

CASTOR BEANS IN THE DELTA

BE-SJ-53

By:

Torrey Lyons
and
A. D. Reed



Costs and Suggestions
for growing Castor Beans
in the Delta area.

University of California
College of Agriculture Extension Service
310 Old Post Office Building
Sacramento, California.

CASTOR BEANS IN THE DELTA

Castor beans may be a profitable crop on many farms. They are well suited as a row crop to include in a rotation. Small plantings of a hybrid variety were made in the Delta in 1952. The cost data on these fields show that the crop is profitable at present prices. The future depends on world conditions and the actions of oil seed processors. High yields and efficient production will be necessary if castor beans are to take a permanent place in Delta agriculture.

Costs Except for Use of Land in Producing

Castor Beans on Four Delta Ranches

In 1952

	Ranch Number				
	1	2	3	4	Aver.
Acres	12.5	110	25	33	180.5
Yield lbs clean seed	3000	1845	1960	1660	2116
Per cent dockage	2.9	7.5	5.0	10.5	6.5
Cost per Acre-					
Land preparation	9.86	6.87	7.77	9.25	8.44
Plant	6.85	14.53	16.40	10.24	12.00
Fertilize	----	----	----	11.44	2.86
Cultivate	8.63	3.53	10.80	1.80	6.19
Hoe	27.00	10.00	20.25	16.00	18.31
Irrigate	.75	----	.75	3.50	1.25
Total Cultural	53.09	34.93	55.97	52.23	49.05
Defoliate	10.50	10.50	10.50	10.53	10.51
Harvest and Haul	27.10	31.38	26.35	27.00	27.96
Total Harvest	37.60	41.88	36.85	37.53	38.47
Total Cost per Acre	90.69	76.81	92.82	89.76	87.52
Cost per cwt.	3.02	4.16	4.73	5.41	4.14

These figures include cost of labor, tractor, machinery, and material.

Labor was charged at \$1.00 per hour.

Tractor and machinery costs were figured on an hourly rate sufficient to cover fuel, oil, repairs, depreciation, taxes, interest, and shelter.

GROWING CASTOR BEANS

9c 1953

Soil Preparation:

Prepare a normal seed bed. You must have good moisture. In some cases a pre-irrigation will be necessary.

Variety:

A dwarf hybrid variety appears best. In test plots in 1952, hybrid varieties gave 15% to 25% higher yields than in-bred lines. However, the hybrid varieties were later maturing.

Seed Treatment:

Seed should be treated with a fungicide - 3 to 4 ounces of Arasan per 100 pounds of seed.

Planting:

Castor beans require at least 10 to 14 days for germination. They must be protected from drying north winds during this period. This can be done in either of two ways without the handicap of deep planting. (1) Plant down to moisture $1\frac{1}{2}$ to $2\frac{1}{2}$ inches deep and throw a mound over the row with two small disks. When the seed germinates, knock down this mound. (2) Plant $1\frac{1}{2}$ to $2\frac{1}{2}$ inches deep in the bottom of a furrow.

Plant in 38 inch rows because the combines are made to take this spacing.

Rate of Planting:

Use ten pounds of seed per acre.

Time of Planting:

The first warm spell in April. Try to have planting completed by May 15th. Do not plant after May 30th.

Fertilization:

No fertilizer should be needed on peat land. However, on other soils, around 50 pounds of actual Nitrogen per acre may be advantageous. Fertilizer trials on castor beans are needed.

Weed Control:

Most attention must be given to early weed control. By mid-season, castor beans have usually drawn all moisture from the surface soil and have shaded the ground. Suggested planting method #1 has the advantage of a pre-emergence cultivation. If suggested planting method #2 is used, dirt can be thrown into the rows to cover small weeds. Another useful operation is a light cross cultivation just before emergence. Do your hoeing early when the weeds are small and it is easy to hoe around the plants.

Irrigation:

Sub-irrigation from main ditches is often an ideal method because the crop roots deeply and can get its water supply this way. This method allows surface soil to dry completely and lessens weed problems. Use spud ditches if needed but hold water low.

The 1952 fields were irrigated as follows:

- (1) Water at the two foot level.
- (2) No water applied.
- (3) Water at the 3 ft. level.
- (4) Water at 16 inches, 10 days off and 10 days on.

Defoliation:

The crop must be defoliated. Materials must be checked before being used as they may cause defoliation of capsules not yet dry.

Cultivation:

Cultivate very shallow. Skillful, timely cultivations will cut hoeing costs.

Harvesting:

The standard harvester is a self-propelled peanut clipper combine with a special castor bean attachment. Hulls are removed with a special castor bean huller. A good hulling job is essential to reduce the dockage.

Marketing:

Castor beans can be marketed only through an oil seed company. A purchase contract should be obtained before the crop is planted.

Warning:

Castor bean seed or foliage will poison livestock or humans. The volunteer and crop residue problems are not yet known under Delta conditions.