

Wasatch Front Mixed Vegetable Production Costs and Returns, 2012

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Introduction

Sample costs and returns to produce mixed vegetables under flood irrigation in the Davis and Weber County area of Utah are presented in this publication. This publication is intended to be a guide used to make production decisions, determine potential returns and prepare business and marketing plans. The practices described are not the recommendations of Utah State University, but rather the production practices and materials considered typical of a well-managed farm in the region, as determined by producer survey results from 2012. Costs, materials, and practices are not applicable to all situations as management and cultural practices vary among growers within the region. The “*Your Farm*” column in all tables is provided for your use.

Farm. The representative farm consists of 100 acres of land on which 50 acres is planted in sweet corn, 10 acres in pumpkins, and 6.6 acres each in squash, potatoes, melons, green beans, tomatoes, and peppers. The market value in 2012 was approximately \$75,000 per acre for agricultural land in Davis County with water rights.

Crop Pricing. Vegetable pricing was calculated by taking the average of the wholesale and retail price of the products as they are marketed to both wholesale and direct outlets through farmers’ markets and CSAs. Average prices and yields used to calculate returns are given in Table 1.

Owner Labor. Owner labor is \$30,000 annually for the 100 acre farm, or \$300/acre (See Table 2).



Hired Labor. Hired labor is paid \$12/hr for an annual cost of \$320,000 for the 100 acre farm, or \$3,200/acre (See Table 2).

Irrigation System. Flood irrigation system is used for all crops.

Marketing. Advertising, packaging, and market fees are provided in Table 2. Labor costs involved in marketing are included in the labor costs described above. Transportation costs to market are included in the fuel and repair costs for the delivery truck and pickup listed in Table 3.

Fuel and Lube. The fuel and lube for machinery and vehicles is calculated at 8 percent of the average asset value (See Table 3).

Investment Repairs. Annual repairs on all farm investments or capital recovery items that require maintenance are calculated at 2 percent of the average asset value for buildings, improvements, and equipment and 7 percent of the average asset value for machinery and vehicles (See Table 3).

Cash Overhead. Cash overhead consists of various cash expenses paid out during the year. These costs include property taxes, interest, office expenses, liability, property insurance, and accounting/legal costs (See Table 3).

Property Taxes. Property taxes in Utah differ across counties. For the purposes of this publication, property taxes on buildings are calculated at 1 percent of the average asset value of the property. Property taxes on land should be taken into consideration, but are not included here.

Insurance. Insurance on farm investments vary, depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss at .666 percent of the average asset value. Liability and crop insurance covers accidents and crop loss on the 100 acre farm at an annual cost of \$5,000.

Office & Travel. Office and travel costs are estimated at \$2,000 for an average year for the 100 acre farm. These expenses include office supplies, telephone service, Internet service, and travel expenses to educational seminars.

Accounting & Legal. Annual accounting and legal costs are estimated at \$1,000 for an average year for the 100 acre farm.

Capital Recovery. Capital recovery costs are the annual depreciation (opportunity cost) of all farm investments. Capital recovery costs are calculated using straight line depreciation. All equipment listed is new unless otherwise noted. For used machinery the price is calculated as one-half of the new purchase price and useful life is two-thirds that of new machinery (Painter, 2011).

Salvage Value. Salvage value is 10 percent of the purchase price, which is an estimate of the remaining value of an investment at the end of its useful life. The salvage value for land is the purchase price, as land does not normally depreciate.

Average Asset Value Computation

$$\left(\frac{\text{Purchase Price} + \text{Salvage Value}}{2} \right)$$

Straight Line Depreciation Computation

$$\left(\frac{\text{Purchase Price} - \text{Salvage Value}}{\text{Useful Life}} \right)$$

References

Painter, Kathleen (2011). The Costs of Owning and Operating Farm Machinery in the Pacific Northwest 2011. A Pacific Northwest Publication #346. University of Idaho, Washington State University, and Oregon State University.

