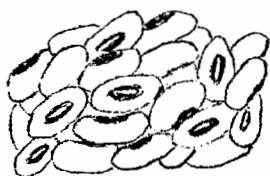


GROWING

BE-VS-54-1

BLACK EYE
BEANS



IN

TULARE
COUNTY

UNIVERSITY OF CALIFORNIA
AGRICULTURAL EXTENSION SERVICE
POST OFFICE BUILDING, VISALIA
TULARE COUNTY

UC Cooperative Extension

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GROWING BLACKEYE BEANS IN TULARE COUNTY

General

In California the Blackeye is grown almost exclusively as a dry bean, cultivated and harvested like other dry bean crops. It is marketed largely in the Southern States and the Caribbean area where the bean is used mainly for food.

A small acreage of Blackeyes is grown in Tulare County every year. The Blackeye and other dry beans could have a very definite place in a crop rotation on diversified farms in the county. Straw left after harvesting may be used for livestock feed or plowed under for soil improvement. The Blackeye does not have a high labor requirement in relation to other crops grown in the county, and fits well in a double cropping system with small grains.

Blackeyes will do best on sandy or sandy loam soils. Even though abundant vine growth can be obtained on the adobe and red hardpan soils, it is usually harder to obtain good yields on these heavier soils. Alkali soils should not be planted to Blackeyes as the crop is damaged by salt and alkali conditions.

Planting

A well prepared seedbed should be provided. This should include an early discing to control early spring weeds. If the beans are to follow grain, the stubble should be disced under as soon as possible to allow as much time as possible for the breakdown of the stubble. A pre-irrigation is normally required, and then the soil should be harrowed and the seedbed firmed. A smooth, well pulverized, firm, and moist seedbed provides the best chance for obtaining a good stand.

Although beans are usually not planted until May or early June, there are indications that they may be planted earlier. Since they are easily damaged by frost, this means that they should not be planted any earlier than the middle of April. If double cropped with grain, they should be planted as early as possible, not later than July 4th; so harvest can be completed prior to **fall rains**.

Blackeyes are usually planted on row spacings of from 30 to 36 inches. Some growers with 38 inch cotton equipment may desire to plant on the 38 inch spacings. This will probably result in some reduction of yield.

The recommended planting rate for Tulare County is 20 to 25 pounds of seed to the acre where a good seedbed has been prepared. The higher rate may be desirable if the seedbed is not too good or if the land is poorly leveled.

The cotton planter may be used by changing from a cotton plate to a bean plate. However, a better job can be done with a Ventura-type planter. No seed injury occurs with the use of the Ventura planter. The plate planter may crack or injure seed when the holes in the plate are too small or when the plate is too thin to accommodate large-sized Blackeyes. When the soil is left loose after planting, the field should again be firmed with a land roller or similar tool to insure good germination.

The seeds should be placed at a depth of about $2\frac{1}{2}$ inches but may be placed deeper if moisture conditions demand.

Varieties

The variety grown most often in Tulare County is Blackeye 5; although, sometimes Blackeye 7 is

grown. Both of these varieties are quite resistant to nematodes.

Seed Inoculation

In new areas where Blackeyes have not previously been grown, nodule bacteria applied to the seed immediately before planting may be beneficial. Care should be taken to secure the proper bacterial culture, since all legume inoculants will not work on Blackeyes. Follow the directions given on the container in applying the culture to the seed.

Seed Treatment

Seed should be treated to control fungus diseases which cause a reduction in germination or injury to the seedlings. A good fungicide such as Arasan (2 oz./100 lbs. seed) or Spergon (3 oz./100 lbs. seed) should be used.

If an early planting is to be made, the seed should also be treated with 2 ounces of 25 percent lindane per 100 pounds of seed or 2/3 ounces of 75 percent lindane per 100 pounds of seed for wireworm or seed maggot control. Never treat seed with lindane alone. Always include a good fungicide. Storage of lindane treated seed for over three months is not recommended. The seed may be treated either on the farm or at the seed dealers.

These seed treatments are inexpensive, and provide a cheap insurance for helping obtain a good stand of Blackeyes.

Irrigation

Irrigation is necessary for successful production of Blackeyes in Tulare County. The irrigation of a crop depends upon the type and depth of root system

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WHAT WILL IT COST TO GROW BLACK EYE BEANS IN TULARE COUNTY
 BASED ON A YIELD OF 1600 LBS. PER ACRE
 (Double Cropped)

