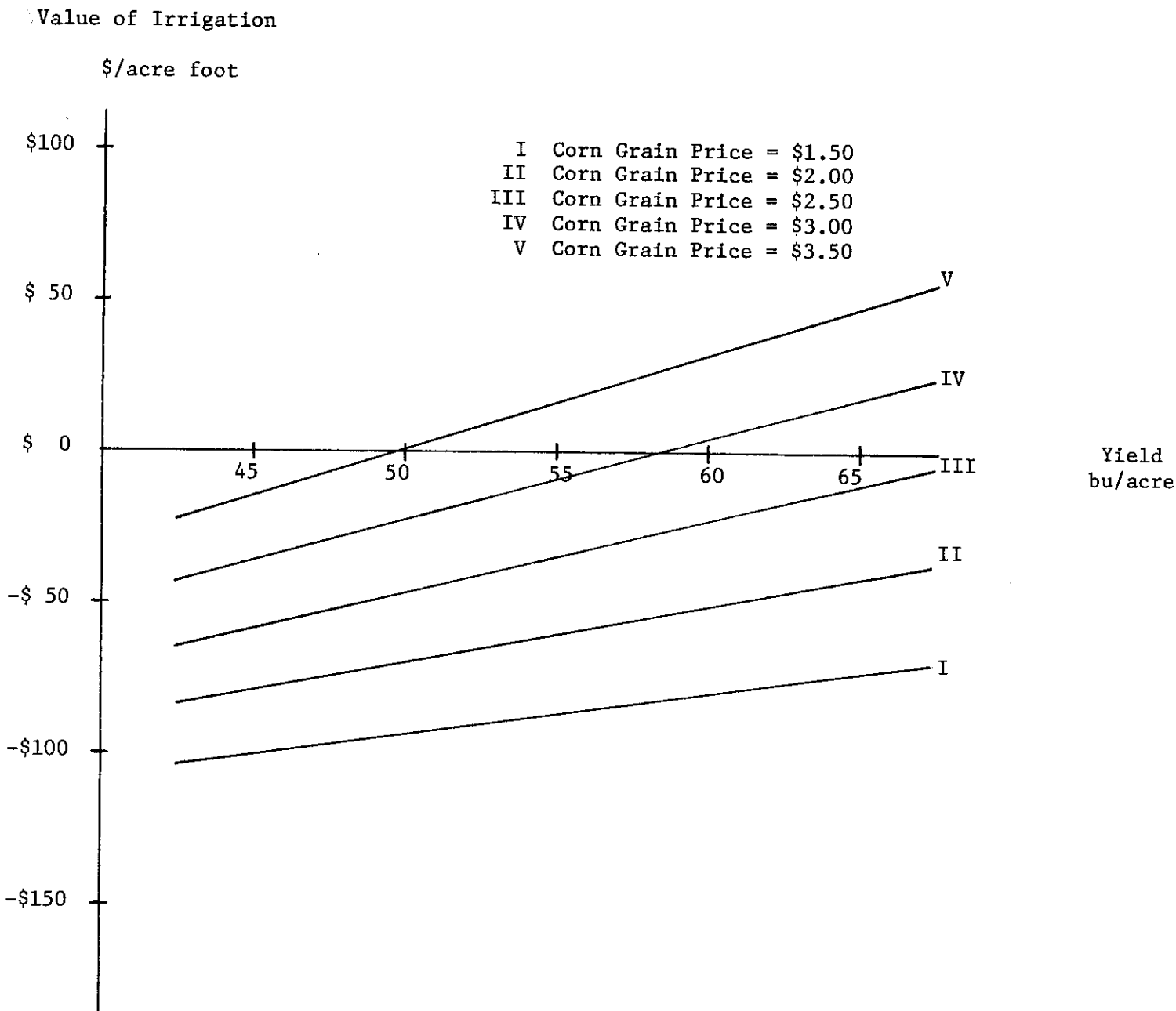


Figure Value of irrigation water applied to Corn Grain in Rio Grande Valley for alternative Corn Grain prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
CORN SILAGE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		6.0	8.0	10.0	12.0	14.0
PRODUCTION COSTS 1974	*					
PRICES	*					
6.000	*	-103.570	-92.170	-80.770	-69.370	-57.970
8.000	*	-92.170	-76.970	-61.770	-46.570	-31.370
10.000	*	-80.770	-61.770	-42.770	-23.770	-4.770
12.000	*	-69.370	-46.570	-23.770	-0.970	21.830
14.000	*	-57.970	-31.370	-4.770	21.830	48.430
10% COST INFLATION	*					
PRICES	*					
6.000	*	-117.527	-106.187	-94.847	-83.507	-72.167
8.000	*	-106.187	-91.067	-75.947	-60.827	-45.707
10.000	*	-94.847	-75.947	-57.047	-38.147	-19.247
12.000	*	-83.507	-60.827	-38.147	-15.467	7.213
14.000	*	-72.167	-45.707	-19.247	7.213	33.673
20% COST INFLATION	*					
PRICES	*					
6.000	*	-131.484	-120.204	-108.924	-97.644	-86.364
8.000	*	-120.204	-105.164	-90.124	-75.084	-60.044
10.000	*	-108.924	-90.124	-71.324	-52.524	-33.724
12.000	*	-97.644	-75.084	-52.524	-29.964	-7.404
14.000	*	-86.364	-60.044	-33.724	-7.404	18.916

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

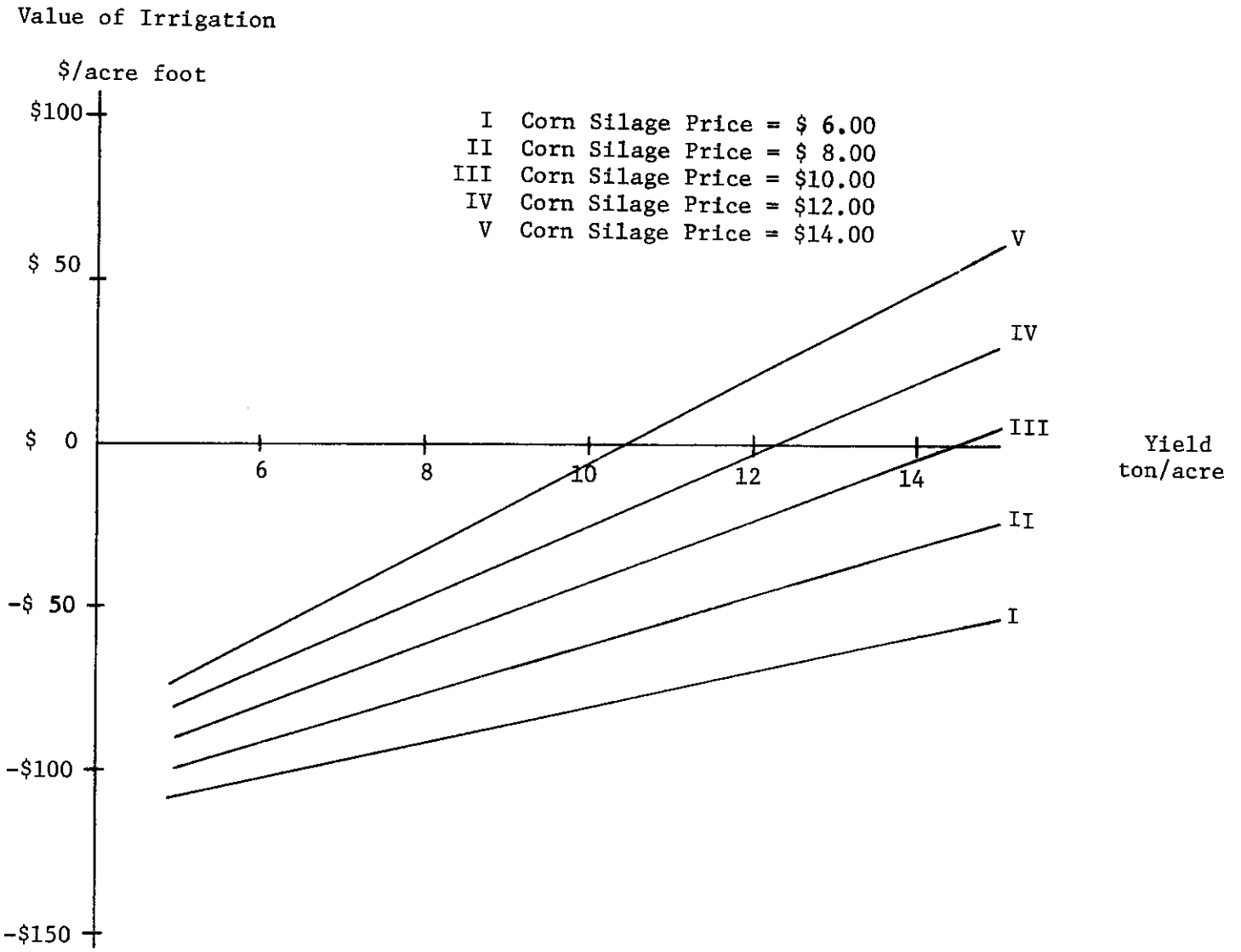


Figure Value of irrigation water applied to Corn Silage in Rio Grande Valley for alternative Corn Silage prices and yields with expected 1974 costs.

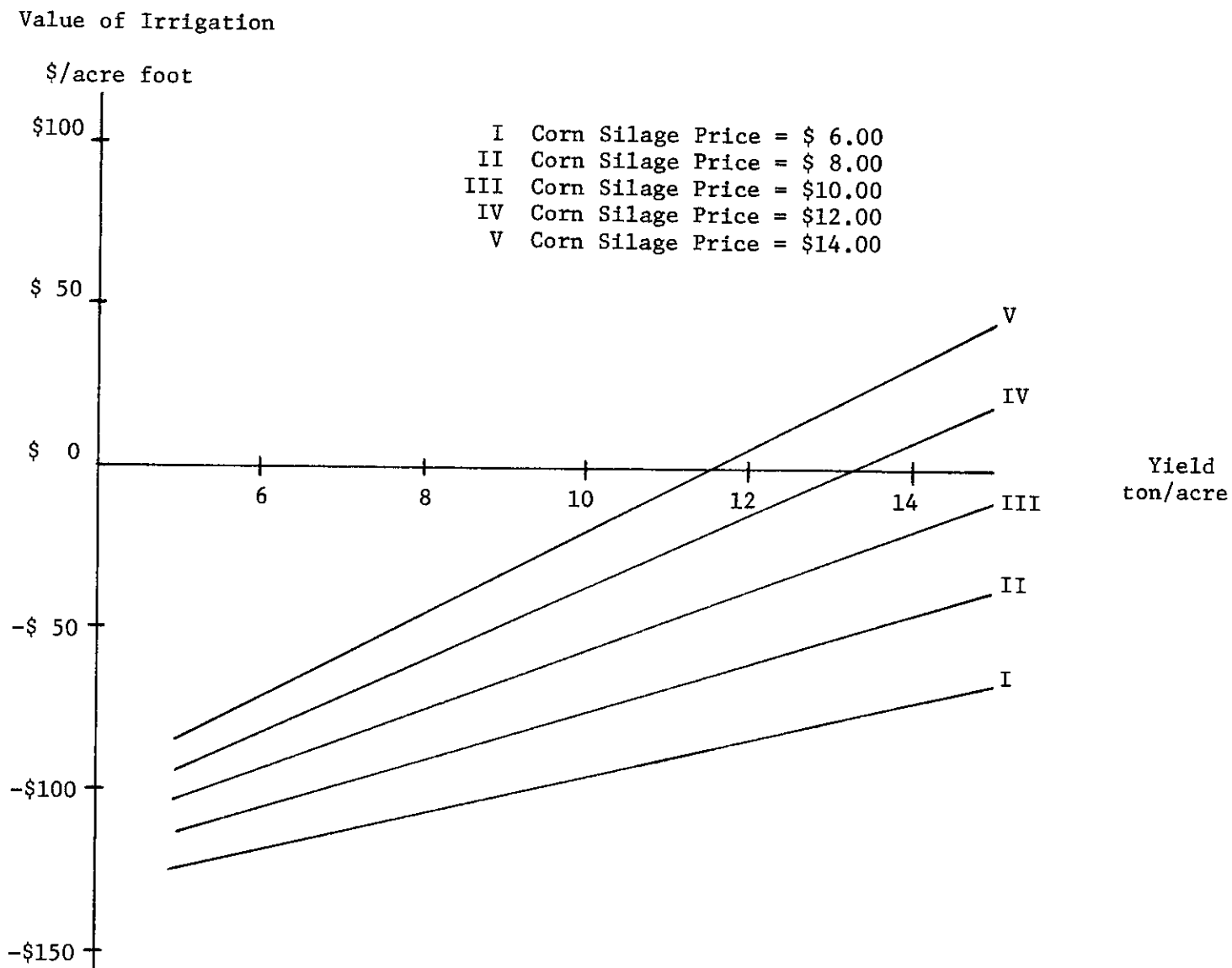


Figure Value of irrigation water applied to Corn Silage in Rio Grande Valley for alternative Corn Silage prices and yields with expected 1974 costs inflated 10 percent.



