UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2001

SAMPLE COSTS TO PRODUCE

BLACKEYE BEANS

Double Cropped

SAN JOAQUIN VALLEY – SOUTH

Tulare County

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UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

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STUDY CONTENTS

INTRODUCTION

Sample costs to produce double cropped blackeye beans (*Vigna unquiculata)* in the southern San Joaquin Valley are shown in this study. The study is intended as a guide only, and can be used to make production decisions, determine potential returns, prepare budgets and evaluate production loans. Practices described are based on the production practices considered typical for this crop and region, but will not apply to every farm situation. Sample costs for labor, materials, equipment and custom services are based on current figures. A "*Your Costs*" column in Tables 1 and 2 is provided to enter your costs.

The hypothetical farm operations, production practices, overhead, and calculations are described under the assumptions. For additional information or an explanation of calculations used in the study call the Department of Agricultural and Resource Economics, University of California, Davis, California, (530) 752-3589 or the local UC Cooperative Extension office.

Sample Cost of Production studies for many commodities are available and can be requested through the Department of Agricultural and Resource Economics, UC Davis, (530) 752-1515. Current studies can be downloaded from the department website http://coststudies.ucdavis.edu or obtained from the local county UC Cooperative Extension offices.

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ASSUMPTIONS

The following assumptions refer to Tables 1 to 6 and pertain to sample costs to produce double cropped blackeye beans in the San Joaquin Valley. Practices described are not University of California recommendations, but represent production practices and materials considered typical of a well-managed bean planting in the San Joaquin Valley. Costs, materials, and practices in this study will not be applicable to all situations. Establishment and cultural practices vary among growers within the region and variations can be significant. *The use of trade names in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products.*

Farm. The hypothetical field and row-crop farm consists of 1,000 non-contiguous acres on which 80 acres are being double cropped to blackeye beans following winter forage. Other crops grown on the acres in rotation with blackeye beans include small grains, alfalfa hay, sugar beets, cotton, and field corn. Roads, equipment yard, irrigation system and farmstead are on twenty acres.

Production Practices and Cultural Inputs

Land Preparation. The ground is disced two times with a stubble disc, then disced two times with an offset or finishing disc to pulverize the surface and incorporate the preplant herbicide. Beds at 30-inch spacings are listed and shaped.

Planting. In June the CB46 variety is planted into moisture with an 8-row planter at 40 pounds (.40 cwt) of seed per acre. The seed is treated with fungicides to protect against seedling diseases.

Fertilization. Rhizobium, a nitrogen fixing bacteria, is added to the seed at planting. No other fertilizer is applied and is seldom required.

Irrigation. The field is furrow irrigated. An irrigation is made in May prior to planting (preirrigation). The next irrigation is made two to seven weeks after planting. In this study the irrigation is made in late June followed by irrigations at approximately 10-day intervals during July and August. The grower uses both well and surface water at an average cost of $3.33 per acre-inch or $40.00 per acre-foot. Effective rainfall is not taken into account, therefore a total of 27-acre inches per year is applied to the crop.

Pest Management. The pesticides and rates mentioned in this cost study are listed in UC *Integrated Pest Management Guidelines: Dry Beans.* For more information on other available pesticides, pest identification, monitoring, and management visit the UC IPM website at www.ipm.ucdavis.edu. Written recommendations are required for many pesticides, and are made by licensed pest control advisors. For information on pesticide use permits, contact the local county agricultural commissioner's office.

Weeds. Prior to planting as a part of land preparation, Treflan is applied with a boom attached to the front of a finish disc. The field is then disced lightly a second time to complete the Treflan incorporation. The field is cultivated with an 8-row cultivator one time in June.

Insects. Lygus bugs (*Lygus hesperus*) are the main insect pest in blackeyes. The lygus bugs can cause reduced yields, affect maturity and seed quality. To control lygus, Dimethoate is sprayed by air in July at early bloom, and again in August. All applications are made by helicopter.

Diseases. Seeds are treated at the warehouse with fungicides to protect against seedling diseases and the treatment is included in the seed cost. Fusarium wilt (*Fusarium oxysporum*) is a major disease of blackeyes and is controlled by planting resistant varieties.

