

COSTS AND PRACTICES

LIMA BEANS

FOR FREEZING

VENTURA COUNTY - 1962



R. A. Brendler, Farm Advisor  
52 North California Street, Ventura  
Fisk Phelps, Extension Economist, Riverside  
Agricultural Extension Service  
University of California

## Cost Figures

These cost figures were developed by conferring with growers and processor fieldmen regarding practices, cost of materials, and contract work. The type of farm on which this crop is assumed to be grown is described above the chart giving cost figures.

In these figures cash costs which include fuel, repairs and labor are included in the itemized accounting. To these cash costs are added the total cash overhead costs, including such items as transportation, bookkeeping, insurance, taxes and rent to determine the pre-harvest cash costs. Total pre-harvest costs are determined by adding to the cash costs depreciation on equipment and interest on investment in equipment and interest on operating cash and money invested in supplies. Costs are divided in this manner to show how much cash is required to grow the crop up to harvest time. In order to find what price is required to cover the total costs, the cost per pound has been determined.

## Yield

Yields of green lima beans for freezing have been averaging around 4,000 pounds per acre. That is the yield assumed in this sample cost. A few fields exceed 5,000 pounds of yield.

## Varieties and Seed

Concentrated Fordhook is the variety now in use here. Processor fieldmen and local seed producers have been the principal factors in maintaining seed quality here. Seed sources and quality are usually controlled by processors.

## Soil and Climate

Fordhook green lima bean production here is confined to the better soil and milder climate of the county. Variability of soil within a field is undesirable. Uniform maturity is required for satisfactory harvesting.

## Planting, Cultivation and Weed Control

Seedbed preparation usually follows disking in of residue from a winter crop and plowing. A seedbed of uniform moisture content under a dry mulch is required for uniform emergence and development of plants and for weed control. With a satisfactory seedbed, weed control by cultivation is highly effective. Most fields are hoed once.

## When to Plant and Harvest

Planting for each freezer plant must be carefully scheduled to keep the plant operating continuously and to avoid times when the amount of produce ready for harvest exceeds the capacity of the freezing plant. Planting schedules are made up by processor fieldmen and must be followed strictly by growers. The planting season is approximately from April 20 to June 15. The time for harvesting usually occurs between 90 and 105 days after planting. Fieldmen decide on harvest dates by carefully watching maturity. By harvesting at a time when a small percentage of the beans have reached the pale stage, a satisfactory combination of yield and quality is achieved. At harvest time, yields are increasing at the rate of around 200 pounds per day. After per cent pales exceeds five, quality may deteriorate rapidly.

**SAMPLE COSTS OF PRODUCTION**

These costs are based on a one-man operation involving 150 acres of land suitable for 2 or more crops a year of irrigated vegetables and rented for \$150 a year cash rent. For water the tenant pays the power bill and an amount equal to the power bill to the landlord.

Examples of cash costs: 50 HP track tractor, \$1.95/hr., 30 HP wheel tractor, \$1.00 hr., tractor driver \$1.40/hr., Irrigators \$1.20/hr., other labor \$1.00/hr. Costs include one discing to dispose of crop residue.