Value of Irrigation

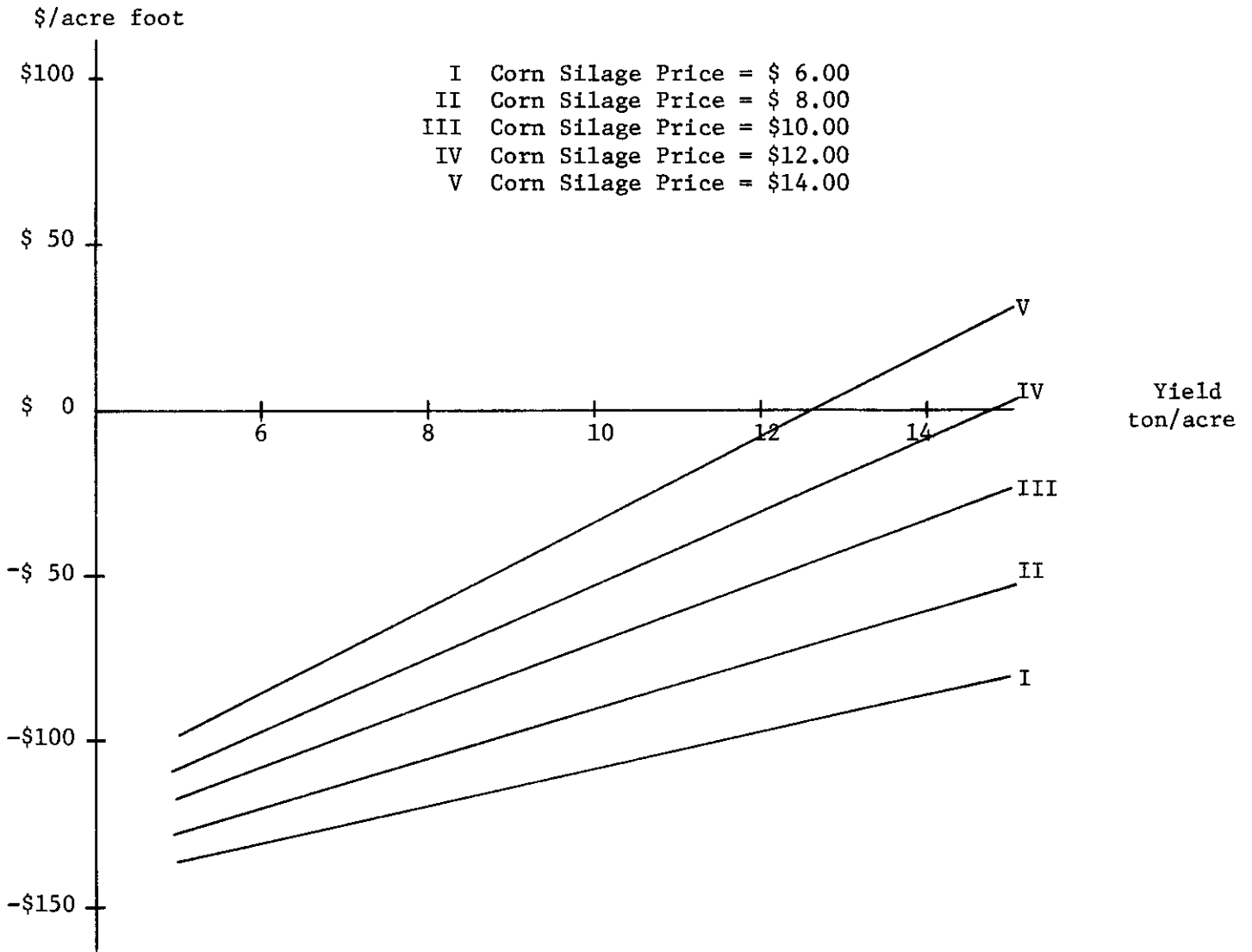


Figure Value of irrigation water applied to Corn Silage in Rio Grande Valley for alternative Corn Silage prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
COTTON

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		350.0	450.0	550.0	650.0	750.0
PRODUCTION COSTS 1974	*					
PRICES	*					
0.350	*	-78.540	-53.892	-29.244	-4.596	20.052
0.450	*	-51.940	-19.692	12.556	44.804	77.052
0.550	*	-25.340	14.508	54.356	94.204	134.052
0.650	*	1.260	48.708	96.156	143.604	191.052
0.750	*	27.860	82.908	137.956	193.004	248.052
10% COST INFLATION	*					
PRICES	*					
0.350	*	-97.538	-73.609	-49.680	-25.751	-1.822
0.450	*	-71.078	-39.589	-8.100	23.389	54.877
0.550	*	-44.618	-5.569	33.480	72.529	111.577
0.650	*	-18.158	28.451	75.060	121.669	168.277
0.750	*	8.302	62.471	116.640	170.809	224.977
20% COST INFLATION	*					
PRICES	*					
0.350	*	-116.536	-93.326	-70.117	-46.907	-23.697
0.450	*	-90.216	-59.486	-28.757	1.973	32.703
0.550	*	-63.896	-25.646	12.603	50.853	89.103
0.650	*	-37.576	8.194	53.963	99.733	145.503
0.750	*	-11.256	42.034	95.323	148.613	201.903

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

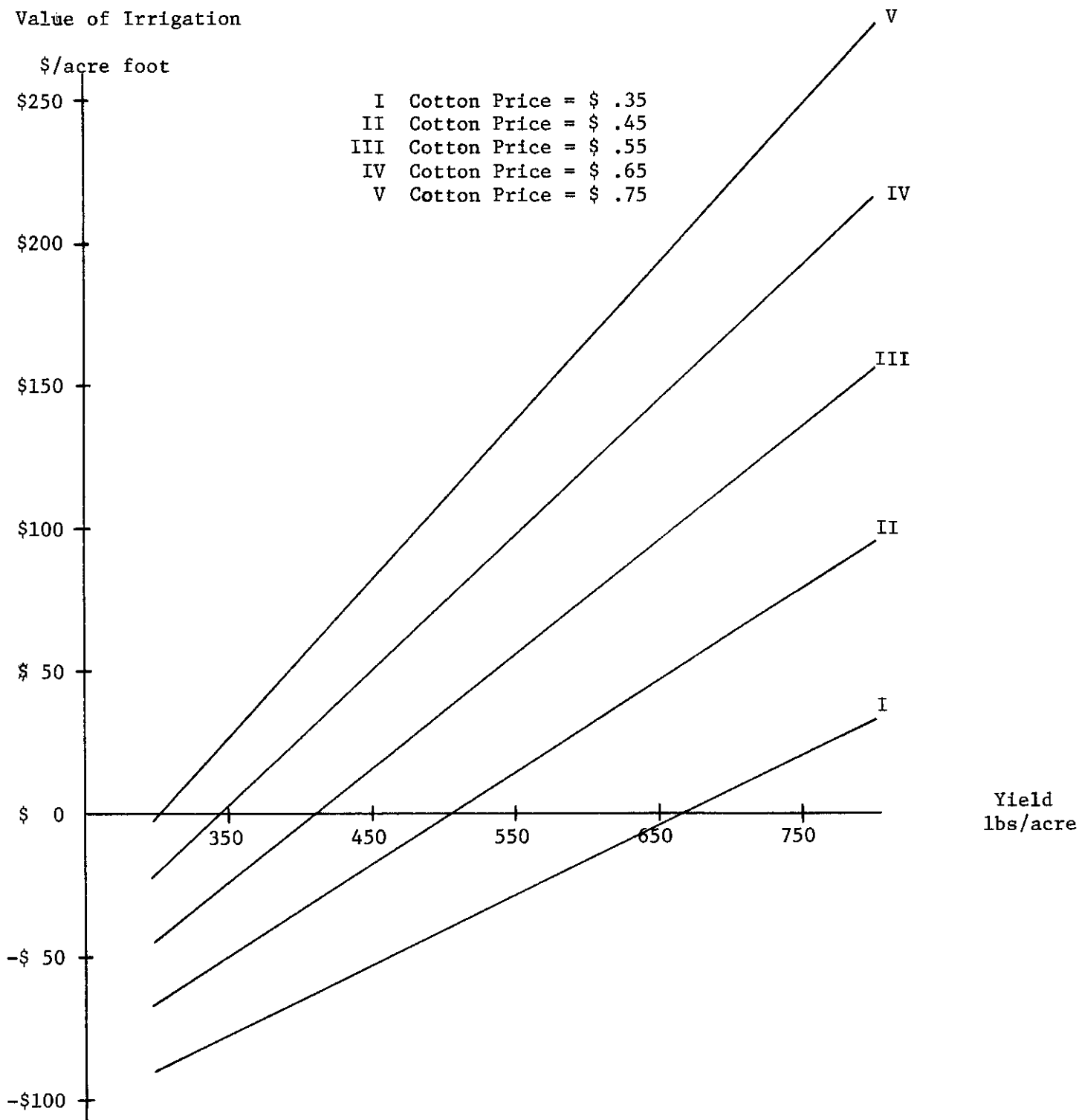


Figure Value of irrigation water applied to Cotton in Rio Grande Valley for alternative Cotton prices and yields with expected 1974 costs.

## Value of Irrigation

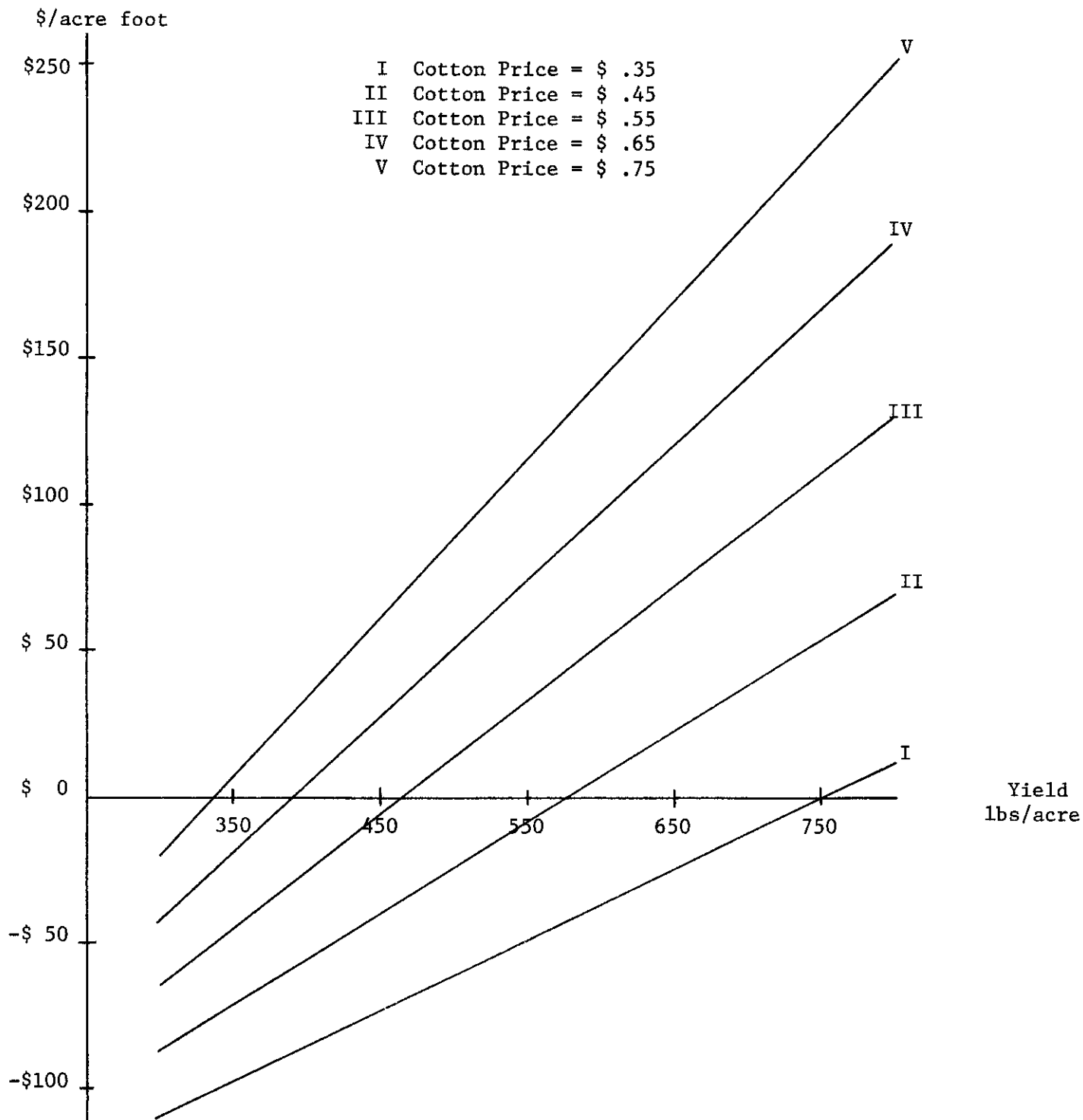


Figure Value of irrigation water applied to Cotton in Rio Grande Valley for alternative Cotton prices and yields with expected 1974 costs inflated 10 percent.

