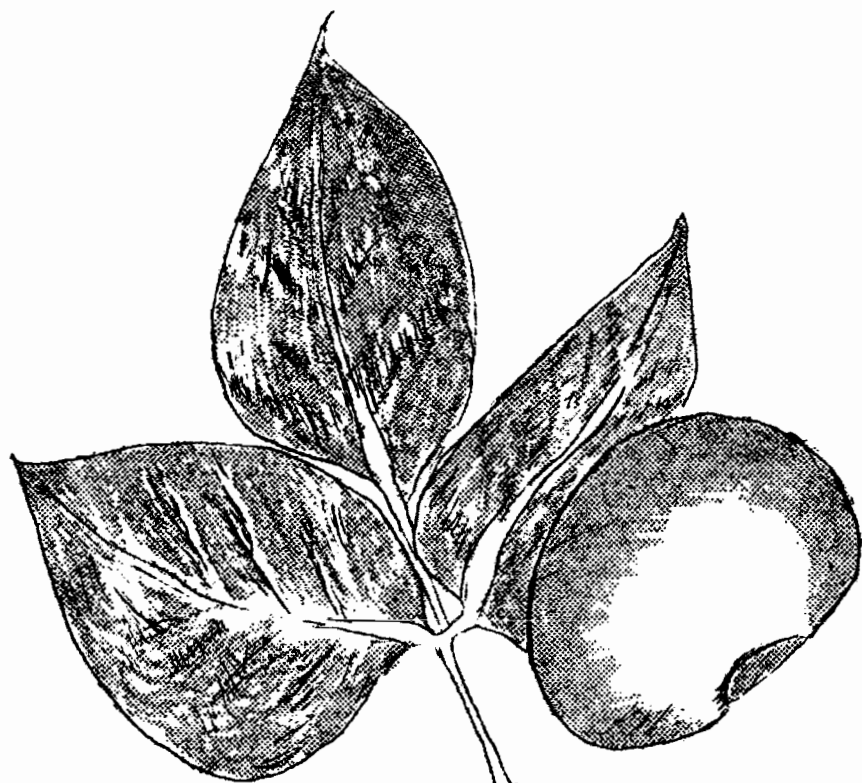


L A R G E

L I M A B E A N

PRODUCTION & COST



Warren E. Bendixen
Farm Advisor
Santa Barbara

Co-operative Extension Work in Agriculture & Home Economics
U.S. Department of Agriculture, University of California &
County of Santa Barbara Co-operating

**LARGE LIMA BEAN PRODUCTION AND COSTS
IN
SANTA BARBARA COUNTY**

**Warren E. Bendixen
Farm Advisor**

The large lima bean is the leading dry bean crop in Santa Barbara County and the only dry bean crop that has increased in acreage over the past 16 years. In the peak year of 1962 there were over 7,000 acres.

The 1960-64 average was 5,754 acres, with a yield of 1,850 pounds per acre, and a total value of \$1,551,000.

SOILS - Limas are grown on a wide range of soil types. The medium textured soils are better suited for bean production.

Beans have a low salt tolerance. Yield reductions of 15% may occur with slight salt accumulations as indicated by electrical conductivity (EC_e) of 2 millimhos. Soils with an EC_e of 4 millimhos may only yield 50 % of normal.

LAND PREPARATION - Land is prepared for planting in March and April. A typical operation may include disking, plowing, disking, land planing, disking, and spike tooth harrowing.

VARIETIES - The Mackie (bush type) and the Ventura (vine type) are the principle varieties grown in this area. Mackie matures earlier and in local tests on 40" double-row beds has yielded more than Ventura.

