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GROWING CASTOR BEANS IN TULARE COUNTY



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TULARE COUNTY

UC Cooperative Extension

Castor beans are not a true bean and do not belong to the legume family. The scientific name is *Ricinus communis*. The native habitat for the plant is in the tropics where it reaches a height of 30 feet or more and grows as a short-lived perennial.

Castor beans grown in California are of the dwarf type reaching a height between 4 to 6 feet.

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GROWING CASTOR BEANS IN TULARE COUNTY

Castor beans are one of the newest field crops to be successfully grown in Tulare County. Castor beans have been grown commercially in the county since 1950. Acreage in the county during those years has fluctuated between 360 and 800 acres. The San Joaquin Valley seems to be ideally suited to the growing of this crop. Summer temperatures do not seem to cause flowers to blast and fall rains are late enough to permit normal harvesting.

VARIETIES

Castor bean varieties have been improved since they were first grown commercially in the county. Variety improvements have increased yield and shatter resistance. The variety Baker #195 grown for the first time in the county in 1952 produced yields of a ton per acre or more.

A limited acreage of a new hybrid, Western Oilseed #4 will be grown during the 1953 season. This hybrid gave a 19% higher yield than Baker #195 in a county variety test.

SOIL AND WATER REQUIREMENTS

Furrow irrigation is used to grow castor beans and the water requirement is about the same as for cotton. Timing of irrigation seems to be more critical than for cotton. Plant stress will cause blasting and even defoliation. The last irrigation should be given 4 to 5 weeks before harvest. Castor beans do not appear to

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WHAT WILL IT COST TO GROW CASTOR BEANS IN TULARE COUNTY

Based on a yield of 2,000 lbs. per acre

Man labor @ \$1.00: 30 H.P. wheel tractor @ \$1.60 per hour

	Sample Costs		My Costs	
	Per Acre	Per Cwt.	Per Acre	Per Cwt.
PRE-HARVEST LABOR AND MATERIAL COSTS:				
Land preparation: man & tractor - 4 hrs.	\$ 10.40			
Fertilize: 2 men & tractor - 1/2 hr.	1.80			
Fertilizer: 50 lbs. N	8.00			
Plant: contract	2.25			
Seed: 14 lbs. @ 35¢	4.90			
Irrigate: 1 pre. & 5 crop - 10 man hrs.	10.00			
Water: 3 acre ft. @ \$2.50	7.50			
Hoe & thin: 9 man hrs.	9.00			
Cultivate: 3X - man & tractor 1 1/2 hrs.	3.90			
Miscellaneous labor & material	3.00			
Total Pre-harvest Labor & Material Costs	60.75	\$3.04		
HARVESTING COSTS:				
Defoliate: applied by plane	3.00			
Defoliant: spray 10 gals. @ 32¢	3.20			
Harvesting - contract @ 1¢ per lb.	20.00			
Hulling @ \$5.00 per acre	5.00			
Hauling @ \$12 per ton	12.00			
Total Harvesting Cost	43.20	2.16		
CASH OVERHEAD COSTS:				
General expense (5% of labor & material)	5.19			
County taxes	6.00			
Repairs (except tractor), insurance, etc.	3.50			
Total Cash Overhead Costs	14.69	.73		
TOTAL CASH, LABOR AND FIELD POWER COSTS	118.64	5.93		
DEPRECIATION COSTS:				
Irrigation facilities: (original cost \$110)	7.00			
Equipment, except tractor (original cost \$15)	1.50			
Total Depreciation Cost	8.50	.42		
INTEREST ON INVESTMENT @ 5%				
Irrigation facilities: on 1/2 original cost \$55	2.75			
Equipment, except tractor: on 1/2 original cost \$7.50	.38			
Land at \$500	25.00			
Total Interest on Investment Cost	28.13	1.41		
TOTAL COST OF PRODUCTION	155.27	7.76		

The above table is provided as a work sheet so you can estimate your own probable costs of production.

Production costs will vary somewhat depending on water costs, weeds, size of operation and other factors. Yields higher than a ton per acre will reduce costs per cwt., whereas lower yields will increase costs per cwt.

Cost for hybrid seed will be about 75¢ per pound for 1953.

Where harvest is not expected until after the time of a normal killing frost, defoliation costs can be eliminated.

be as tolerant as cotton to alkali soils. Highest yields will be obtained on a deep, well drained soil with a good moisture storing capacity. Red hardpan soils have not produced very good yields in most cases.

PLANTING RECOMMENDATIONS

Seedbed is prepared and beans are grown in much the same manner as cotton. Flat or bed plantings may be used. Rows should be 38 inches apart for the combine harvester. Twelve to fourteen pounds of seed per acre is generally planted. Stands should have a plant about every 12 to 18 inches. Castor beans are usually planted about mid-April at the same time as cotton. Generally 2 or 3 cultivations are necessary to control weeds besides some hand hoeing. Cultivation should be as shallow as possible due to the rather extensive lateral root system of the plant in addition to the tap root.

DISEASES AND INSECTS

To date disease and insect damage has not been of any consequence in the county.

HARVESTING

Castor beans are harvested with a modified peanut combine. The machine removes the capsules from the plant and a portable huller removes the seed from the capsule at the field edge. Harvesting and hulling are done on a custom basis. The length of growing season is about

the same as for cotton and the beans can be harvested when less than 10 percent of the capsules are green.

TOXIC PROPERTIES

Castor beans if eaten are poisonous to people and livestock. No case has been established of livestock being poisoned by eating the leaves and stem. Livestock usually avoid eating the plants unless forced to do so by lack of other feed.

OUTLOOK

Castor beans are a contract crop and are hauled to the Los Angeles area for crushing. Castor beans for the 1953 season will be supported at \$180 per ton. Yields of over a ton per acre were obtained in the county last year with the variety Baker #195. Even higher yields are anticipated with the new hybrid variety.

Additional castor bean information can be obtained in Farmer's Bulletin No. 2041 (U.S.D.A.) "Castor Bean Production" and "Castor Bean Production in California" by P. F. Knowles (University of California)

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