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Table 1: Mixed Vegetable Pricing, 2012

Crop	Acres	Yield	Unit	Wholesale Price	Retail Price	Average Price
Sweet Corn	50	1,200	Dozen	\$3.00	\$5.00	\$4.00
Squash	6.6	800	Bushels	\$12.00	\$20.00	\$16.00
Tomatoes	6.6	900	Bushels	\$24.00	\$66.00	\$45.00
Melons	6.6	500	Bushels	\$10.00	\$20.00	\$15.00
Pumpkins	10	18	Tons	\$200.00	\$500.00	\$350.00
Potatoes	6.6	15,000	Lbs	\$0.25	\$0.50	\$0.38
Green Beans	6.6	600	Bushels	\$18.00	\$37.50	\$27.75
Peppers	6.6	700	Bushels	\$10.00	\$35.00	\$22.50

Table 2: Wasatch Mixed Vegetable Production Costs and Returns, 100 acres, 2012

	Total Units	Unit	Price/Cost Per Unit	Total Cost/Value	Total Cost/Value Per Acre	Your Farm
GROSS INCOME						
Sweet Corn	1200	Dozen	\$ 4.00	\$ 240,000.00	\$ 4,800.00	_____
Pumpkins	18	Tons	\$ 350.00	\$ 63,000.00	\$ 6,300.00	_____
Squash	800	Bushels	\$ 16.00	\$ 84,480.00	\$ 12,800.00	_____
Tomatoes	900	Bushels	\$ 45.00	\$ 267,300.00	\$ 40,500.00	_____
Melons	500	Bushels	\$ 15.00	\$ 49,500.00	\$ 7,500.00	_____
Potatoes	15000	Pounds	\$ 0.38	\$ 37,620.00	\$ 5,700.00	_____
Green Beans	600	Bushels	\$ 27.75	\$ 109,890.00	\$ 16,650.00	_____
Peppers	700	Bushels	\$ 22.50	\$ 103,950.00	\$ 15,750.00	_____
TOTAL GROSS INCOME				\$ 955,740.00	\$ 9,557.40	
OPERATING COSTS						
Insecticide	100.00	Acre	\$ 60.00	\$ 6,000.00	\$ 60.00	_____
Herbicide	100.00	Acre	\$ 100.00	\$ 10,000.00	\$ 100.00	_____
Fertilizer	100.00	Acre	\$ 200.00	\$ 20,000.00	\$ 200.00	_____
Testing/Food Safety	100.00	Acre	\$ 100.00	\$ 10,000.00	\$ 100.00	_____
Seed/Plants	100.00	Acre	\$ 300.00	\$ 30,000.00	\$ 300.00	_____
Irrigation	100.00	Acre	\$ 135.00	\$ 13,500.00	\$ 135.00	_____
Labor	100.00	Acre	\$ 3,200.00	\$ 320,000.00	\$ 3,200.00	_____
Operator Labor	1.00	Annual	\$ 30,000.00	\$ 30,000.00	\$ 300.00	_____
Advertising	1.00	Annual	\$ 1,000.00	\$ 1,000.00	\$ 10.00	_____
Packaging	100.00	Acre	\$ 1,000.00	\$ 100,000.00	\$ 1,000.00	_____
Market Fees	4.00	Markets	\$ 300.00	\$ 1,200.00	\$ 12.00	_____
Utilities	1.00	Annual	\$ 5,000.00	\$ 5,000.00	\$ 50.00	_____
Fuel & Lube	1.00	Annual	\$ 16,016.00	\$ 16,016.00	\$ 160.16	_____
Maintenance	1.00	Annual	\$ 15,719.00	\$ 15,719.00	\$ 157.19	_____
Miscellaneous	100.00	Acre	\$ 10.00	\$ 1,000.00	\$ 10.00	_____
TOTAL OPERATING COSTS				\$ 579,435.00	\$ 5,794.35	
INCOME ABOVE OPERATING COSTS				\$ 376,305.00	\$ 3,763.05	
OWNERSHIP COSTS						
CASH OVERHEAD COSTS						
Liability/Crop Insurance				\$ 5,000.00	\$ 50.00	_____
Accounting & Legal				\$ 1,000.00	\$ 10.00	_____
Office & Travel				\$ 2,000.00	\$ 20.00	_____
Annual Investment Insurance				\$ 1,901.10	\$ 19.01	_____
Annual Investment Taxes				\$ 632.50	\$ 6.33	_____
TOTAL CASH OVERHEAD COSTS				\$ 10,533.60	\$ 105.34	
NONCASH OVERHEAD COSTS (Capital Recovery)						
Buildings, Improvements, & Equipment				\$ 7,312.50	\$ 73.13	_____
Machinery & Vehicles				\$ 38,460.00	\$ 384.60	_____
TOTAL NONCASH OVERHEAD COSTS				\$ 45,772.50	\$ 457.73	
TOTAL OWNERSHIP COSTS				\$ 56,306.10	\$ 563.06	
TOTAL COSTS				\$ 635,741.10	\$ 6,357.41	
NET PROJECTED RETURNS				\$ 319,998.90	\$ 3,199.99	