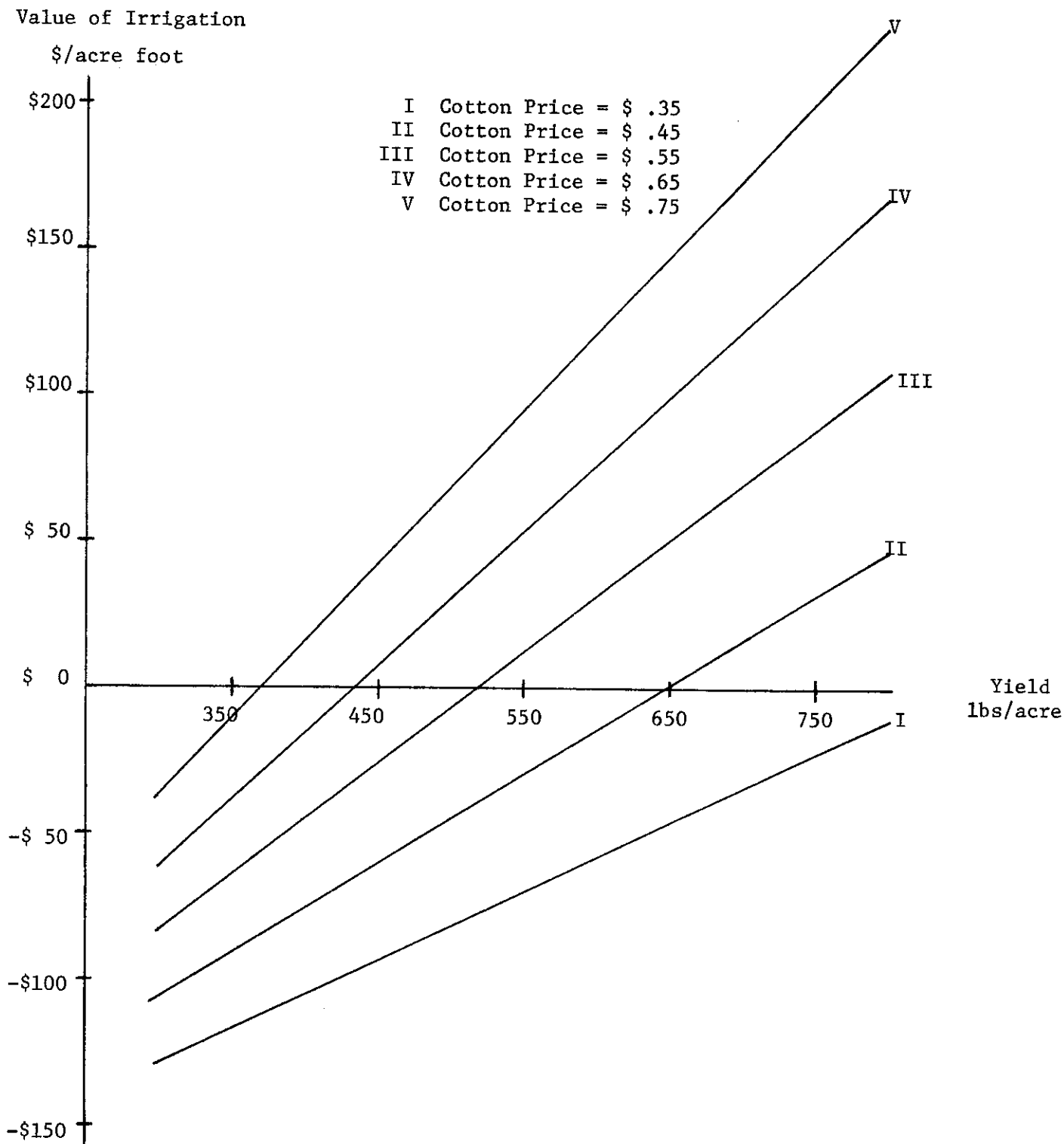


Figure Value of irrigation water applied to Cotton in Rio Grande Valley for alternative Cotton prices and yields with expected 1974 costs inflated 20 percent.

RIO GRANDE VALLEY  
GRAIN SORGHUM

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		20.0	30.0	40.0	50.0	60.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-93.940	-75.867	-57.795	-39.723	-21.651
2.500	*	-82.494	-58.699	-34.904	-11.108	12.687
3.000	*	-71.048	-41.530	-12.012	17.506	47.024
3.500	*	-59.602	-24.361	10.880	46.120	81.361
4.000	*	-48.157	-7.193	33.771	74.735	115.699
10% COST INFLATION	*					
PRICES	*					
2.000	*	-108.153	-90.683	-73.213	-55.743	-38.273
2.500	*	-96.767	-73.605	-50.442	-27.279	-4.117
3.000	*	-85.382	-56.526	-27.671	1.184	30.040
3.500	*	-73.996	-39.448	-4.900	29.648	64.196
4.000	*	-62.611	-22.370	17.871	58.112	98.353
20% COST INFLATION	*					
PRICES	*					
2.000	*	-122.366	-105.499	-88.631	-71.764	-54.896
2.500	*	-111.041	-88.511	-65.981	-43.451	-20.920
3.000	*	-99.716	-71.523	-43.330	-15.137	13.055
3.500	*	-88.390	-54.535	-20.679	13.176	47.031
4.000	*	-77.065	-37.547	1.971	41.489	81.007

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

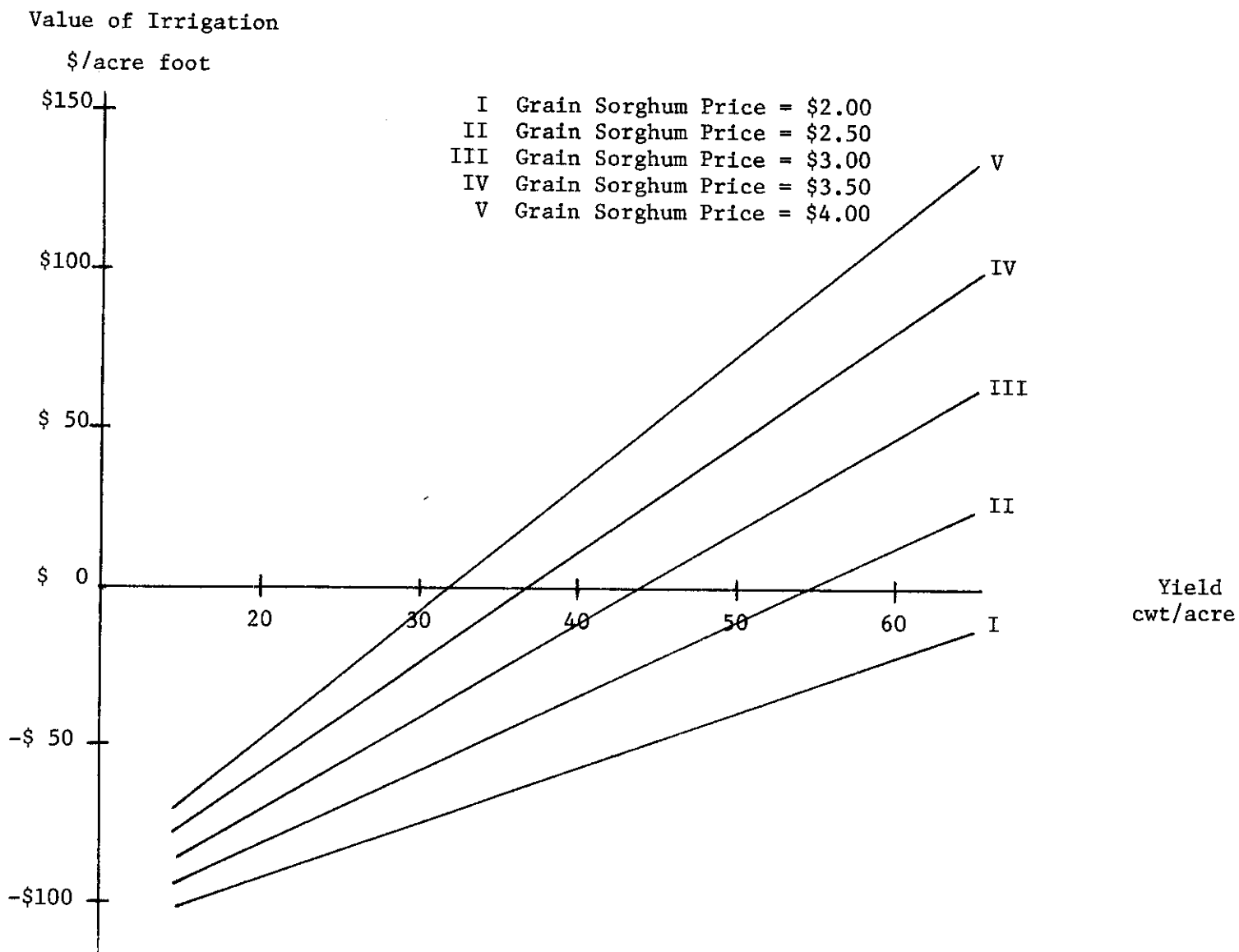


Figure Value of irrigation water applied to Grain Sorghum in Rio Grande Valley for alternative Grain Sorghum prices and yields with expected 1974 costs.

Value of Irrigation

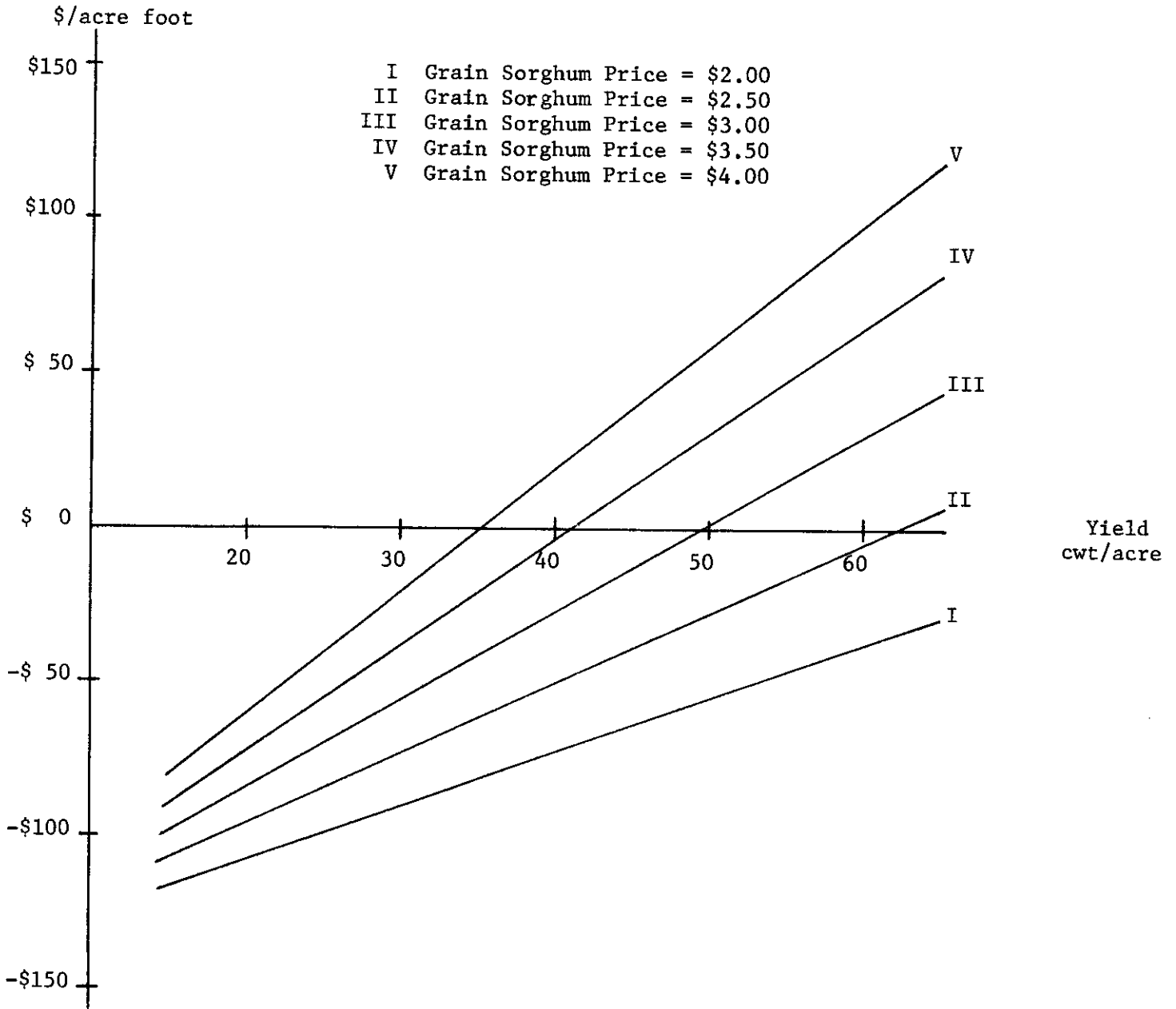


Figure Value of irrigation water applied to Grain Sorghum in Rio Grande Valley for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 10 percent.



