

Southwestern Idaho and Eastern Oregon: Treasure Valley**Onions**

Mike Thornton, Neil R. Rimbey, and Kate Painter

**Southwestern Idaho****Background and Assumptions**

The University of Idaho's costs and returns estimates are based on economic costs, not accounting costs. All resources are valued at a market rate or "opportunity cost." Input prices are taken from the U of I's annual survey of agricultural supply companies. The selling price is a historical average, not a current year's price. The cost estimate shown here is typical for growing onions in southwestern Idaho and eastern Oregon. Although production practices may be similar for individual farms, each farm has a unique set of resources with different levels of productivity, different production problems, and therefore different costs. Farm size, crop rotation, age and type of equipment, and the quality and intensity of management are all crucial factors that influence costs.

The Model Farm

This costs and returns estimate models a 1,200-acre farm with 150 acres in onions. In addition to onions, the farm grows 300 acres of potatoes or sugarbeets, 150 acres of alfalfa seed or dry beans, 300 acres of grain, and 300 acres of corn. The farm uses a concrete ditch and siphon tube irrigation system with water delivered to the farm from an irrigation district. The district charges a flat fee per acre for water.

Production Practices

In the fall after harvest of the grain crop that precedes onions, the ground is disked, ripped twice, and roller harrowed. The field is bedded when the field is fall fumigated. The following April, the beds are harrowed-off and planted to onions. The field is then corrugated and cultivated three times over the next two months. In September, onions are topped, mechanically lifted for curing, then loaded onto trucks and hauled to the packing shed or storage facility. The price shown in the revenue section reflects a weighted-average of the different markets where onions are typically sold. The assumption is that one third of the crop is sold on a pre-season contract, another third is sold on the open market at harvest, and the remaining third is stored commercially and marketed later in the year. Fertilizer is split applied in the fall and spring. Fall fertilizer is custom broadcast, while additional nitrogen is custom side dressed in two spring applications. Weed control practices include tillage, cultivation, hand labor, and herbicides. A pre-emergence herbicide tank mix is applied after planting followed by 5 post-emergence

applications from April through June. There are two contract hand-weeding operations during this same period. Two insecticides are ground applied in June to control. Four additional insecticides are applied by air from June through July. Three fungicide applications are made by air from July through August. The first two are tank mixed with an insecticide and the last is applied with a sprout inhibitor. Onions receive about 30 inches of water during the growing season from 15 irrigations: 2 inches in April before planting, 2 inches in May, 6 inches in June, 12 inches in July, and 6 inches in August. Two inches of water applied the previous fall are also credited to onions.

Resources: Machinery, Land, Labor, and Capital

Table 4 lists hourly equipment costs for the tractors, trucks, and other farm equipment, along with total annual hours of use for this crop and for all crops in the model farm. Except for trucks, machinery is valued at 75 percent of new replacement cost. In the years between equipment price surveys, which are done approximately every five years, machinery prices are adjusted using USDA's Farm Machinery Prices Paid Index. Machinery cost assumptions are listed in Table 5, and include purchase price, salvage value, annual capital recovery costs, and cash overhead costs.

Land rent for onion production is estimated to be \$400 per acre. The cost of the irrigation system is included in the rent.

The University of Idaho uses the budget generator program *Budget Planner* from the University of California-Davis to produce the various tables shown in this publication. Machinery operating and ownership costs are calculated based on engineering equations in this program. Machinery operating costs include fuel, lubricants and repairs.

The cost of labor used in this study includes a base wage, plus a percentage to account for various payroll taxes (FICA, SUTA & FUTA), and workman's compensation, as well as benefits such as paid vacation/personal leave days, health insurance and bonuses. Labor is classified by the type of work performed. Labor classifications, labor rates and payroll overhead are shown below.

Labor Values

Labor Class	Base Rate	Payroll Overhead	Effective Rate
General Farm Labor	\$8.90	15%	\$10.25
Truck Drivers	\$12.00	15%	\$13.80
Equipment Operators	\$14.25	25%	\$17.80

Based on the speed, width and overall field efficiency, *Budget Planner* calculates equipment operator labor hours for all field operations except those performed on a custom basis. Custom operations are listed separately. General farm labor accounts for extra field labor used during planting or harvest.

A management fee is charged based on approximately 5% of total production costs.