Harvest. The crop is custom harvested. The beans are cut below ground with bean knives attached to the belly of the tractor. Six or eight rows are cut in one pass. After two to three weeks of drying, the beans are windrowed. When the plants are dry and the beans are around 12% moisture, the beans are threshed with a bean harvester, dumped into bulk trucks and delivered to the warehouse. Custom harvest costs are charged on field weight and/or per acre. Cutting and windrowing cost $25.00 per acre. Threshing cost $18.00 per acre plus $1.50 per hundredweight (cwt). Hauling costs are estimated at $0.45 per hundredweight.

Yield. Field weight includes trash, dirt, stones, immature and broken beans. The field weight is this study is 26.09-hundredweight. After cleaning, assuming an 8% clean out, the net yield is 24-hundredweight of U.S. No. 1 beans.

Warehouse. The warehouse charges $3.40 per hundredweight field weight to clean the beans, $0.40 to fumigate, and $12.50 per lot to grade. Lot sizes vary, but are considered to be a set of doubles or 6 bobtails. A set of doubles is calculated to be 1,000 hundredweight and the grading cost in this study was converted to cost per hundredweight. After cleaning, charges are based on clean weight. Insurance cost $0.25 per hundredweight, storage for up to one year cost $0.75 per hundredweight, and bagging into 100 pound bags cost $0.50 per bag.

Returns. Based on current markets for U.S. No. 1 grade blackeyes, an estimated price of $25 per hundredweight clean seed is used to calculate returns. Visual quality is important in blackeye marketing, and sales are based on USDA grade. See *United States Standards for Beans*, a publication of the U.S. Department of Agriculture, Federal Grain Inspection Service. Table 6 shows a range of yields over a range of returns for No. 1 beans.

Labor. Hourly wages for workers are $7.80 per hour for labor and $9.00 per hour for machine labor. Adding 34% for the employers share of federal and state payroll taxes, insurance, and other possible benefits gives the labor rates shown of $10.47 for non-machine labor and $12.06 per hour for machine labor. The labor hours for operations involving machinery are 10% higher than the machine hours to account for extra labor involved in equipment set-up, moving, maintenance and repair.

Overhead and Capital Recovery Costs

Cash Overhead. Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm, not to a particular operation. These costs include property taxes, interest on operating capital, office expense, liability and property insurance, and repairs for buildings and irrigation equipment. Employee benefits, payroll taxes and workman's compensation insurance are included in labor costs and not under cash overhead.

Property Taxes. Counties charge a base property tax rate of 1% on the assessed value of the property. In some counties special assessment districts exist and charge additional taxes on property including equipment, buildings, and improvements. For this study, county taxes are calculated as 1% of the average value of the property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

Interest On Operating Capital. Interest on operating capital is based on cash operating costs and is calculated monthly until harvest at a nominal rate of 10.51% per year. Postharvest operations are discounted back to the last harvest month at the same interest rate so that costs are adjusted to the same position in time.

Insurance. Insurance for farm investments varies depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.666% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs $974 for the entire farm or $0.97 per acre.

Office Expense. Office and business expenses for 1,000 acres are estimated at $35 per producing acre. These expenses include office supplies, telephones, accounting, legal fees, road maintenance, and miscellaneous cash overhead expenses.

Investment Repairs. Annual repairs on investments or capital recovery items that require maintenance are calculated as two percent of the purchase price

Capital Recovery Costs. Farm equipment is purchased either new or used, but the study shows the current purchase price for new equipment. The new purchase price is adjusted to 60% to indicate a mix of new and used equipment. Annual ownership costs for equipment and other investments are shown in Tables 1, 2 and 4.

Capital Recovery Costs. Capital recovery cost is the annual depreciation and interest costs for a capital investment and is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). The capital recovery costs are equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual costs of ownership because it takes the time value of money into account (Boehlje and Eidman). The formula for the calculation of the annual capital recovery costs is ((Purchase Price – Salvage Value) x Capital Recovery Factor) + (Salvage Value x Interest Rate).