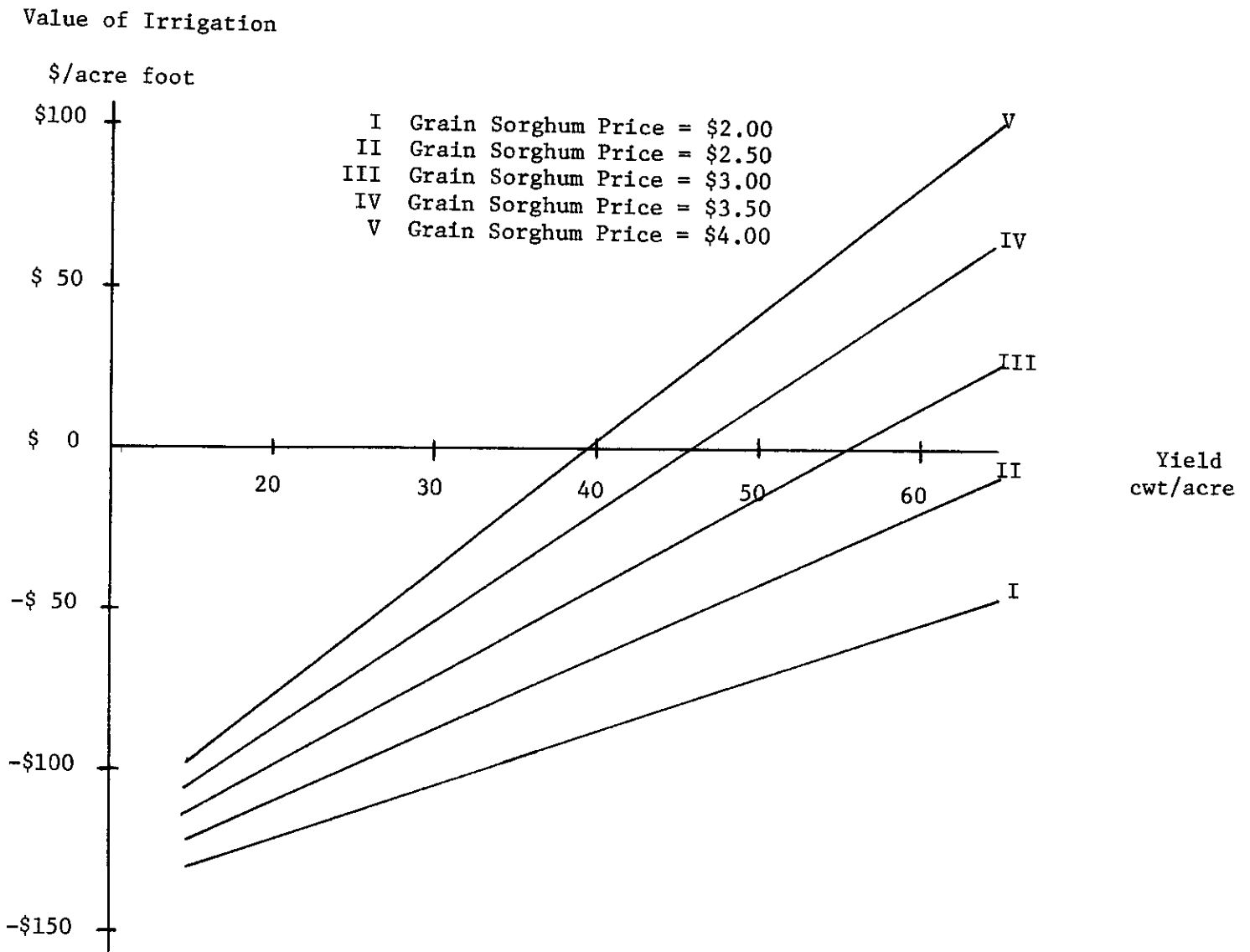


Figure Value of irrigation water applied to Grain Sorghum in Rio Grande Valley for alternative Grain Sorghum prices and yields with expected 1974 costs inflated 20 percent.

Value of Irrigation

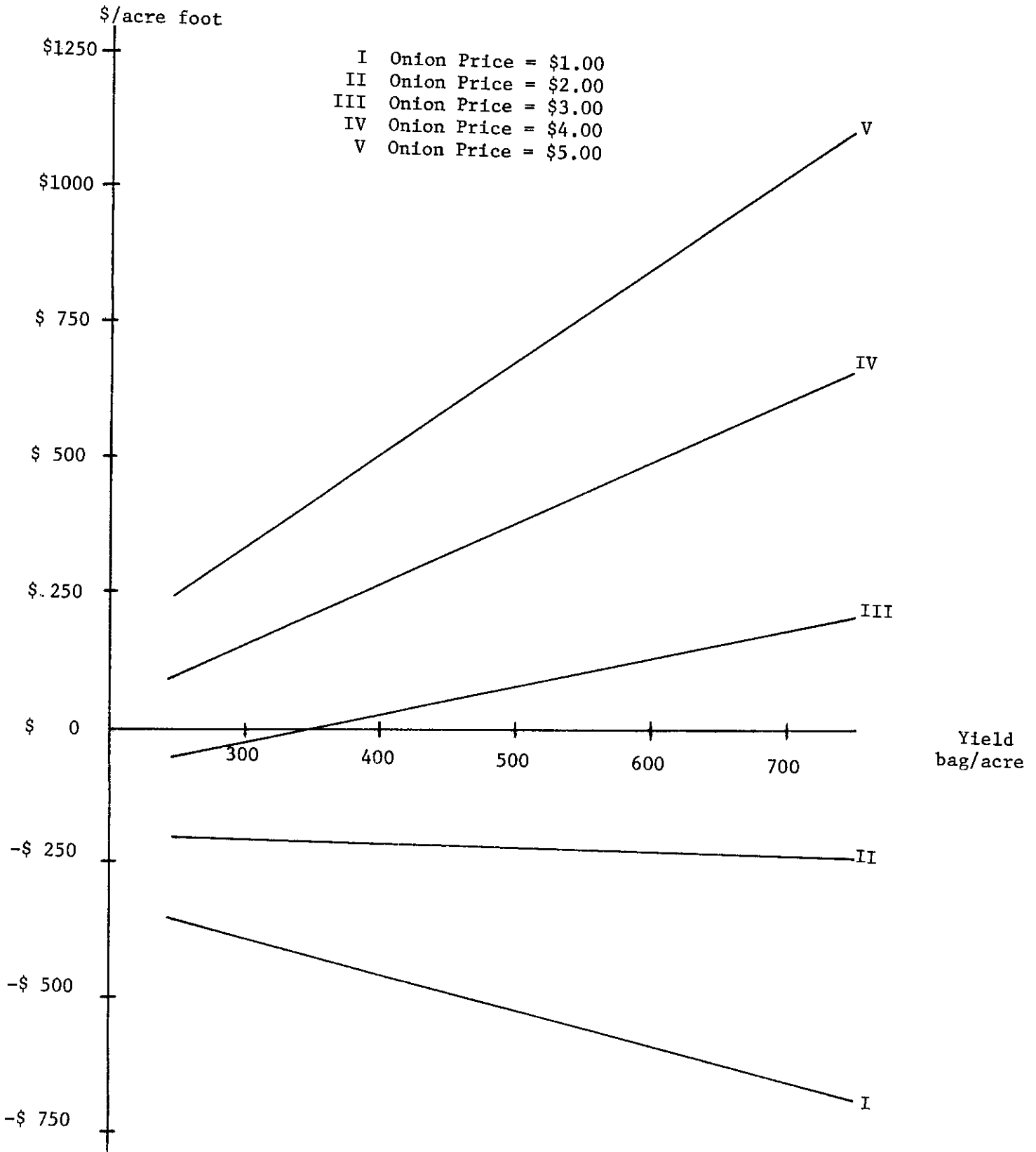


Figure Value of irrigation water applied to Onions in Rio Grande Valley for alternative Onion prices and yields with expected 1974 costs.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
GRAPEFRUIT  
MATURE GROVE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		14.0	15.0	16.0	17.0	18.0
PRODUCTION COSTS 1974	*					
PRICES	*					
20.000	*	-165.133	-152.467	-139.800	-127.133	-114.467
30.000	*	-76.467	-57.467	-38.467	-19.467	-0.467
40.000	*	12.200	37.533	62.867	88.200	113.533
50.000	*	100.867	132.533	164.200	195.867	227.533
60.000	*	189.533	227.533	265.533	303.533	341.533
10% COST INFLATION	*					
PRICES	*					
20.000	*	-200.313	-187.713	-175.113	-162.513	-149.913
30.000	*	-112.113	-93.213	-74.313	-55.413	-36.513
40.000	*	-23.913	1.287	26.487	51.687	76.887
50.000	*	64.287	95.787	127.287	158.787	190.287
60.000	*	152.487	190.287	228.087	265.887	303.687
20% COST INFLATION	*					
PRICES	*					
20.000	*	-235.493	-222.960	-210.427	-197.893	-185.360
30.000	*	-147.760	-128.960	-110.160	-91.360	-72.560
40.000	*	-60.027	-34.960	-9.893	15.174	40.240
50.000	*	27.707	59.040	90.374	121.707	153.040
60.000	*	115.440	153.040	190.640	228.240	265.840

A DRYLAND RETURN OF 70.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

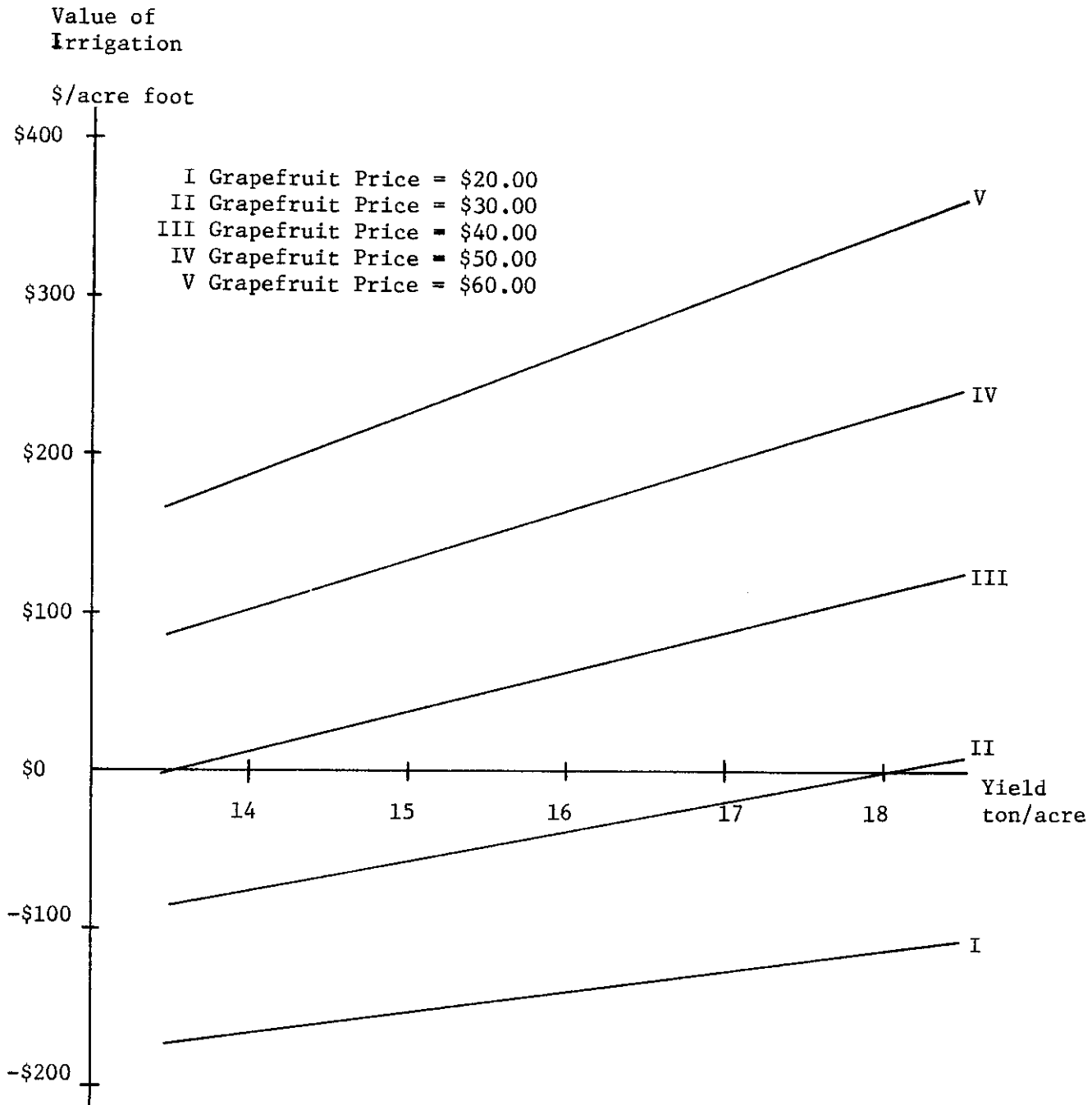


Figure Value of irrigation water applied to Grapefruit, mature grove, in Rio Grande Valley for alternative Grapefruit prices and yields with expected 1974 costs.

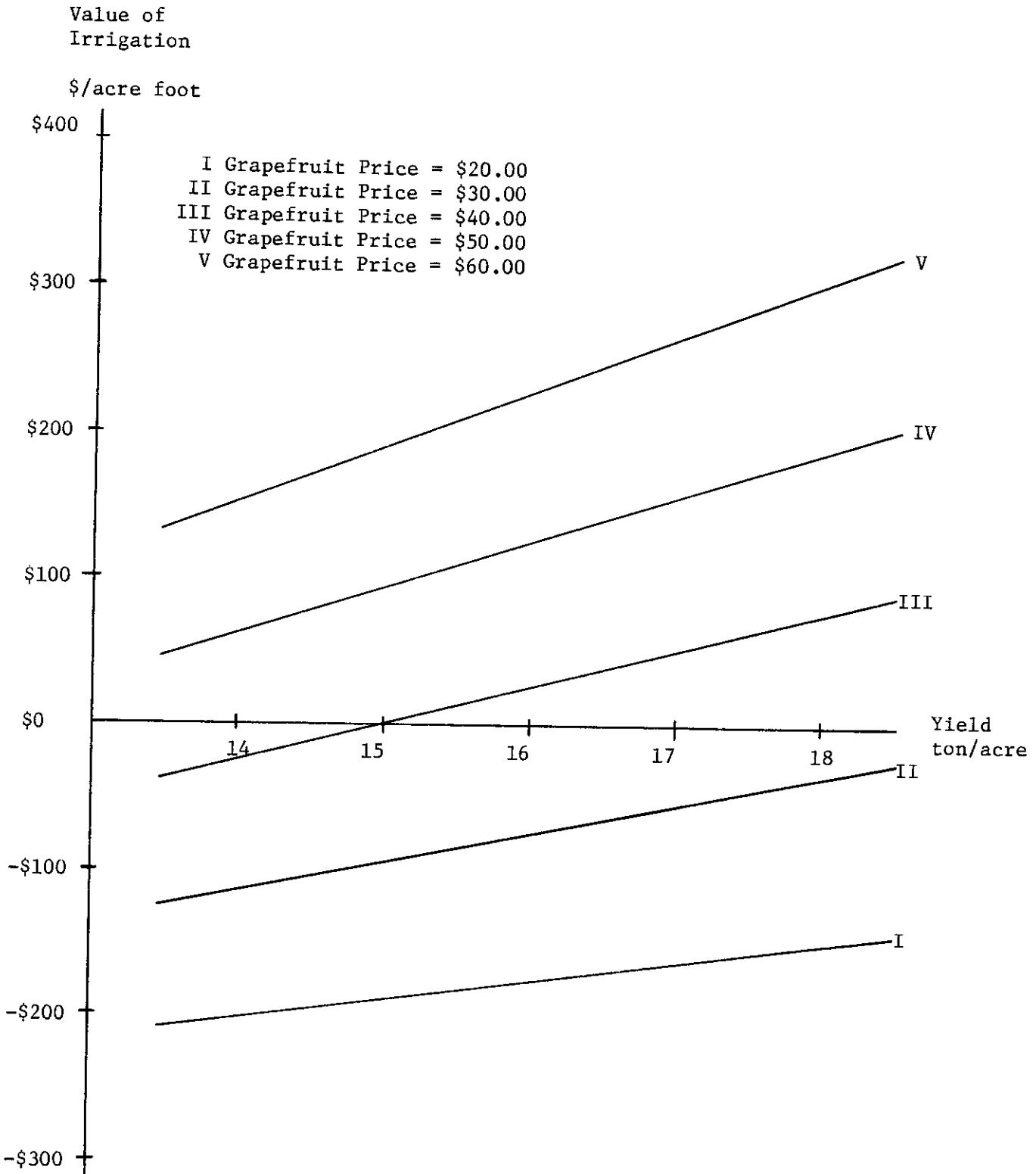


Figure Value of irrigation applied to Grapefruit, mature grove, in the Rio Grande Valley for alternative Grapefruit prices and yields with expected 1974 costs inflated 10 percent.