OPERATION, CREW AND EQUIPMENT, PRE-HARVEST	Hours per Acre	Cash Cost per Acre			Total Cash Costs per Acre
		Hired Labor	Tractor & Equip.	Material Kind and Amount Value	
Plow 1x, 50 HP, 3-16", 2 way	.8	\$1.12	\$2.52		\$3.64
Disc 2x, 50 HP, 12' 24" discs	.56	.78	1.26		2.04
Chisel 1x, 50 HP, 9' coil shank	.33	.46	.73		1.19
Land plane 2x, 50 HP, 10' x 32'	.70	.98	.68		1.66
Springtooth harrow 2x, 50 HP, 20'	.34	.48	.76		1.24
Drag harrow 2x, 50 HP, 20'	.34	.48	.66		1.14
Plant 1x, 20 HP wheel, 4 rows	.40	.96	.48	130 lbs./A Seed @ \$20.00 Terrachlor and Captan 4.75)	32.19
Cultivate (10') 3x, 30 HP wheel, 4 rows	.99	1.38	.69		2.07
Irrigate 3x (1 pre-irrigation)	6.00	7.20	.50	1½ A Ft. water @ \$7.00 8.75	16.45
Hoe 1x	5.00	5.00			5.00
Cash costs, Labor, Tract & Equipment		\$16.44	\$7.60		
Hours of Labor, Pre-harvest	12.74				
CONTRACT WORK: Fertilize, Inject Ammonia			\$2.50	125 lbs. Ammonia \$10.00	\$12.50
Fumigate 1x in 3 yrs. @ \$3.00			1.00	Nematocide 1x in 3 yrs. @ \$15 5.00	6.00
Dust 1x @ \$1.50 - Spray 1x @ \$3.00			4.50	Dust \$4.41 - Spray \$6.67	15.58
Transportation and miscellaneous hauling		\$4.07		Total pre-harvest cultural cash costs	\$99.46
Bookkeeping services		.67		Total cash overhead costs	121.22
Insurance		2.67		<b>TOTAL PRE-HARVEST CASH COSTS</b>	<b>\$220.68</b>
Office (space, equipment, supplies, telephone)		2.00		Depreciation of equipment	\$13.46
Taxes		1.81		Interest on investment in equipment	3.85
Land rent (\$150.00 per acre per year)		110.00		Interest on operating cash and supplies	3.75
<b>TOTAL CASH OVERHEAD COSTS PER ACRE</b>		<b>\$121.22</b>		<b>TOTAL PRE-HARVEST COSTS</b>	<b>\$241.74</b>
Total pre-harvest cash costs per lb.		.060		Harvesting costs	\$40.00
Harvesting costs per lb.		.010		<b>TOTAL COSTS PER ACRE</b>	<b>\$281.74</b>
<b>TOTAL COSTS PER LB.</b>		<b>\$0.070</b>			

## Fertilizing

Most fields used for growing green limas will produce a satisfactory crop without fertilization. These soils are rich in phosphorus, they have nitrogen residues from winter crops, and seedbed preparation, cultural practices and weather are favorable for nitrification. Because some fields do not supply nitrogen fast enough while beans are sizing and because it takes a yield increase of only 200 pounds per acre to pay for a generous amount of nitrogen, it is a general practice to apply 100 pounds of nitrogen per acre before planting. Fields that are going to run out of nitrogen can be effectively fertilized with around 80 pounds of nitrogen per acre applied five to three weeks before harvest. A reliable tissue analysis procedure to predict nitrogen deficiency would assure more precise fertilizing.

## Irrigation

Fordhook crops usually require a pre-irrigation because they follow winter vegetable crops. Most fields can be well irrigated with two irrigations while the crop is growing -- a midseason irrigation before plants are retarded by drought and a pre-harvest irrigation a week or two before harvest. Large sections of a field should not be allowed to develop the dark foliage color that indicates drought for more than a few days. Irrigation should be such as to assure uninterrupted growth until the moment of harvesting.

## Disease and Pest Control

Diseases other than Pythium and Rhizoctonia seed decay and Rhizoctonia stem canker are rare in Fordhooks here. Seed decay is controlled by seed treatment and Rhizoctonia stem canker is controlled by applying terrachlor and captan with a planter-mounted duster. The principal effect of controlling stem canker is maintenance of stand.

Root knot nematodes, wireworms, seed corn maggots, black aphids, Lygus bugs and corn earworm are the principal plant pests of Fordhooks here. Wireworms and seed corn maggots are controlled by seed treatment and soil treatment. The others are controlled by dusting or spraying when present in threatening numbers. An insect net sweeping procedure for estimating Lygus bug populations has been developed by University of California and U. S. Department of Agriculture entomologists. Its use is recommended to avoid unnecessary applications and to assure a low incidence of damage to beans. If treating for Lygus bugs can be delayed until within four weeks of harvest, a second treatment is not usually needed.

Specific recommendations for disease and pest control are in "Vegetable Pest Control Guide," a U. C. publication revised annually. All pest and disease control chemical treatments must be approved by the processor and reported to the processor.

## Harvesting and Marketing

Marketing is done before planting. Price and several other agreements are specified in the contract signed by a grower and the processor. Harvesting time is decided by the processor and may be done entirely by the processor or the grower may have some harvesting responsibilities.

150c

7/62

**Co-operative Extension work in Agriculture and Home Economics, College of Agriculture, University of California, and United States Department of Agriculture co-operating. Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914. George B. Alcorn, Director, California Agricultural Extension Service.**

---