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery the remaining value is a percentage of the new cost of the investment (Boehlje and Eidman). The percent remaining value is calculated from equations developed by the American Society of Agricultural Engineers (ASAE) based on equipment type and years of life. The life in years is estimated by dividing the wear out life, as given by ASAE by the annual hours of use in the operation. For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero. The salvage value for land is the purchase price because land does not depreciate. The purchase price and salvage value for equipment and investments are shown in Tables 3 and 5.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. The amortization factor is a table value that corresponds to the interest rate and equipment life.

Interest Rate. The interest rate of 6.70% used to calculate capital recovery cost is the USDA-ERS's ten-year average of California's agricultural sector long-run rate of return to production assets from current income. It is used to reflect the long-term realized rate of return to these specialized resources that can only be used effectively in the agricultural sector. In other words, the next best alternative use for these resources is in another agricultural enterprise.

Irrigation System. Water cost varies across the San Joaquin Valley depending on the irrigation district and well characteristics. The farm has three wells and each is 150 deep. Each well has a 75 horsepower electric pump that pumps from a 100-foot depth. The delivery system is an underground cement pipeline with alfalfa valves. A canal also runs through the ranch and is connected to the delivery system by gravity feed. The cost of the irrigation system includes refurbishment of the wells and the value of the delivery system.

Land. The price of the land includes an already developed well and irrigation system. Land suitable for bean production will vary widely in value across the region. Prices range from $700 per acre to $2,500. The land in this study is owned by the grower and is valued at $2,000 per acre.

Equipment. Equipment costs are composed of three parts: non-cash overhead, cash overhead, and operating costs. Both of the overhead factors have been discussed in previous sections. The operating costs consist of repairs, fuel, and lubrication. The fuel, lube, and repair cost per acre for each operation shown in Table 1 is determined by multiplying the total hourly operating cost in Table 5 for each piece of equipment used for the selected operation by the hours per acre. Tractor time is 10% higher than implement time for a given operation to account for setup, travel and down time.

Repairs, Fuel and Lube. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by the American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum PTO horsepower, and fuel type. The on-farm delivery fuel price is $1.26 per gallon for diesel and $1.51 per gallon for gasoline.

Risk. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic and market risks which affect the profitability and economic viability of blackeye bean production.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

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For information concerning the above mentioned University of California publications contact UC DANR Communications Services at 1-800-994-8849, online at http://danrcs.ucdavis.edu or your local county UC Cooperative Extension office.

UC COOPERATIVE EXTENSION

Table 1. COSTS PER ACRE to PRODUCE BLACKEYE BEANS

Double Cropped

SAN JOAQUIN VALLEY - SOUTH 2001

Operation	Operation Time (Hrs/A)	Cash and Labor Cost per acre: Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent	Total Cost	Your Cost
Cultural:							
Stubble Disc 2X	0.27	4	7	0	0	11	
Weed Control - Preplant Herbicide	0.09	1	1	3	0	6	
Weed Control - Incorporate Herbicide	0.08	1	2	0	0	3	
List Beds	0.14	2	3	0	0	5	
Shape Beds	0.25	4	6	0	0	10	
Plant Beans	0.11	2	3	21	0	26	
Cultivate	0.12	2	1	0	0	3	
Make Tail-Ditch	0.06	1	1	0	0	2	
Close Tail-Ditch	0.06	1	1	0	0	1	
Pre-irrigate	0.21	2	0	17	0	19	
Irrigate	1.26	13	0	73	0	86	
Insect Control – Lygus 2X	0.00	0	0	5	10	28	
Pickup Truck Use	1.15	17	8	0	0	24	
TOTAL CULTURAL COSTS	3.81	49	33	125	18	225	
Harvest:							
Cut & Windrow Beans	0.00	0	0	0	25	25	
Thresh Beans	0.00	0	0	0	57	57	
Haul Beans To Warehouse	0.00	0	0	0	12	12	
TOTAL HARVEST COSTS	0.00	0	0	0	94	94	
Warehouse:							
Clean, Fumigate, Grade	0.00	0	0	0	99	99	
Insurance, Storage, Bag	0.00	0	0	0	36	36	
TOTAL WAREHOUSE COSTS	0.00	0	0	0	135	135	
Interest on operating capital @ 10.51%						11	
TOTAL OPERATING COSTS/ACRE		49	33	125	247	465	
Cash Overhead:							
Office Expense						35	
Liability Insurance						1	
Property Taxes						23	
Property Insurance						2	
Investment Repairs						5	
TOTAL CASH OVERHEAD COSTS						65	
TOTAL CASH COSTS/ACRE						530	
Non-Cash Overhead		Per producing Acre		-- Annual Cost -- Capital Recovery			
Land		2,041		137		137	
Shop Building		87		8		8	
Storage Building		8		1		1	
FuelTanks/Aboveground		7		1		1	
Shop Tools		12		1		1	
Irrigation System		133		11		11	
Equipment		188		25		26	
TOTAL NON-CASH OVERHEAD COSTS		2,475		183		183	
TOTAL COSTS/ACRE						714	