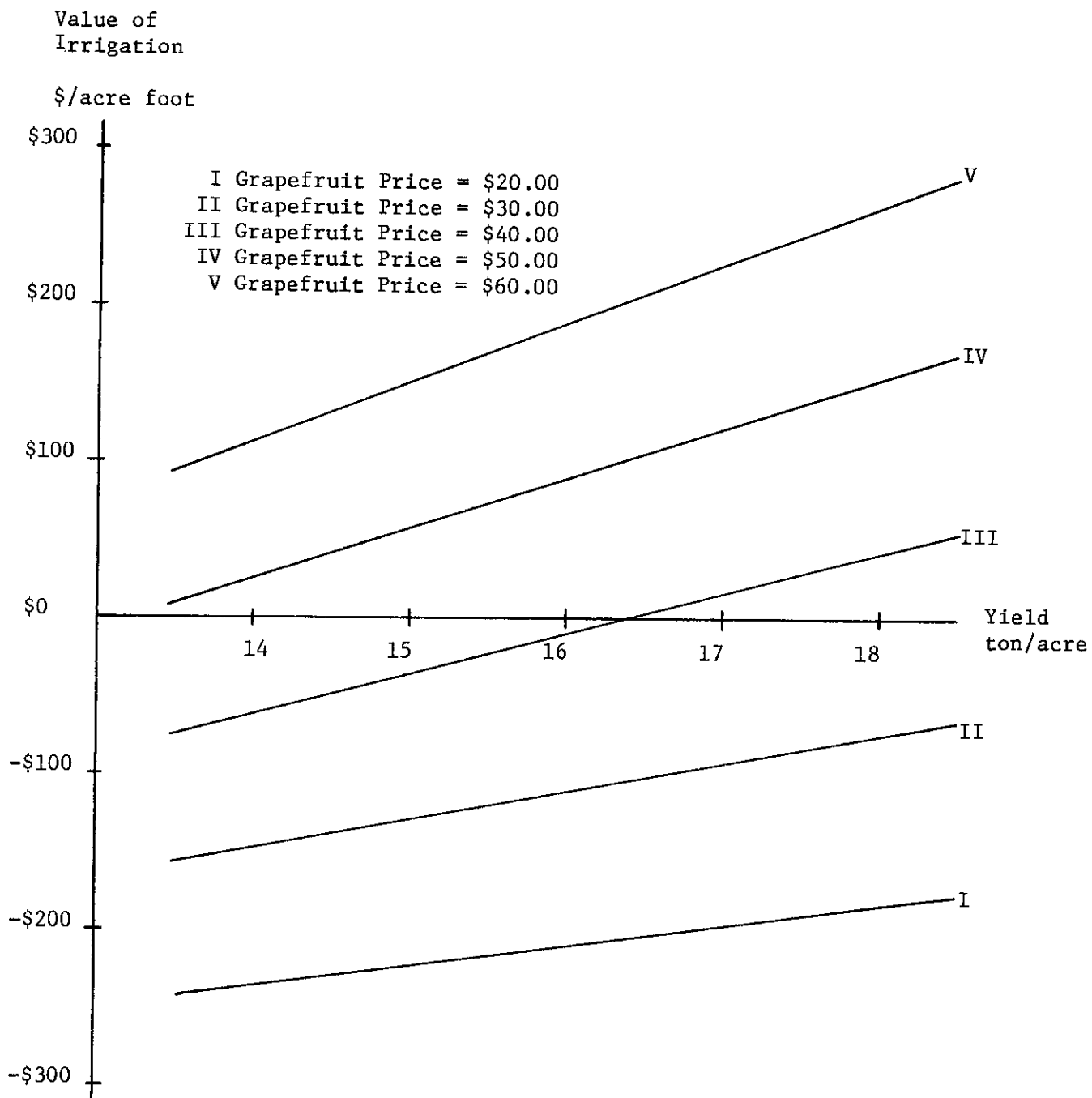


Figure Value of irrigation water applied to Grapefruit, mature grove, in Rio Grande Valley for alternative Grapefruit prices and yields with expected 1974 costs inflated 20 percent.

RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
ONIONS

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		300.0	400.0	500.0	600.0	700.0
PRODUCTION COSTS 1974	*					
PRICES	*					
1.000	*	-385.886	-452.975	-520.063	-587.152	-654.240
2.000	*	-205.506	-212.468	-219.430	-226.392	-233.354
3.000	*	-25.127	28.038	81.203	134.367	187.532
4.000	*	155.253	268.544	381.835	495.126	608.418
5.000	*	335.633	509.051	682.468	855.886	1029.304
10% COST INFLATION	*					
PRICES	*					
1.000	*	-443.462	-523.588	-603.715	-683.842	-763.968
2.000	*	-264.031	-284.348	-304.664	-324.981	-345.297
3.000	*	-84.601	-45.107	-5.614	33.880	73.374
4.000	*	94.829	194.133	293.437	392.740	492.044
5.000	*	274.260	433.374	592.487	751.601	910.715
20% COST INFLATION	*					
PRICES	*					
1.000	*	-501.038	-594.202	-687.367	-780.531	-873.696
2.000	*	-322.557	-356.228	-389.898	-423.569	-457.240
3.000	*	-144.076	-118.253	-92.430	-66.607	-40.785
4.000	*	34.405	119.722	205.038	290.354	375.671
5.000	*	212.886	357.656	502.506	647.316	792.127

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

\$/acre foot

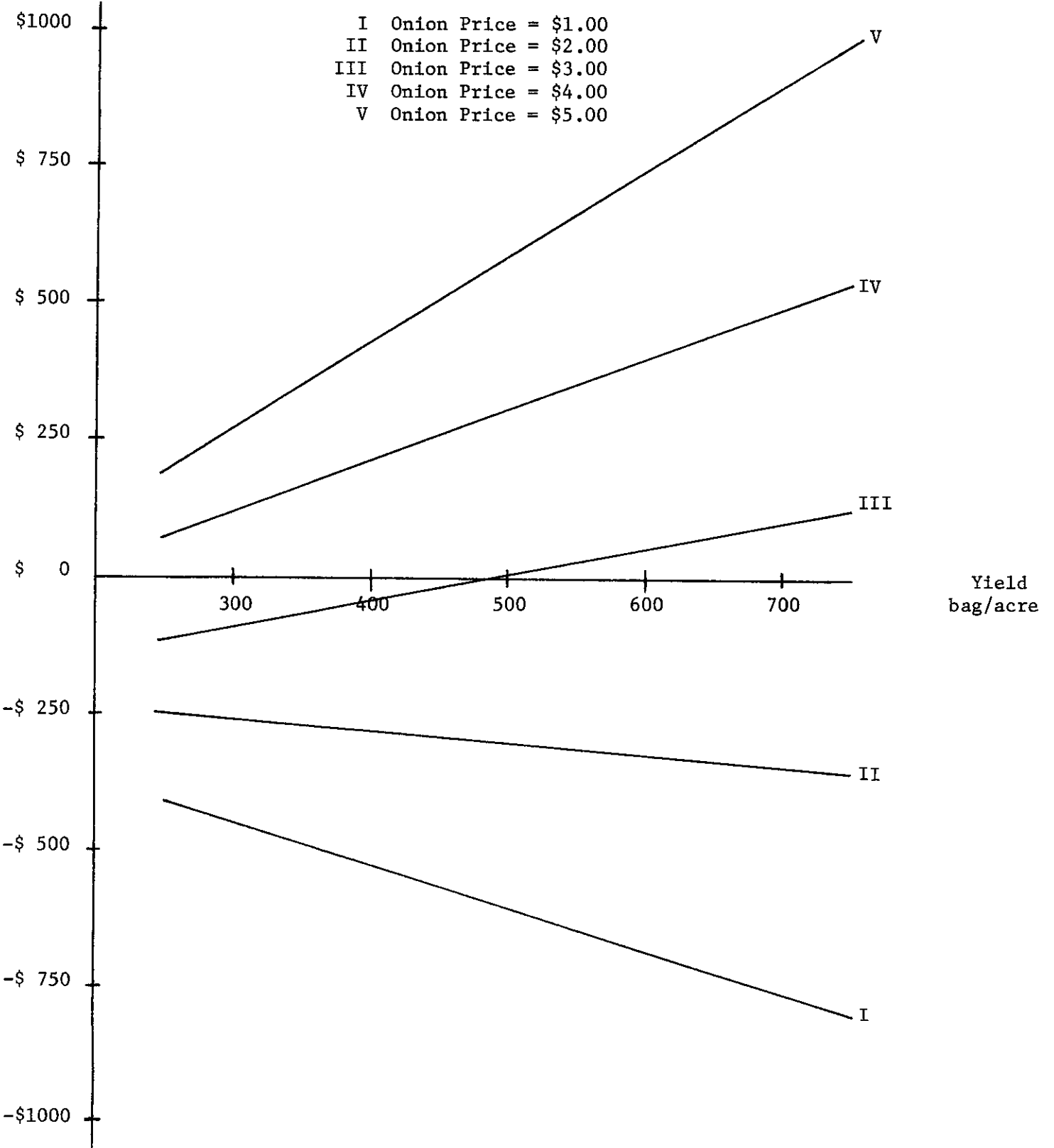


Figure Value of irrigation water applied to Onions in Rio Grande Valley for alternative Onion Prices and yields with expected 1974 costs inflated 10 percent