Capital and Overhead Costs

Interest on operating capital is charged from the time an input is applied until harvest and is

calculated at a nominal rate of 5.75 percent. Interest on intermediate term capital, primarily equipment, is calculated using a rate of 6.0 percent. A general overhead charge, calculated at approximately 2.5 percent of operating expenses, is included to cover unallocated whole-farm costs such as office expenses, legal and accounting fees, cell phones, internet service and utilities. Irrigation power is not included as part of general farm utilities.

Sensitivity Analysis

Impacts of changes in crop price and yield assumptions on net returns, known as sensitivity or ranging analysis, can be found in Table 6.

The practices and chemicals specified in this publication are based on survey information representative of typical operations. They are not recommendations. ALWAYS read and follow the instructions printed on the pesticide label. Due to constantly changing pesticide laws and labels, some pesticides may have been cancelled or had certain uses prohibited.

Use pesticides with care. Do not use a pesticide unless both the pest and the plant, animal or other applicable site are specifically listed on the label. Store pesticides in their original containers and keep them out of the reach of children, pets and livestock. To simplify information, trade names have been used. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.

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TABLE 1. COSTS AND RETURNS PER ACRE TO PRODUCE ONIONS

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Yellow Onions	550.00	cwt	8.25	4,537.50	
TOTAL GROSS RETURNS	550.00	cwt		4,537.50	
OPERATING COSTS					
Seed:				465.30	
Onion Seed - Yellow: C&P	0.33	pail	1325.00	437.25	
Onion Seed: Prime, Treat & Coat	0.33	pail	85.00	28.05	
Fertilizer:				310.95	
Dry Nitrogen	50.00	lb	0.66	33.00	
Dry P2O5	115.00	lb	0.53	60.95	
Micronutrients	2.00	acre	6.00	12.00	
Liquid Nitrogen	250.00	lb	0.82	205.00	
Pesticide:				709.60	
Vapam HL 42%	40.00	gal	5.55	222.00	
Lorsban 15G	6.00	lb	2.10	12.60	
Roundup Power Ma 4.5	16.00	fl oz	0.20	3.20	
Prowl H2O	2.50	pt	5.85	14.63	
Buctril 2EC	2.00	pint	7.52	15.04	
Poast 1.5EC	1.00	pint	13.15	13.15	
Methylated Seed Oil	2.00	pint	2.50	5.00	
Dual II Magnum 7.64EC	1.00	pint	18.25	18.25	
Goal 2XL	1.00	pint	10.95	10.95	
Success	12.00	fl oz	6.10	73.20	
AZA-Direct	24.00	fl oz	1.59	38.16	
Lannate LV	9.00	pint	10.15	91.35	
Carzol	1.00	lb	50.70	50.70	
Dithane F45 Rainshield	3.00	qt	9.30	27.90	
Quadris Flowable	15.00	fl oz	2.40	36.00	
MH30 Sprout Inhibitor	1.33	gal	16.30	21.68	
Pristine	18.00	oz	3.10	55.80	
Custom:				389.75	
Custom Fumigate - Deep Injection	1.00	acre	38.00	38.00	
Custom Sidedress Fertilizer	2.00	acre	13.00	26.00	
Hand Weed Onions	2.00	acre	140.00	280.00	
Custom Air Spray - 5 gal.	5.00	acre	9.15	45.75	
Irrigation:				51.60	
Water Assessment	1.00	acre	48.85	48.85	
Irrig. Repairs - Concrete Ditch	1.00	acre	2.75	2.75	
Other:				83.50	
Crop Insurance	1.00	acre	30.00	30.00	
Marketing	535.00	cwt	0.10	53.50	
Storage:				316.25	
Storage Op. Costs	275.00	cwt	0.20	55.00	
Storage Bin Rental	275.00	cwt	0.95	261.25	
Custom and Consultants:				28.50	
Custom Fertilize: Row Crops	1.00	acre	8.50	8.50	
Consultant & Soil Testing	1.00	acre	20.00	20.00	
Labor				251.90	
Equipment Operator Labor	5.65	hrs	17.80	100.56	
Truck Driver Labor	4.90	hrs	13.80	67.56	
Irrigation Labor	5.25	hrs	12.60	66.15	
General Farm Labor	1.72	hrs	10.25	17.63	
Machinery				180.63	
Fuel-Gas	2.52	gal	3.70	9.32	
Fuel-Diesel	27.11	gal	3.60	97.58	
Fuel-Road Diesel	2.66	gal	4.10	10.89	
Lube				17.67	
Machinery Repair				45.17	
Interest on Operating Capital @ 5.75%				67.89	
TOTAL OPERATING COSTS/ACRE				2,855.87	
TOTAL OPERATING COSTS/CWT				5.19	
NET RETURNS ABOVE OPERATING COSTS				1,681.63	