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Table 2. COSTS AND RETURNS PER ACRE to PRODUCE BLACKEYE BEANS

Double Cropped

SAN JOAQUIN VALLEY - SOUTH 2001

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Blackeye #1's	24.00	cwt	25.00	600	
OPERATING COSTS					
Herbicide:					
Treflan HFP	1.25	pint	2.38	3	
Water:					
Water	27.00	acin	3.33	90	
Seed:					
CB 46 Blackeye beans	.040	cwt	50.00	20	
Inoculant:					
Rhizobium	.040	pkg	3.10	1	
Insecticide:					
Dimethoate 4EC	2.00	pint	5.21	10	
Custom:					
Air Appl Helicopter 5g water	2.00	acre	8.92	18	
Cut & Rake beans	1.00	acre	25.00	25	
Thresh-Basic Charge	1.00	acre	18.00	18	
Thresh-Weight Charge	26.09	cwt	1.50	39	
Haul Beans	26.09	cwt	0.45	12	
Clean beans	26.09	cwt	3.40	89	
Fumigate beans	26.09	cwt	0.40	10	
Grade Beans (Lot Charge)	26.09	cwt	0.01	0	
Storage	24.00	cwt	.075	18	
Insurance	24.00	cwt	0.25	6	
Bag Beans-100lb bags	24.00	each	0.50	12	
Labor (machine)	2.81	hrs	12.06	34	
Labor (non-machine)	1.47	hrs	10.47	15	
Fuel - Gas	3.69	gal	1.51	6	
Fuel - Diesel	10.98	gal	1.26	14	
Lube				3	
Machinery repair				11	
Interest on operating capital @ 10.51%				11	
TOTAL OPERATING COSTS/ACRE				465	
NET RETURNS ABOVE OPERATING COSTS				135	
CASH OVERHEAD COSTS:					
Office Expense				35	
Liability Insurance				1	
Property Taxes				23	
Property Insurance				2	
Investment Repairs				5	
TOTAL CASH OVERHEAD COSTS/ACRE				65	
TOTAL CASH COSTS/ACRE				542	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Land				137	
Shop Building				8	
Storage Building				1	
FuelTanks/Aboveground				1	
Shop Tools				1	
Irrigation System				11	
Equipment				25	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				183	
TOTAL COSTS/ACRE				714	
NET RETURNS ABOVE TOTAL COSTS				-114	

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Table 3. MONTHLY CASH COSTS PER ACRE to PRODUCE BLACKEYE BEANS