Value of Irrigation

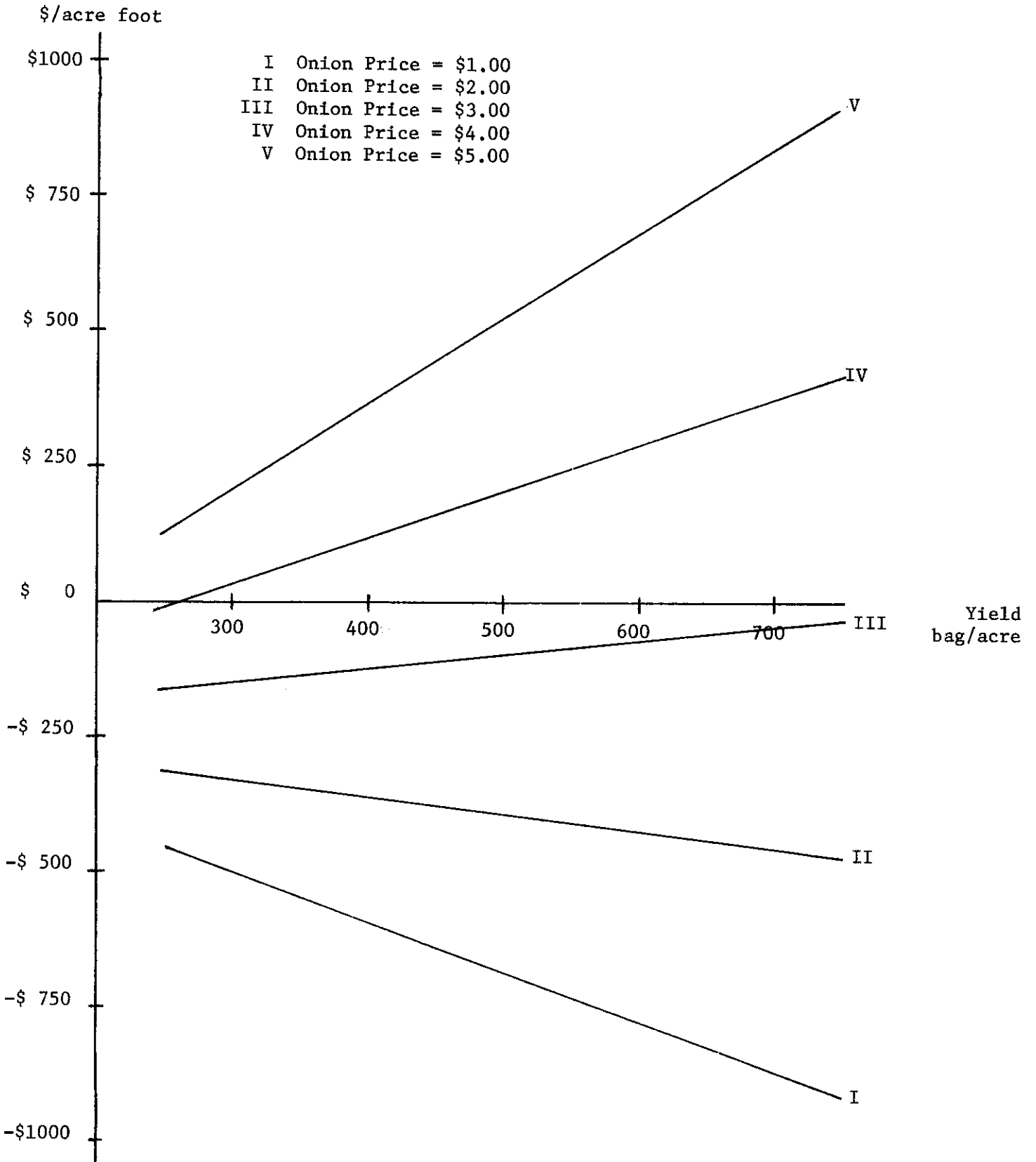


Figure Value of irrigation water applied to Onions in Rio Grande Valley for alternative Onion prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
ORANGES  
MATURE GROVE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		7.0	8.0	9.0	10.0	11.0
PRODUCTION COSTS 1974	*					
PRICES	*					
10.000	*	-299.820	-293.487	-287.153	-280.820	-274.487
20.000	*	-255.487	-242.820	-230.153	-217.487	-204.820
30.000	*	-211.153	-192.153	-173.153	-154.153	-135.153
40.000	*	-166.820	-141.487	-116.153	-90.820	-65.487
50.000	*	-122.487	-90.820	-59.153	-27.487	4.180
10% COST INFLATION	*					
PRICES	*					
10.000	*	-334.469	-328.168	-321.869	-315.568	-309.269
20.000	*	-290.369	-277.769	-265.168	-252.569	-239.969
30.000	*	-246.269	-227.369	-208.469	-189.569	-170.669
40.000	*	-202.169	-176.969	-151.769	-126.569	-101.369
50.000	*	-158.069	-126.569	-95.069	-63.569	-32.069
20% COST INFLATION	*					
PRICES	*					
10.000	*	-369.117	-362.851	-356.584	-350.317	-344.051
20.000	*	-325.250	-312.717	-300.184	-287.650	-275.117
30.000	*	-281.384	-262.584	-243.784	-224.984	-206.184
40.000	*	-237.517	-212.451	-187.384	-162.317	-137.250
50.000	*	-193.651	-162.317	-130.984	-99.651	-68.317

A DRYLAND RETURN OF 70.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

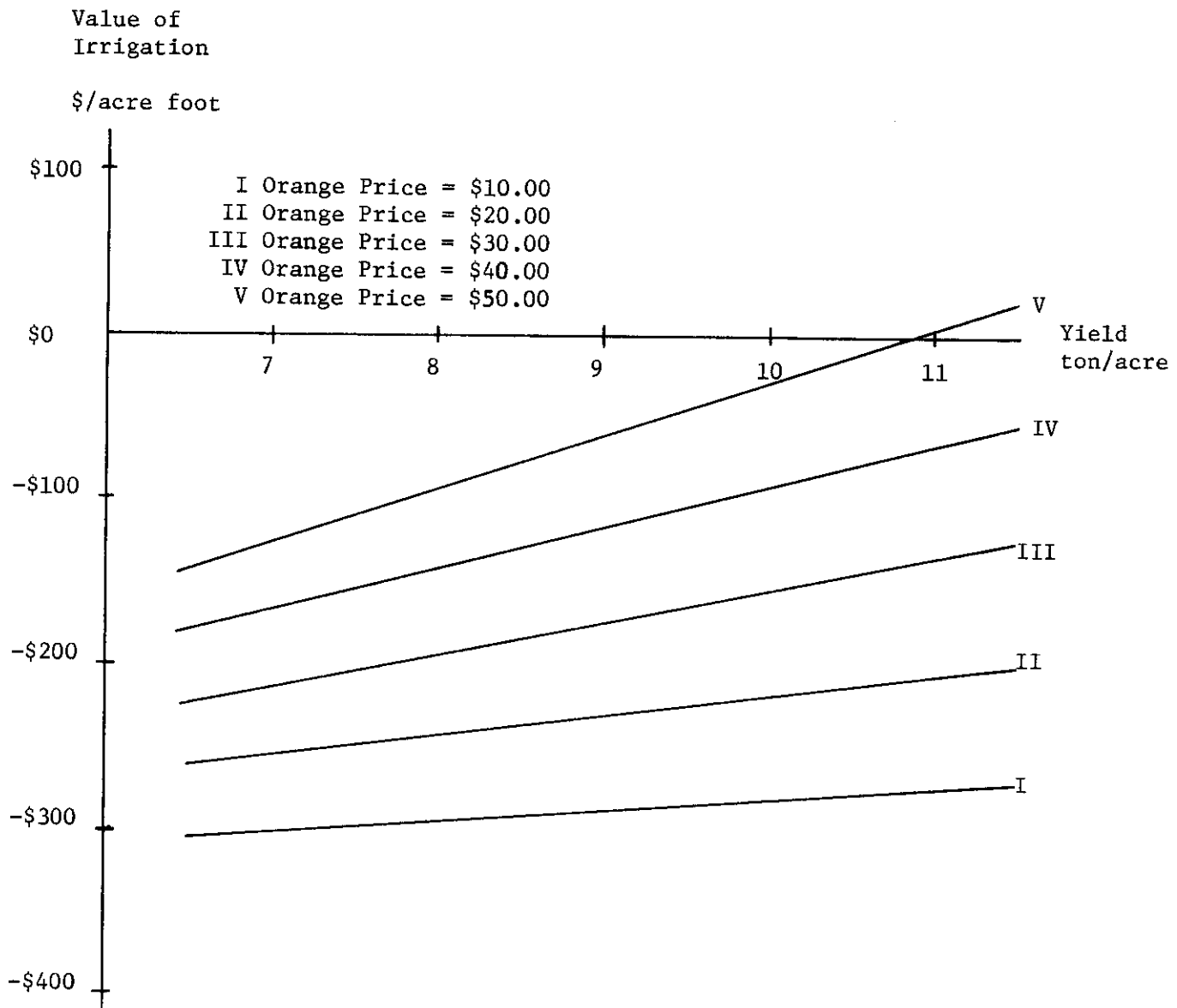


Figure Value of irrigation water applied to Oranges, mature grove, in Rio Grande Valley for alternative Orange prices and yields with expected 1974 costs.

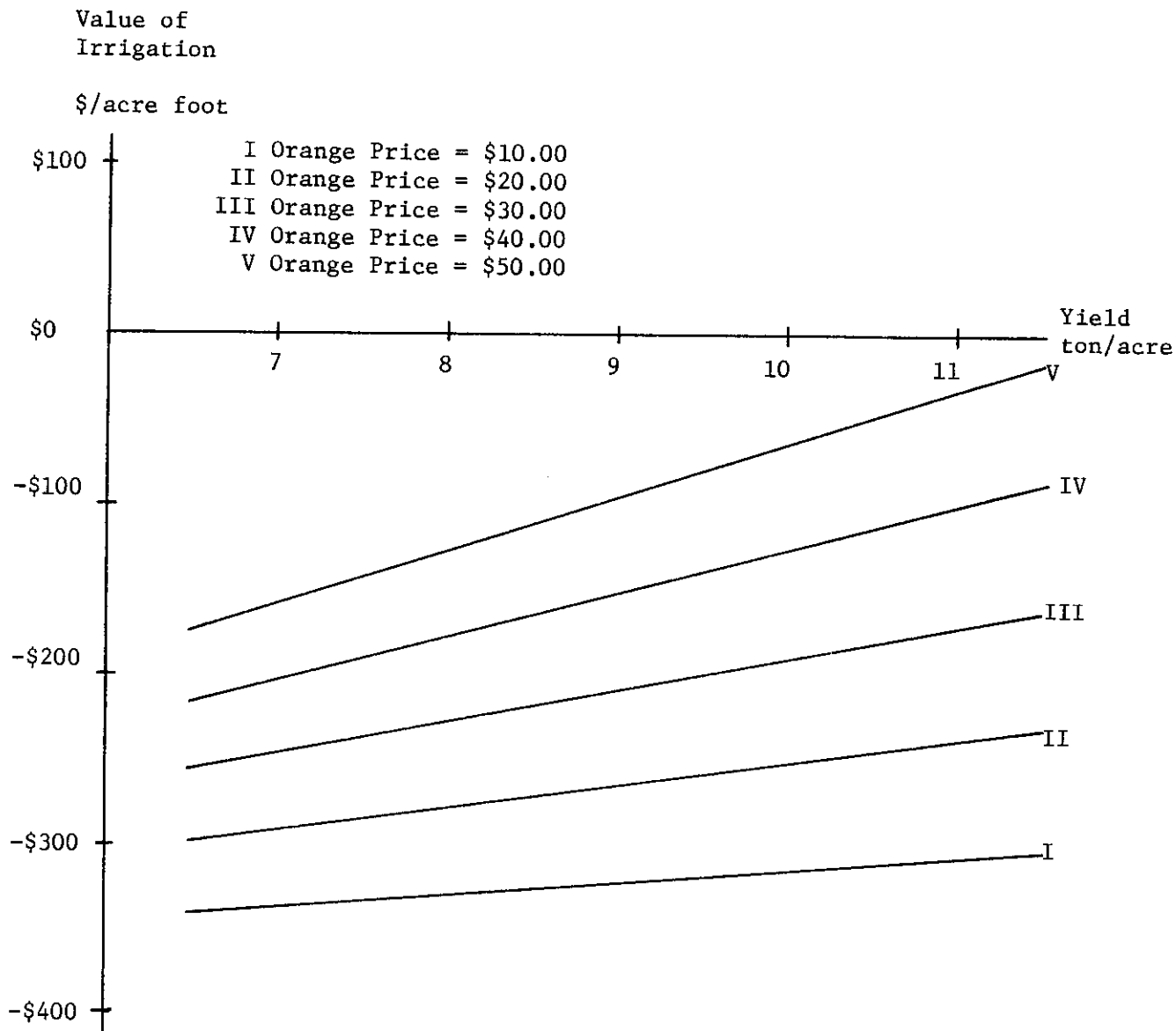


Figure Value of irrigation water applied to Oranges, mature grove, in Rio Grande Valley for alternative Orange prices and yields with expected 1974 costs inflated 10 percent.

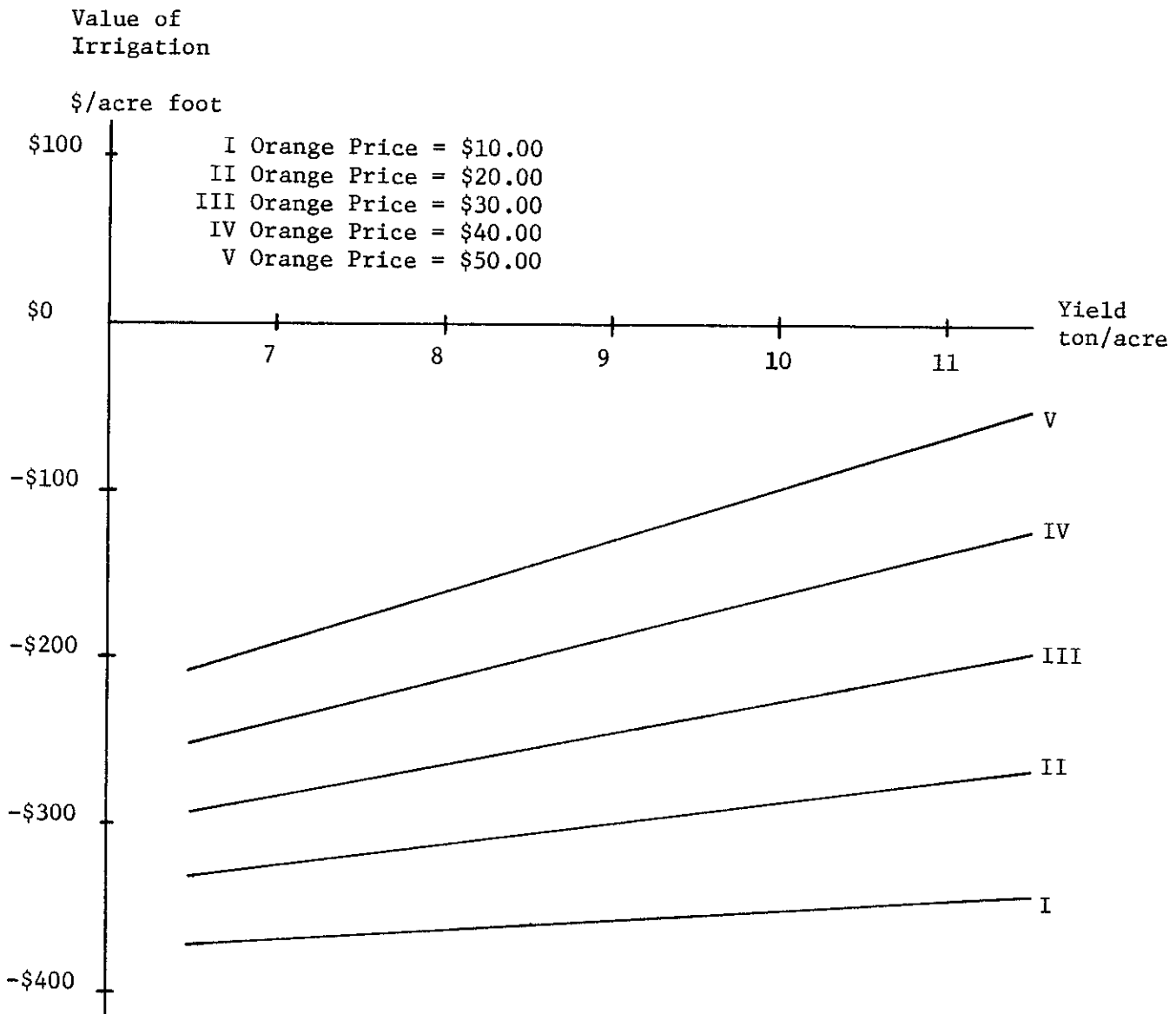


Figure Value of irrigation water applied to Oranges, mature grove, in Rio Grande Valley for alternative Orange prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
SORGHUM SILAGE