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TABLE 1. CONTINUED

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
CASH OVERHEAD COSTS					
General Overhead				66.00	
Land Rent				400.00	
Management Fee				162.00	
Property Taxes				0.00	
Property Insurance				5.82	
Investment Repairs				0.00	
TOTAL CASH OVERHEAD COSTS/ACRE				633.82	
TOTAL CASH OVERHEAD COSTS/CWT				1.15	
TOTAL CASH COSTS/ACRE				3,489.69	
TOTAL CASH COSTS/CWT				6.34	
NET RETURNS ABOVE CASH COSTS				1,047.81	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Equipment				192.89	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				192.89	
TOTAL NON-CASH OVERHEAD COSTS/CWT				0.35	
TOTAL COST/ACRE				3,682.58	
TOTAL COST/CWT				6.70	
NET RETURNS ABOVE TOTAL COST				854.42	

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TABLE 2. COSTS PER ACRE TO PRODUCE ONIONS

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Your Cost
		Labor Cost	Fuel	Lube &Repairs	Material Cost	Custom/ Rent		
Preharvest:								
Irrigate	5.25	66.15	0.00	0.00	0.00	0.00	66.15	
Disk	0.14	3.07	4.08	1.73	0.00	0.00	8.88	
Fertilize	0.00	0.00	0.00	0.00	319.45	26.00	345.45	
Rip/Subsoil	0.36	7.68	14.06	5.73	0.00	0.00	27.47	
Harrow	0.16	3.34	3.81	1.76	0.00	0.00	8.91	
Plane	0.12	2.59	3.44	1.34	0.00	0.00	7.38	
Fumigate	0.00	0.00	0.00	0.00	222.00	38.00	260.00	
Crop Insurance	0.00	0.00	0.00	0.00	30.00	0.00	30.00	
Irrigation Water Assessments	0.00	0.00	0.00	0.00	48.85	0.00	48.85	
Irrigation Repairs	0.00	0.00	0.00	0.00	2.75	0.00	2.75	
Harrow Off	0.10	2.07	2.37	0.67	0.00	0.00	5.11	
Plant	0.19	8.01	5.33	2.95	477.90	0.00	494.19	
Corrugate	0.14	2.94	3.90	1.27	0.00	0.00	8.10	
Ground Spray	0.85	18.08	12.35	3.77	191.58	0.00	225.78	
Pull Ends	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cultivate	0.41	8.81	10.07	3.66	0.00	0.00	22.54	
Hand Weed	0.00	0.00	0.00	0.00	0.00	280.00	280.00	
Aerial Application	0.00	0.00	0.00	0.00	283.43	45.75	329.18	
Consultant	0.00	0.00	0.00	0.00	20.00	0.00	20.00	
General Pickup Use	0.88	18.87	9.32	2.88	0.00	0.00	31.07	
General Truck Use	0.08	1.78	0.85	0.23	0.00	0.00	2.87	
TOTAL PREHARVEST COSTS	8.68	143.41	69.58	26.00	1,595.95	389.75	2,224.69	
Harvest:								
Top Onions	0.26	5.59	6.39	2.24	0.00	0.00	14.22	
Split Centers	0.23	4.90	3.35	0.81	0.00	0.00	9.06	
Lift Onions	0.22	4.60	6.11	2.07	0.00	0.00	12.78	
Load Onions	0.57	25.84	22.33	13.92	0.00	0.00	62.10	
Crop Hauling	4.08	67.56	10.04	17.78	0.00	0.00	95.39	
Assessments	0.00	0.00	0.00	0.00	53.50	0.00	53.50	
TOTAL HARVEST COSTS	5.36	108.50	48.21	36.84	53.50	0.00	247.05	
Storage:								
Storage	0.00	0.00	0.00	0.00	316.25	0.00	316.25	
TOTAL STORAGE COSTS	0.00	0.00	0.00	0.00	316.25	0.00	316.25	
Interest on Operating Capital at 5.75%							67.89	
TOTAL OPERATING COSTS/ACRE	14.04	251.90	117.79	62.84	1,965.70	389.75	2,855.87	

