

FRESH MARKET ZUCCHINI SQUASH GROWN UNDER PLASTIC TUNNELS

COST ANALYSIS WORK SHEET - 1982

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These costs were arrived at after a careful analysis of all the work that needs to be done, as described by experienced farmers, both in San Diego and Fresno Counties, although some costs were taken from previous cost sheets. Other costs were calculated through field trials. These costs are based on a yield of 1,100 28-lbs. cartons per acre. Field labor is assumed to be \$4.00 per hour to the grower. Older 30 hp gasoline wheel tractor per hour cost of \$4.40. Tillage equipment is assumed to be owned by the farmer and all equipment already depreciated to a lower value. Tunnel materials, other than the plastic, are depreciated on a five year schedule. Tunnels are five feet apart in between rows and 300 feet long. This is considered to be one crop on a ten-acre farm, where several vegetable crops are produced.

PRE HARVEST COSTS	Per Acre	Per Box
Land Preparation	\$ 16.80	\$.015
Weed Control - Preplant incorporated 1 hour labor and tractor	8.40	.007
Herbicide	22.20	.02
Preplant fertilizer - material (57.5 lbs N, 148 lbs. P ₂ O ₅)	56.00	.050
Preplant fertilizer application - 1.5 hours labor and tractor	12.60	.011
Bedding and plastic laying - contracted out	75.00	.068
Hoops construction (depreciated in 5 years) 870 hoops - #7 gauge wire - 7 hours	28.00	.025
Installation of end posts - middle stakes - and top wire 16 hours of labor	64.00	.058
Installation of hoops - 8 hours labor	32.00	.029
4,350 plants/acre at \$110/1,000	478.50	.434
Planting - 20 hours labor	80.00	.072
Cut worm bait - 1 hour labor and material	14.00	.012
Securing plastic to top wire with clothespins - 3 hours labor	12.00	.010
Venting - 40 hours labor	160.00	.145
Weeding - labor 20 hours	80.00	.072
Fertilizer - Nitrogen - 44¢ per lb. of N - 100 lbs.	44.88	.040
Nitrogen application - 8 hours labor	32.00	.029
Irrigation - 2½ acre feet at \$15 @	37.50	.034
Insect control - material and labor	50.00	.045
18 rolls of plastic, 1.5 mill	306.00	.278
Miscellaneous labor and materials	100.00	.090
Repairs	50.00	.045
Rent	125.00	.113
Office and business expenses - 6% cash costs	119.09	.109
Tunnel removal - 25 hours labor	100.00	.090
TOTAL PREHARVEST COSTS	\$ 2,103.97	\$ 1.91

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HARVEST COSTS	Per Acre	Per Box
Pick and haul	\$ 2,684.00	\$ 2.44
Sort - pack - dumping - 239 hrs.	957.00	.87
Cartons	825.00	.75
Misc. expenses - other expenses	55.00	.05
TOTAL HARVEST COSTS	\$ 4,521.00	\$ 4.11
TOTAL CASH COSTS	\$ 6,624.97	\$ 6.01
DEPRECIATION		
Clothespins - for five years - \$335.00	\$ 67.05	\$.060
Wire hoops - for five years - \$200.00 (one every ten feet, 870)	40.00	.36
Apex wire - for five years - \$115.00	23.00	.020
End posts - middle stakes - for five years - \$215.00 (one every 20 feet at 50¢ each)	43.00	.039
Tractor, equipment, irrigation - for ten years \$3,500	35.00	.031
TOTAL DEPRECIATION	\$ 208.05	\$ 0.190
INTEREST ON INVESTMENT AT 12%		
Tractor and equipment - irrigation equipment	\$ 21.00	\$.019
Wire posts-hoops-clothespins	103.08	.094
TOTAL INTEREST ON INVESTMENT	\$ 124.80	\$ 0.113
TOTAL COST OF PRODUCTION	\$ 6,957.82	\$ 6.32

SAMPLE COST OF PRODUCTION AT VARYING YIELDS

Yield	800	900	1,000	1,100	
28-lbs carton					
Cash cost/carton	7.99	7.19	6.54	6.02	
Total cost/carton	8.30	7.49	6.85	6.32	
Yield	1,200	1,300	1,400	1,500	1,600
28-lbs carton					
Cash cost/carton	5.58	5.21	4.89	4.61	4.37
Total cost/carton	5.88	5.51	5.19	4.91	4.67

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MUCH LABOR IS REQUIRED TO PRODUCE SUMMER SQUASH UNDER PLASTIC TUNNELS. The preharvest operations require about 177.5 hours of work and about 898 hours of work are needed to pick, haul, dump, sort and pack the crop. These costs are charged in this cost analysis work sheet at \$4.00 per hour each. They add to a total of approximately 1,075.5 hours, costing \$4,302.00 per acre. This amounts to \$3.91 per carton, at 1,100 cartons/acre. The grower and family members may be able to do part of this work and reduce the cash costs by a large amount.

The amount of money that this family's labor earns will be determined by the price received for the summer squash. Labor may also be available at higher or lower costs than \$4.00 per hour. If so, this will increase or reduce the cost per carton on or below the amount shown on the cost analysis work sheet.

As a grower, you may find it difficult to interpret this costs analysis sheet. However, it may be easier if you remember the following facts and assumptions, which were used in arriving at these figures:

- 1) All activities are listed sequentially;
- 2) Whenever possible, hours of labor and tractor work are listed separately;
- 3) All labor is paid, whether it is family labor or not;
- 4) All the activities described are given a dollar value. However, you may choose to, depending on your resources, perform only some of them; and
- 5) finally, that not two farmers are alike.

You may be able to perform some of these activities more efficiently than others, thus cutting your costs down accordingly, or may have tools and resources that make you better suited to grow this crop under tunnels than other farmers, thus reducing your costs down even further.