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION				
		TCN	PER	ACRE		
	*	9.0	12.0	15.0	18.0	21.0
PRODUCTION COSTS 1974	*					
PRICES	*					
4.500	*	-95.155	-82.330	-69.505	-56.680	-43.855
5.500	*	-86.605	-70.930	-55.255	-39.580	-23.905
6.500	*	-78.055	-59.530	-41.005	-22.480	-3.955
7.500	*	-69.505	-48.130	-26.755	-5.380	15.995
8.500	*	-60.955	-36.730	-12.505	11.720	35.945
10% COST INFLATION	*					
PRICES	*					
4.500	*	-108.720	-95.963	-83.206	-70.448	-57.690
5.500	*	-100.215	-84.623	-69.031	-53.438	-37.845
6.500	*	-91.710	-73.283	-54.855	-36.428	-18.001
7.500	*	-83.206	-61.943	-40.680	-19.418	1.844
8.500	*	-74.701	-50.603	-26.506	-2.408	21.690
20% COST INFLATION	*					
PRICES	*					
4.500	*	-122.286	-109.596	-96.906	-84.216	-71.526
5.500	*	-113.826	-98.316	-82.806	-67.296	-51.786
6.500	*	-105.366	-87.036	-68.706	-50.376	-32.046
7.500	*	-96.906	-75.756	-54.606	-33.456	-12.306
8.500	*	-88.446	-64.476	-40.506	-16.536	7.434

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

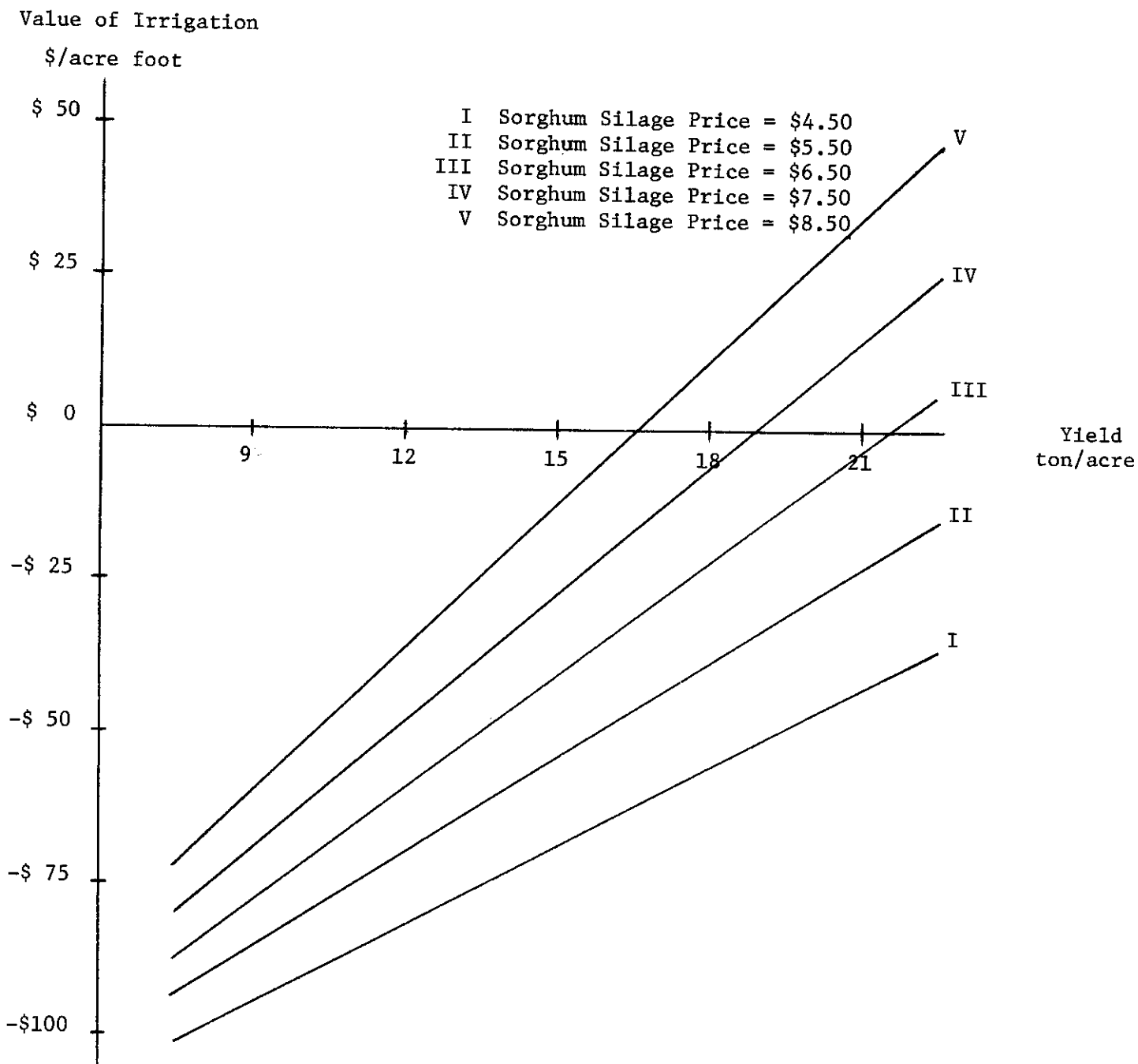


Figure Value of irrigation water applied to Sorghum Silage in Rio Grande Valley for alternative Sorghum Silage prices and yields with expected 1974 costs.

Value of Irrigation

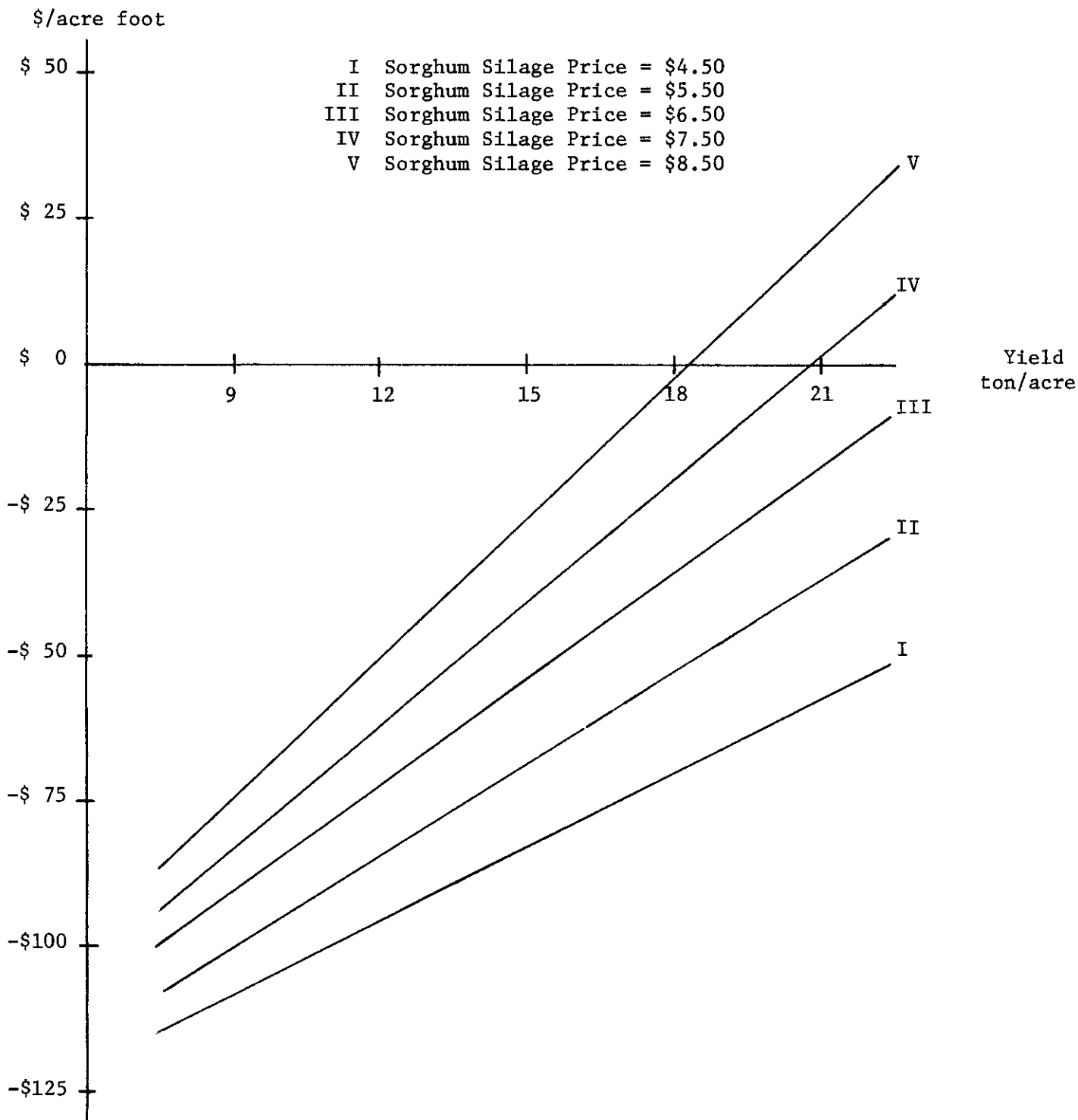


Figure Value of irrigation water applied to Sorghum Silage in Rio Grande Valley for alternative Sorghum Silage prices and yields with expected 1974 costs inflated 10 percent.



Value of Irrigation

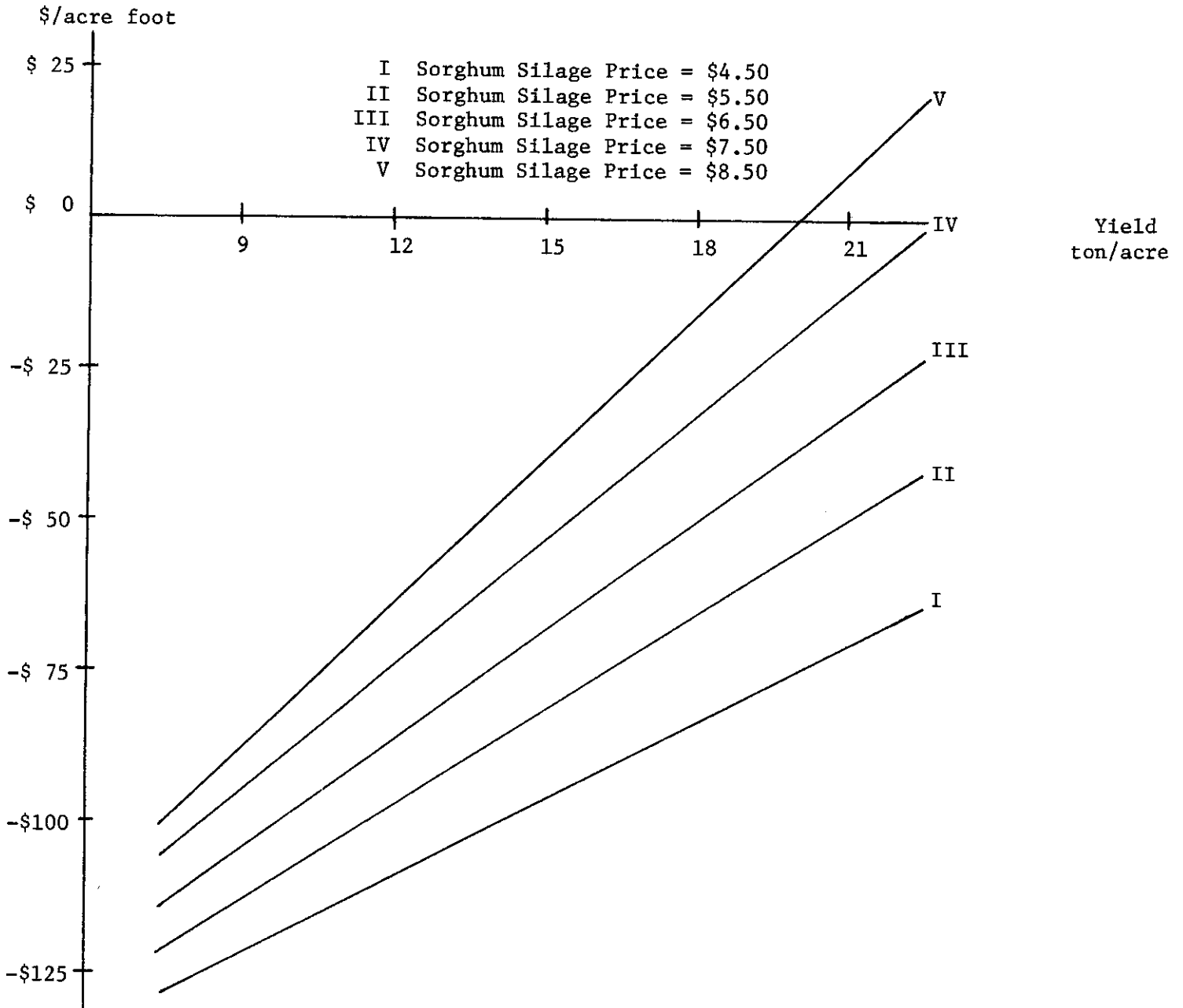


Figure Value of irrigation water applied to Sorghum Silage in Rio Grande Valley for alternative Sorghum Silage prices and yields with expected 1974 costs inflated 20 percent.