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TABLE 2. CONTINUED

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Your Cost
		Labor Cost	Fuel	Lube &Repairs	Material Cost	Custom/ Rent		
CASH OVERHEAD:								
General Overhead							66.00	
Land Rent							400.00	
Management Fee							162.00	
Property Taxes							0.00	
Property Insurance							5.82	
Investment Repairs							0.00	
TOTAL CASH OVERHEAD COSTS/ACRE							633.82	
TOTAL CASH COSTS/ACRE							3,489.69	
NON-CASH OVERHEAD:								
		Per Producing Acre		Annual Cost Capital Recovery				
Equipment		2,067.52		192.89			192.89	
TOTAL NON-CASH OVERHEAD COSTS							192.89	
TOTAL COSTS/ACRE							3,682.58	

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TABLE 3. CONTINUED

	SEP 12	OCT 12	NOV 12	DEC 12	JAN 13	FEB 13	MAR 13	APR 13	MAY 13	JUN 13	JUL 13	AUG 13	SEP 13	Total
Property Taxes														0.00
Property Insurance								5.82						5.82
Investment Repairs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OVERHEAD COSTS	19.00	19.00	19.00	19.00	19.00	19.00	19.00	24.82	19.00	19.00	19.00	19.00	19.00	633.82
TOTAL CASH COSTS/ACRE	26.06	450.80	23.72	23.73	23.75	23.76	23.77	656.35	357.49	487.66	281.19	132.13	598.28	3,489.69

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TABLE 4. HOURLY EQUIPMENT COSTS

Yr	Description	ONIONS	Total	Cash Overhead			Operating		Total Oper.	Total Costs/Hr.
		Hours Used	Hours Used	Capital Recovery	Insur- ance	Taxes	Lube& Repairs	Fuel		
13	4-wheeler	20	120	4.91	0.13	0.00	0.68	1.22	1.90	6.94
13	Landplane - 16'	18	125	8.83	0.24	0.00	2.42	0.00	2.42	11.49
13	Offset Disk - 15'	22	80	22.83	0.63	0.00	3.35	0.00	3.35	26.82
13	Onion Loader	86	90	59.04	1.64	0.00	10.67	0.00	10.67	71.35
13	Onion Rod Lifter	32	35	12.34	0.34	0.00	0.94	0.00	0.94	13.62
13	Onion Row Splitter	34	35	6.66	0.17	0.00	0.19	0.00	0.19	7.02
13	Pickup 1 - 3/4 ton	56	750	8.17	0.15	0.00	3.73	12.21	15.94	24.26
13	Pickup 2 - 3/4 ton	56	750	8.17	0.15	0.00	3.73	12.21	15.94	24.26
13	Roller Harrow -12'	23	150	13.53	0.35	0.00	4.52	0.00	4.52	18.39
13	Shredder 15'	39	40	25.95	0.72	0.00	1.82	0.00	1.82	28.49
13	Spike Harrow - 20'	15	60	1.25	0.03	0.00	0.11	0.00	0.11	1.39
13	Tractor - 125hp	153	400	18.48	0.58	0.00	6.14	22.18	28.31	47.37
13	Tractor - 200hp	154	600	20.79	0.66	0.00	12.45	35.53	47.98	69.43
13	Tractor - 75hp	178	300	12.45	0.39	0.00	3.05	13.26	16.31	29.16
13	V-Ripper - 12'	54	105	6.33	0.18	0.00	2.24	0.00	2.24	8.74
13	Tractor - 145hp	133	450	20.84	0.66	0.00	7.88	25.78	33.66	55.15
13	Sprayer - 20'	127	150	1.74	0.04	0.00	1.10	0.00	1.10	2.88
13	Planter - 8 Row, 22"	28	100	29.83	0.72	0.00	7.00	0.00	7.00	37.55
13	Corrugator/Bedder 8R, 22"	21	100	3.27	0.08	0.00	0.54	0.00	0.54	3.89
13	Cultivator - 8 Row, 22"	62	125	7.84	0.20	0.00	2.13	0.00	2.13	10.16
13	Service Truck	13	60	35.48	1.16	0.00	2.80	10.25	13.05	49.68
13	Truck 2-O&P 10-Wheeler	153	555	11.14	0.37	0.00	4.36	2.46	6.82	18.33
13	Truck 3-O&P 10-Wheeler	153	555	11.14	0.37	0.00	4.36	2.46	6.82	18.33
13	Truck 1-O&P 10-Wheeler	153	555	11.14	0.37	0.00	4.36	2.46	6.82	18.33
13	Truck 4-O&P 10-Wheeler	153	555	11.14	0.37	0.00	4.36	2.46	6.82	18.33