SAMPLE COSTS TO PRODUCE DRY/LIMA BEANS

Based on 1,000 acre farm
300 acres beans
Yield - 2,400 lbs./acre

Labor: Tractor driver @ 1.65/hour
Irrigator @ 1.40/hour
Other labor @ 1.25/hour

Operation Costs
40 hp crawler-diesel @ 1.40/hour
30 hp wheel-gasoline @ .95/hour

Operation	Hours Per Acre	Fuel & Repairs		Materials		Cost per Acre	
		Labor	Repairs	Kind and Amount	Cost	Sample Cost	Your Cost
Cultural							
Land preparation	3.0	\$ 4.95	\$ 5.50				\$ 10.45
Plant	0.3	.50	.50	125 lbs/ac. @ 15¢	18.75		19.75
Irrigate 3 times	4.5	6.30	1.00	1.5 ac. ft. @ \$4	6.00		13.30
Cultivate 3 times	1.5	2.50	1.85				4.35
Hoe	4.0	5.00					5.00
Pest Control	1.0			Spray @ \$6, Applic. @ \$3	9.00		9.00
Total Cultural	14.3	19.25	8.85		33.75		61.85
Harvest							
Cut & windrow	1.0	1.65	1.10				2.75
Hand work	1.0	1.25					1.25
Thresh	2.0	contract @ 50¢/cwt \$12 (2400 lbs)			12.00		12.00
Hauling	.5	contract @ 10¢/cwt \$2.40 (2400 lbs)			2.40		2.40
Cleaning beans	20.0	contract(handpicked) @ 1.20/cwt (2400 lbs)			28.80		28.80
Total Harvest	24.5	2.90	1.10		43.20		47.20
Misc. overhead							8.00
Rent							60.00
Total Cash Cost							177.05
Management 5% of 2400 lbs. @ 11.00/cwt (\$264)							13.20
				<u>Annual Cost</u>			
	<u>Investment</u>	<u>Per Acre</u>		<u>Depreciation</u>	<u>Interest</u>		
	Equipment	67.00		10 yrs. 6.70	1.95		8.65
Total Cost per Acre							198.90
Cost per cwt. @ 2400 lbs./acre							8.29

PLANTING - Limas are usually planted between May 10-20. Because beans are a warm season crop, cold soil temperatures may inhibit germination and increase losses due to diseases.

Row spacing varies from 38"-40" double-row beds to 22"-30" single row beds. Approximately 100-125 lbs./acre of seed is planted. Seed should be treated with both a fungicide and an insecticide.

CULTIVATION - Limas are cultivated two to four times. Cultivation is primarily for weed control.

IRRIGATION - Pre-irrigation is a common practice to insure adequate moisture for seed germination. Irrigation practices vary between different soil textures and climatic conditions. Furrow irrigation is the predominate method, although sprinkler irrigation is increasing.

FERTILIZATION - In a good crop rotation, fertilizer carryover is usually adequate for the beans. In some fields, application of one or more of the following materials has increased yields: nitrogen, phosphorus, potassium, and zinc.

HARVESTING - The vines are cut when about three-fourths of the pods are dry and the rest are turning yellow. This usually occurs from mid to late September. Most of the beans are cut with a tractor-drawn blade running 2-3 inches below the ground surface. Side delivery rakes are used to place the cut rows in windrows.

Cutting and windrowing must be done when the pods have been toughened by high humidity, or dew, to reduce shattering.

From 1-3 weeks are necessary to dry the plants sufficiently for threshing. The beans are threshed directly from the windrow with large threshers specially designed for beans.

MARKETING - Most of the lima beans are marketed through a cooperative. The remaining limas are stored in local warehouses and marketed independently on the open market. Cull beans are used in animal and poultry feed.

INSECT AND DISEASE CONTROL - For control recommendations, check the current University of California Pest Control Guide.

Lygus Bugs are a serious pest, often reducing yield and quality of beans. Early control is important.

Black Aphids may attack the plants, causing damage to the foliage and reducing yields.

Root-Knot Nematodes cause economic losses in localized areas. This nematode is more common on sandy soils. Soil fumigation will control this pest for one year.

Rhizoctonia, Fusarium, and Pythium diseases occur in this area. The principle effect is stand reductions.

LIMA BEAN PROFITS AS AFFECTED BY YIELD & PRICE

Yields Cwt./Acre	Harvesting Cost	Total Pro- duction Cost	<u>Lima beans - Price/cwt.</u>		
			\$10.50	\$11.50	\$12.50
profits per acre					
14	\$29.20	\$180.90	-\$33.90	-\$19.90	-\$ 5.90
16	32.80	184.50	- 16.50	- .50	15.50
18	36.40	188.10	.90	18.90	36.90
20	40.00	191.70	18.30	38.30	58.30
22	43.60	195.30	35.70	57.70	79.70
24	47.20	198.90	53.10	77.10	101.10
26	50.80	202.50	70.50	96.50	122.50
28	54.40	206.10	87.90	115.90	143.90
30	58.00	209.70	105.30	135.30	165.30
32	61.60	213.30	122.70	154.70	186.70

Cost based on threshing @ .50/cwt.
 hauling @ .10/cwt.
 cleaning @ 1.20/cwt.