Man labor at \$1.00 per hr.: medium wheel tractor @ \$1.60

Wilson E. Pendery *

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	Sample Costs		My Costs	
	Per Acre	Per Cwt.	Per Acre	Per Cwt.
PRE-HARVEST LABOR AND MATERIAL COSTS:				
Land preparation: man & tractor 2½ hrs.	\$ 6.50			
Planting: man & tractor .33 hr. (4 rows)	.86			
Cultipack: man & tractor .25 hr.	.65			
Seed: 20 lbs. @ 18¢	3.60			
Irrigate: 1 pre & 3 crop - 6 man hrs.	6.00			
Water: power for 2½ ac. ft. @ \$2.50	6.25			
Cultivation: 3X - man & tractor 1½ hrs.	3.90			
Hoe & weed: 4 man hrs.	4.00			
Miscellaneous labor & materials	2.00			
Total pre-harvest labor & material cost	\$33.76	\$2.11		
HARVESTING COSTS:				
Cut & windrow: man & tractor 1 hr.	2.60			
Combine - contract @ \$1.00/sack	16.00			
Hauling: roadsiding & to warehouse @ \$5.50/ton	4.40			
Reclean, fumigation & storage @ \$9.50/ton	7.60			
Sacks: 16 @ 25¢	4.00			
Total harvesting cost	\$34.60	\$2.16		
CASH OVERHEAD COSTS:				
General expense	3.42			
County taxes - 60% of \$6.00	3.60			
Misc., repairs, insurance, etc.	3.00			
Total cash overhead cost	\$10.02	\$.63		
TOTAL CASH LABOR AND FIELD POWER COST	\$78.38	\$4.90		
DEPRECIATION COSTS:				
Irrigation facilities (original cost \$110) 60%	4.20			
Equipment (except tractor & combine) cost \$17 + \$8	1.80			
Total depreciation	\$ 6.00	\$.37		
INTEREST ON INVESTMENT @ 5%				
Irrigation facilities: on ½ cost \$55 @ 60%	1.65			
Equipment - av. value - \$9.10	.46			
Land @ \$500 @ 60%	15.00			
Total interest on investment	\$17.10	\$1.07		
TOTAL COST OF PRODUCTION	\$101.48	\$6.34		

* Farm Advisor

** Extension Economist in Farm Management

LYGUS CONTROL COST

If lygus bug (cotton dauber) control is necessary, add the cost to the above cash cost and total cost figures.

it develops. The Blackeye has a poor root system when compared with most perennial and many annual crop plants, and does not use all of the moisture available between irrigations.

Irrigation should not be postponed until the plants suffer. This point is indicated when the leaves become dark green instead of a normal healthy bright green. An early light irrigation as soon after emergence as furrowing out can be accomplished should be beneficial. In any event irrigation should not be delayed beyond the blossoming period. From the first bloom until the first crop of pods is well set, the plants should be fully supplied with water. After this period, usually no further irrigation is required unless the soil has a poor water-holding capacity.

Fertilizer

Application of fertilizers to Blackeyes should be guided by actual tests. Generally this crop will not require fertilization. The plants are supplied with nitrogen by the nitrogen fixing bacteria formed in the nodules of the plant root. The use of phosphate or potash should be determined by the individual grower.

Cultivation and Weed Control

Cultivation is necessary only for weed control. Useless cultivation may destroy feeder roots, growing close to the soil surface, and markedly reduce the yield.

Insect Control

Control of the lygus bug (cotton dauber) may be necessary in Tulare County. Blackeye beans showing lygus damage are graded lower and usually sell for

less than do high quality beans.

Lygus injury to Blackeye beans can be reduced by treating the beans with DDT or Toxaphene in spray or dust form:

5% DDT-50% sulfur dust or)
5% DDT dust) 30 lbs./A

OR

1½ lbs. actual DDT/A from DDT
emulsion or wettable powder

OR

10% Toxaphene-50% sulfur dust or)
10% Toxaphene dust) 20-25 lbs./A

The field should be treated when counts approach one lygus per sweep with a standard insect net.

DDT AND TOXAPHENE ARE GENERALLY CONSIDERED TO BE SAFE TO USE AND NOT POISONOUS TO LIVESTOCK. HOWEVER, THEY SHOULD BE APPLIED SO THAT THEY WILL NOT DRIFT ONTO NEARBY HAY, PASTURE, OR FOOD CROPS.

Double Cropping and Crop Rotation

In successive cropping to Blackeyes a decline in yield and quality may occur. The reduction in yield appears to be principally due to an increase in harmful diseases.

Blackeyes may be double cropped with small grains. In such a practice the beans are planted on pre-irrigated, well-prepared soil from June 15 to July 4. The late-planted Blackeyes, however, are especially subject to rain damage. As much time as possible should be allowed between crops.

The nematode tolerant varieties are a good rotation

crop with cotton when the land is known to be infested with root-knot nematode.

Harvesting

Harvesting should be started as soon as a major part of the pods have turned straw color. Because the Blackeye will continue to grow until killed by frost, a harvest date must be chosen that will include the greater part of the crop. A delay in harvesting until all pods have turned color results in poor quality beans.

Just below the surface of the soil, the vine roots are cut with bean cutters which consist of long steel blades set at an angle. The cutting is begun early in the morning and is continued until the pods show signs of shattering. Usually a side delivery rake follows the cutter. The leaves from two or four rows are winrowed to dry for the pickup combine, which may either be self-propelled or tractor drawn. The speed of the cylinder should be regulated and adjusted according to the condition.

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