## RETURNS PER ACRE FOOT OF IRRIGATION WATER

RIO GRANDE VALLEY  
TOMATOES

PRODUCTION COSTS AND PRODUCT PRICES	*	YIELD UNDER IRRIGATION CRATE PER ACRE				
		135.0	150.0	165.0	180.0	195.0
PRODUCTION COSTS 1974	*					
PRICES	*					
2.000	*	-295.630	-304.630	-313.630	-322.630	-331.630
3.000	*	-167.380	-162.130	-156.880	-151.630	-146.380
4.000	*	-39.130	-19.630	-0.130	19.370	38.870
5.000	*	89.120	122.870	156.620	190.370	224.120
6.000	*	217.370	265.370	313.370	361.370	409.370
10% COST INFLATION	*					
PRICES	*					
2.000	*	-352.193	-365.093	-377.993	-390.893	-403.793
3.000	*	-224.618	-223.343	-222.068	-220.793	-219.518
4.000	*	-97.043	-81.553	-66.143	-50.693	-35.243
5.000	*	30.532	60.157	89.782	119.407	149.032
6.000	*	158.107	201.907	245.707	289.507	333.307
20% COST INFLATION	*					
PRICES	*					
2.000	*	-408.756	-425.556	-442.356	-459.156	-475.956
3.000	*	-281.856	-284.556	-287.256	-289.956	-292.656
4.000	*	-154.956	-143.556	-132.156	-120.756	-109.356
5.000	*	-28.056	-2.556	22.944	48.444	73.944
6.000	*	98.844	138.444	178.044	217.644	257.244

A DRYLAND RETURN OF 30.000 WAS USED FOR THIS ANALYSIS. COSTS INCLUDE TYPICAL COSTS OF PUMPING AND DELIVERING WATER.

Value of Irrigation

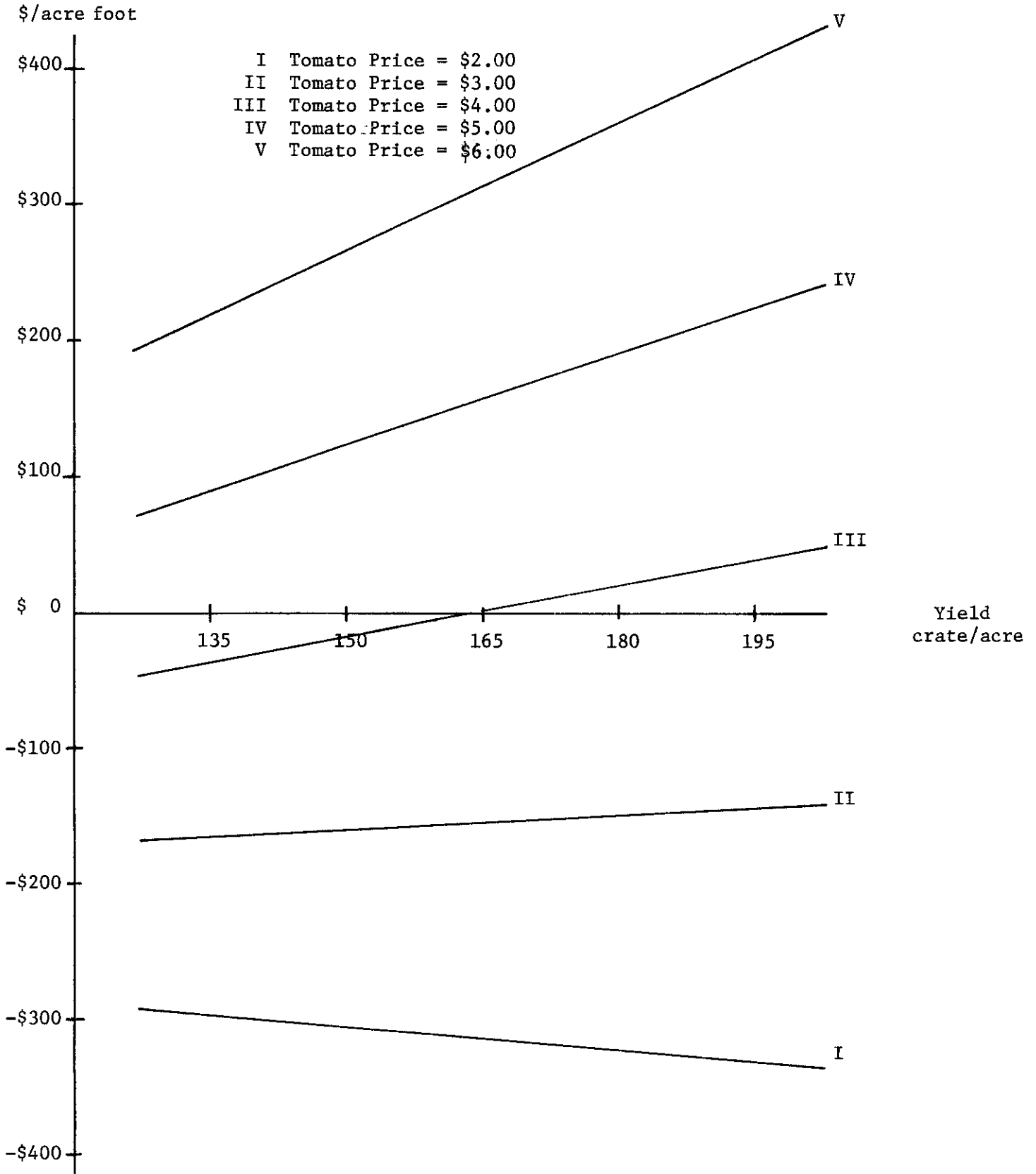


Figure Value of irrigation water applied to Tomatoes in Rio Grande Valley for alternative Tomato prices and yields with expected 1974 costs.

Value of Irrigation

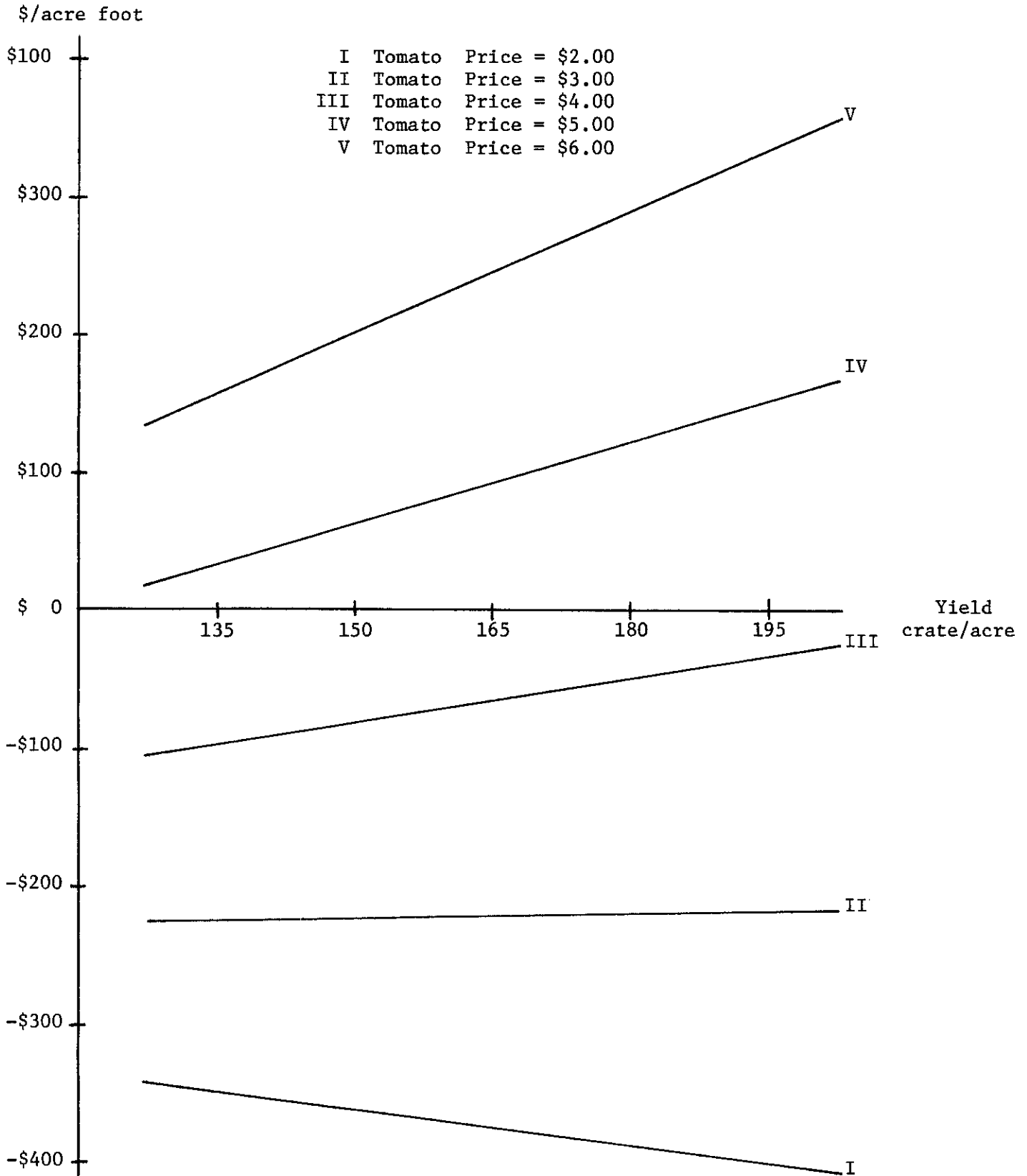


Figure Value of irrigation water applied to Tomatoes in Rio Grande Valley for alternative Tomato prices and yields with expected 1974 costs inflated 10 percent.

Value of Irrigation

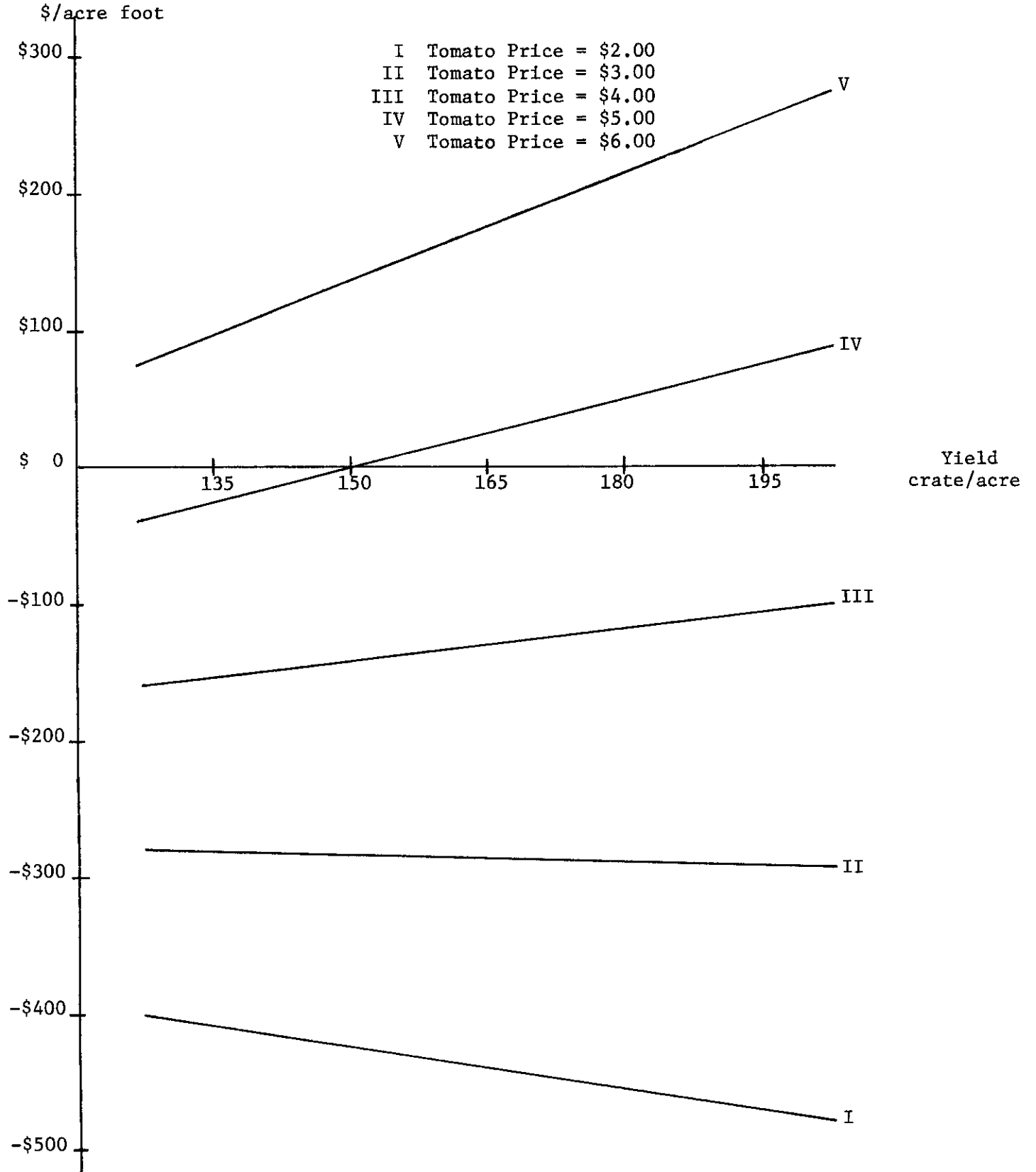


Figure Value of irrigation water applied to Tomatoes in Rio Grande Valley for alternative Tomato prices and yields with expected 1974 costs inflated 20 percent.