Double Cropped

SAN JOAQUIN VALLEY - SOUTH 2001

Beginning APR 01 Ending JAN 02	APR 01	MAY 01	JUN 01	JUL 01	AUG 01	SEP 01	OCT 01	NOV 01	DEC 01	JAN 02	TOTAL
Cultural:											
Stubble Disc 2X		11									11
Weed Control - Preplant		6									6
Incorporate Herbicides		3									3
List Beds		5									5
Make Tail-Ditch		1	1	1							2
Pre-irrigate		19									19
Close Tail-Ditch		0	0			0					1
Shape Beds		10									10
Plant Beans			26								26
Irrigate			15	36	36						86
Cultivate			3								3
Insect Control - Lygus 2X				14	14						28
Pickup Truck Use		4	4	4	4	4	4				24
TOTAL CULTURAL COSTS		59	49	54	54	5	4				255
Harvest:											
Cut & Windrow Beans						25					25
Thresh Beans							57				57
Haul Beans to Warehouse							12				12
Clean, Fumigate, Grade							99				99
Insurance, Storage, Bag							36				36
TOTAL HARVEST COSTS						25	204				229
Interest on operating capital		1	1	1	2	2	4				11
TOTAL OPERATING COSTS/ACRE		59	50	56	56	32	213				465
Overhead:											
Office Expense		6	6	6	6	6	6				35
Liability Insurance		0	0	0	0	0	0				1
Property Taxes				11						11	23
Property Insurance				1						1	2
Investment Repairs		0	0	0	0	0	0	0	0	0	5
TOTAL CASH OVERHEAD COSTS	0	6	6	19	6	6	6	0	0	13	65
TOTAL CASH COSTS/ACRE	0	66	57	74	62	38	219	0	0	13	530

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Table 4. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, and BUSINESS OVERHEAD COSTS

SAN JOAQUIN VALLEY - SOUTH 2001

ANNUAL EQUIPMENT COSTS

						Cash Overhead		
Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Total
01	110 hp 2wd Tractor	55,000	12	13,751	6,032	229	344	6,605
01	170 hp 4wd Tractor	136,000	12	34,002	14,915	566	850	16,331
01	Bed Shaper - 6 Row	6,400	15	614	664	23	35	723
01	Cultivator-8 Row	4,750	15	456	493	17	26	536
01	Disc - Offset 21'	34,000	15	3,264	3,530	124	186	3,840
01	Disc - Stubble 16'	18,622	15	1,788	1,933	68	102	2,103
01	Ditcher - V	4,505	12	624	523	17	26	565
01	Lister - 6 Row	4,950	15	475	514	18	27	559
01	Pickup - Used	8,300	2	350	4,402	29	43	4,474
01	Pickup Truck - 1/2	24,000	3	5,600	7,348	99	148	7,595
01	Planter - Air 8Row	25,000	15	2,400	2,595	91	137	2,824
01	Rear Blade - 8'	1,834	18	122	175	7	10	191
01	Saddle Tank 300Gal	3,218	10	569	410	13	19	442
01	Spray Boom - 25'	586	10	104	75	2	3	80
TOTAL		327,165		64,119	43,609	1,303	1,956	46,869
	60% of New Cost *	196,299		38,471	26,166	782	1,174	28,121

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

					Cash Overhead			
Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Repairs	Total
FuelTanks/Aboveground	6,514	20		601	22	33	130	785
Irrigation System	130,600	25		10,906	435	653	2,612	14,605
Land – 1000 acres	2,000,000	50	2,000,000	134,000	0	20,000	0	154,000
Shop Building	85,000	20		7,837	283	425	1,700	10,245
Shop Tools	12,000	20		1,106	40	60	240	1,446
Storage Building	7,500	20		692	25	38	150	904
TOTAL INVESTMENT	2,241,614		2,000,000	155,141	805	21,208	4,832	181,986

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Liability Insurance	1,000	acre	0.97	970
Office Expense	980	acre	35.00	34,300

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Table 5. HOURLY EQUIPMENT COSTS