Table 3: Mixed Vegetable Production Investment Summary

Description	Purchase Price	Percentage Use	Purchase Price	Useful Life (Yrs)	Salvage Value	Annual Capital Recovery	Annual Insurance	Annual Taxes	Annual Repairs	Annual Fuel & Lube
Buildings, Improvements, and Equipment										
Land	\$ 7,500,000.00	100%	\$ 7,500,000.00	150.00	\$ 7,500,000.00	\$ -	\$ -	TBD	\$ -	\$ -
Shop (40X40) & Tools	\$ 15,000.00	100%	\$ 15,000.00	40.00	\$ 1,500.00	\$ 337.50	\$ 54.95	\$ 82.50	\$ 165.00	\$ -
Cooler (20X30)	\$ 50,000.00	100%	\$ 50,000.00	20.00	\$ 5,000.00	\$ 2,250.00	\$ 183.15	\$ 275.00	\$ 550.00	\$ -
Packing Shed (40X60)	\$ 50,000.00	100%	\$ 50,000.00	40.00	\$ 5,000.00	\$ 1,125.00	\$ 183.15	\$ 275.00	\$ 550.00	\$ -
Implements	\$ 40,000.00	100%	\$ 40,000.00	10.00	\$ 4,000.00	\$ 3,600.00	\$ 146.52	\$ -	\$ 440.00	\$ -
Sub Total			\$ 7,655,000.00	NA	\$ 7,515,500.00	\$ 7,312.50	\$ 567.77	\$ 632.50	\$ 1,705.00	\$ -
Machinery and Vehicles										
2 - 85 HP Tractor (used)	\$ 50,000.00	100%	\$ 50,000.00	10.00	\$ 5,000.00	\$ 4,500.00	\$ 183.15	\$ -	\$ 1,925.00	\$ 2,200.00
2 - 125 HP Tractor (used)	\$ 90,000.00	100%	\$ 90,000.00	10.00	\$ 9,000.00	\$ 8,100.00	\$ 329.67	\$ -	\$ 3,465.00	\$ 3,960.00
185 HP Tractor (used)	\$ 74,000.00	100%	\$ 74,000.00	10.00	\$ 7,400.00	\$ 6,660.00	\$ 271.06	\$ -	\$ 2,849.00	\$ 3,256.00
2.5 Ton Delivery Truck (used)	\$ 20,000.00	100%	\$ 20,000.00	10.00	\$ 2,000.00	\$ 1,800.00	\$ 73.26	\$ -	\$ 770.00	\$ 880.00
Bale Wagon/Harrow (used)	\$ 40,000.00	100%	\$ 40,000.00	10.00	\$ 4,000.00	\$ 3,600.00	\$ 146.52	\$ -	\$ 1,540.00	\$ 1,760.00
4-Wheeler	\$ 10,000.00	100%	\$ 10,000.00	5.00	\$ 1,000.00	\$ 1,800.00	\$ 36.63	\$ -	\$ 385.00	\$ 440.00
2 - 3/4 Ton Pickup	\$ 80,000.00	100%	\$ 80,000.00	6.00	\$ 8,000.00	\$ 12,000.00	\$ 293.04	\$ -	\$ 3,080.00	\$ 3,520.00
Sub Total			\$ 364,000.00	NA	\$ 36,400.00	\$ 38,460.00	\$ 1,333.33	\$ -	\$ 14,014.00	\$ 16,016.00
Total			\$ 8,019,000.00	NA	\$ 7,551,900.00	\$ 45,772.50	\$ 1,901.10	\$ 632.50	\$ 15,719.00	\$ 16,016.00