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TABLE 5. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead		Total
						Insur- ance	Taxes	
13	4-wheeler	6,000.00	10	1,500.00	701.41	18.75	0.00	720.16
13	Landplane - 16'	13,300.00	15	1,276.89	1,314.55	36.44	0.00	1,350.99
13	Offset Disk - 15'	22,000.00	15	2,112.14	2,174.44	60.28	0.00	2,234.72
13	Onion Loader	64,000.00	15	6,144.41	6,325.64	175.36	0.00	6,501.00
13	Onion Rod Lifter	5,200.00	15	499.23	513.96	14.25	0.00	528.21
13	Onion Row Splitter	2,500.00	12	346.27	277.67	7.12	0.00	284.78
13	Pickup 1 - 3/4 ton	41,000.00	5	13,750.00	7,294.05	136.88	0.00	7,430.93
13	Pickup 2 - 3/4 ton	41,000.00	5	13,750.00	7,294.05	136.88	0.00	7,430.93
13	Roller Harrow -12'	21,750.00	12	3,012.52	2,415.70	61.91	0.00	2,477.61
13	Shredder 15'	12,500.00	15	1,200.08	1,235.48	34.25	0.00	1,269.73
13	Spike Harrow - 20'	900.00	15	86.41	88.95	2.47	0.00	91.42
13	Tractor - 125hp	93,000.00	15	18,105.45	8,797.68	277.76	0.00	9,075.44
13	Tractor - 200hp	157,000.00	15	30,565.12	14,851.99	468.91	0.00	15,320.90
13	Tractor - 75hp	47,000.00	15	9,150.07	4,446.14	140.38	0.00	4,586.51
13	V-Ripper - 12'	8,000.00	15	768.05	790.70	21.92	0.00	812.62
13	Tractor - 145hp	118,000.00	15	22,972.51	11,162.64	352.43	0.00	11,515.07
13	Sprayer - 20'	2,800.00	12	387.82	310.99	7.97	0.00	318.96
13	Planter - 8 Row, 22"	29,000.00	10	5,128.40	3,551.09	85.32	0.00	3,636.41
13	Corrugator/Bedder 8R, 22"	3,500.00	12	484.77	388.73	9.96	0.00	398.70
13	Cultivator - 8 Row, 22"	10,500.00	12	1,454.32	1,166.20	29.89	0.00	1,196.09
13	Service Truck	30,000.00	20	3,000.00	2,533.98	82.50	0.00	2,616.48
13	Truck 2-O&P 10-Wheeler	95,000.00	25	4,000.00	7,358.63	247.50	0.00	7,606.13
13	Truck 3-O&P 10-Wheeler	95,000.00	25	4,000.00	7,358.63	247.50	0.00	7,606.13
13	Truck 1-O&P 10-Wheeler	95,000.00	25	4,000.00	7,358.63	247.50	0.00	7,606.13
13	Truck 4-O&P 10-Wheeler	95,000.00	25	4,000.00	7,358.63	247.50	0.00	7,606.13
TOTAL		1,108,950.00	-	151,694.45	107,070.56	3,151.61	0.00	110,222.17
84% of New Cost*		931,518.00	-	127,423.34	89,939.27	2,647.35	0.00	92,586.62

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insur- ance	Taxes	Repairs	
INVESTMENT								
TOTAL INVESTMENT								
	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
General Overhead	150.00	acre	66	9,900.00
Land Rent	150.00	acre	400	60,000.00
Management Fee	150.00	acre	162	24,300.00

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TABLE 6. RANGING ANALYSIS - ONIONS
COSTS PER ACRE AND PER CWT AT VARYING YIELDS TO PRODUCE ONIONS