SAN JOAQUIN VALLEY - SOUTH 2001

			COSTS PER HOUR						
		Actual		Cash Overhead		Operating			
Yr	Description	Hours Used	Capital Recovery	Insur-ance	Taxes	Repairs	Fuel & Lube	Total Oper.	Total Costs/Hr
01	110 hp 2wd Tractor	982.20	3.68	0.14	0.21	2.42	6.76	9.18	13.21
01	170 hp 4wd Tractor	1,000.20	8.95	0.34	0.51	5.98	14.30	20.28	30.08
01	Bed Shaper - 6 Row	123.00	3.24	0.11	0.17	1.23	0.00	1.23	4.76
01	Cultivator-8 Row	116.60	2.54	0.09	0.13	0.91	0.00	0.91	3.67
01	Disc - Offset 21'	132.90	15.94	0.56	0.84	5.21	0.00	5.21	22.55
01	Disc - Stubble 16'	132.60	8.75	0.31	0.46	2.86	0.00	2.86	12.37
01	Ditcher - V	166.80	1.88	0.06	0.09	1.21	0.00	1.21	3.25
01	Lister - 6 Row	133.00	2.32	0.08	0.12	0.95	0.00	0.95	3.48
01	Pickup - Used	500.00	5.28	0.03	0.05	0.47	4.34	4.81	10.18
01	Pickup Truck - 1/2	666.20	6.62	0.09	0.13	1.80	6.51	8.31	15.15
01	Planter - Air 8Row	80.20	19.42	0.68	1.02	4.88	0.00	4.88	26.00
01	Rear Blade - 8'	166.80	0.63	0.02	0.04	0.27	0.00	0.27	0.96
01	Saddle Tank 300Gal	149.30	1.65	0.05	0.08	0.86	0.00	0.86	2.63
01	Spray Boom - 25'	149.30	0.30	0.01	0.01	0.16	0.00	0.16	0.48

UC COOPERATIVE EXTENSION
Table 6. RANGING ANALYSIS
SAN JOAQUIN VALLEY - SOUTH 2001
Double Cropped

COSTS PER ACRE AT **VARYING YIELD** TO PRODUCE BLACKEYE BEANS

	YIELD (cwt/acre)						
	18.00	20.00	22.00	**24.00**	26.00	28.00	30.00
OPERATING COSTS/acre:							
Cultural Cost	225	225	225	225	225	225	225
Harvest Cost	81	85	90	94	98	102	107
Warehouse Cost	102	113	124	135	147	158	169
Interest on operating capital	10	11	11	11	11	11	11
TOTAL OPERATING COSTS/acre	418	434	449	465	481	496	512
Total Operating Cost/cwt	23	22	20	19	18	18	17
CASH OVERHEAD COSTS/acre	65	65	65	65	65	65	65
TOTAL CASH COSTS/acre	483	499	515	530	546	562	577
Total Cash Cost/cwt	27	25	23	22	21	20	19
NON-CASH OVERHEAD COSTS/acre	183	183	183	183	183	183	183
TOTAL COSTS/acre	667	682	698	714	729	745	761
Total Costs/cwt	37	34	32	30	28	27	25

NET RETURNS PER ACRE **ABOVE OPERATING COSTS** FOR BLACKEYE BEANS

PRICE	YIELD (cwt/acre)						
$/cwt	18.00	20.00	22.00	**24.00**	26.00	28.00	30.00
17.50	-103	-84	-64	-45	-26	-6	13
20.00	-58	-34	-9	15	39	64	88
22.50	-13	16	46	75	104	134	163
25.00	32	66	101	**135**	169	204	238
27.50	77	116	156	195	234	274	313
30.00	122	166	211	255	299	344	388
32.50	167	216	266	315	364	414	463

NET RETURN PER ACRE **ABOVE CASH COST** FOR BLACKEYE BEANS

PRICE	YIELD (cwt/acre)						
$/cwt	18.00	20.00	22.00	**24.00**	26.00	28.00	30.00
17.50	-168	-149	-130	-110	-91	-72	-52
20.00	-123	-99	-75	-50	-26	-2	23
22.50	-78	-49	-20	10	39	68	98
25.00	-33	1	35	**70**	104	138	173
27.50	12	51	90	130	169	208	248
30.00	57	101	145	190	234	278	323
32.50	102	151	200	250	299	348	398

NET RETURNS PER ACRE **ABOVE TOTAL COST** FOR BLACKEYE BEANS

PRICE	YIELD (cwt/acre)						
$/cwt	18.00	20.00	22.00	**24.00**	26.00	28.00	30.00
17.50	-352	-332	-313	-294	-274	-255	-236
20.00	-307	-282	-258	-234	-209	-185	-161
22.50	-262	-232	-203	-174	-144	-115	-86
25.00	-217	-182	-148	**-114**	-79	-45	-11
27.50	-172	-132	-93	-54	-14	25	64
30.00	-127	-82	-38	6	51	95	139
32.50	-82	-32	17	66	116	165	214