	YIELD(CWT)						
	385.00	435.00	485.00	535.00	585.00	635.00	685.00
OPERATING COSTS/ACRE:							
Preharvest	2,224.69	2,224.69	2,224.69	2,224.69	2,224.69	2,224.69	2,224.69
Harvest	171.50	192.00	212.50	247.05	253.51	274.01	294.51
Storage	316.25	316.25	316.25	316.25	316.25	316.25	316.25
Interest on Operating Capital @ 5.75%	67.81	67.84	67.86	67.89	67.91	67.93	67.96
TOTAL OPERATING COSTS/ACRE	2,780.25	2,800.78	2,821.30	2,855.87	2,862.35	2,882.88	2,903.41
TOTAL OPERATING COSTS/CWT	7.22	6.44	5.82	5.34	4.89	4.54	4.24
CASH OVERHEAD COSTS/ACRE							
TOTAL CASH COSTS/ACRE	3,414.07	3,434.59	3,455.12	3,489.69	3,496.17	3,516.70	3,537.22
TOTAL CASH COSTS/CWT	8.87	7.90	7.12	6.52	5.98	5.54	5.16
NON-CASH OVERHEAD COSTS/ACRE							
TOTAL COSTS/ACRE	3,606.96	3,627.49	3,648.01	3,682.58	3,689.06	3,709.59	3,730.12
TOTAL COSTS/CWT	9.37	8.34	7.52	6.88	6.31	5.84	5.45

Net Return Per Acre Above Operating Costs For Onions

PRICE (\$/cwt)	YIELD (cwt/acre)						
Yellow Onions	385.00	435.00	485.00	535.00	585.00	635.00	685.00
13.00	2,224.75	2,854.22	3,483.70	4,099.13	4,742.65	5,372.12	6,001.59
14.00	2,609.75	3,289.22	3,968.70	4,634.13	5,327.65	6,007.12	6,686.59
15.00	2,994.75	3,724.22	4,453.70	5,169.13	5,912.65	6,642.12	7,371.59
16.00	3,379.75	4,159.22	4,938.70	5,704.13	6,497.65	7,277.12	8,056.59
17.00	3,764.75	4,594.22	5,423.70	6,239.13	7,082.65	7,912.12	8,741.59
18.00	4,149.75	5,029.22	5,908.70	6,774.13	7,667.65	8,547.12	9,426.59
19.00	4,534.75	5,464.22	6,393.70	7,309.13	8,252.65	9,182.12	10,111.59

Net Return Per Acre Above Cash Costs For Onions

PRICE (\$/cwt)	YIELD (cwt/acre)						
Yellow Onions	385.00	435.00	485.00	535.00	585.00	635.00	685.00
13.00	1,590.93	2,220.41	2,849.88	3,465.31	4,108.83	4,738.30	5,367.78
14.00	1,975.93	2,655.41	3,334.88	4,000.31	4,693.83	5,373.30	6,052.78
15.00	2,360.93	3,090.41	3,819.88	4,535.31	5,278.83	6,008.30	6,737.78
16.00	2,745.93	3,525.41	4,304.88	5,070.31	5,863.83	6,643.30	7,422.78
17.00	3,130.93	3,960.41	4,789.88	5,605.31	6,448.83	7,278.30	8,107.78
18.00	3,515.93	4,395.41	5,274.88	6,140.31	7,033.83	7,913.30	8,792.78
19.00	3,900.93	4,830.41	5,759.88	6,675.31	7,618.83	8,548.30	9,477.78

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TABLE 6. RANGING ANALYSIS CONTINUED

Net Return Per Acre Above Total Costs For Onions

PRICE (\$/cwt)	YIELD (cwt/acre)						
Yellow Onions	385.00	435.00	485.00	535.00	585.00	635.00	685.00
13.00	1,398.04	2,027.51	2,656.99	3,272.42	3,915.94	4,545.41	5,174.88
14.00	1,783.04	2,462.51	3,141.99	3,807.42	4,500.94	5,180.41	5,859.88
15.00	2,168.04	2,897.51	3,626.99	4,342.42	5,085.94	5,815.41	6,544.88
16.00	2,553.04	3,332.51	4,111.99	4,877.42	5,670.94	6,450.41	7,229.88
17.00	2,938.04	3,767.51	4,596.99	5,412.42	6,255.94	7,085.41	7,914.88
18.00	3,323.04	4,202.51	5,081.99	5,947.42	6,840.94	7,720.41	8,599.88
19.00	3,708.04	4,637.51	5,566.99	6,482.42	7,425.94	8,355.41	9,284.88