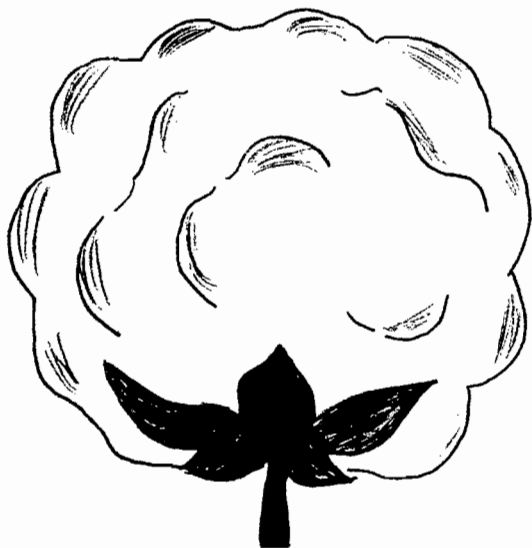


CT-VS-55-1

COTTON

COSTS & GENERAL HINTS ON PRODUCTION



University of California
Agricultural Extension Service
Farm & Home Advisors' Office
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UC Cooperative Extension

SOME HINTS ON COTTON PRODUCTION
In
KERN COUNTY

George V. Ferry
Farm Advisor

Soil Requirements:

Soils that are adapted to alfalfa, sugar beets and other deep-rooted field crops, will grow good cotton. Cotton has a root system that will penetrate 5 to 6 feet deep into the soil; therefore, a well drained soil would be desirable.

Preparation of ground prior to planting:

In general, it is a good practice to pre-irrigate the field before planting. Since cotton is a deep rooted crop, the pre-irrigation should wet the soil to a depth of at least 6 to 7 feet. Cotton may be planted on beds or on flat rows, but the seed bed should be firm and contain ample moisture to germinate the seed. Row widths may be from 38 inches to 42 inches depending on equipment and soil fertility. For mechanical harvesting, 40 inch rows are recommended.

Planting dates:

Planting dates range from late March to May 15 with the optimum planting dates from April 10th to April 20th. A rule of thumb for minimum temperature to plant, is when soil temperature reaches 58°F. at 8" depth at 8:00 A.M. for 3 consecutive days. Cotton should not be planted at a depth of over 2 inches.

Plant population:

In general, 40,000 plants per acre is the most satisfactory stand. This would average about 3 to 4 plants per foot of row. If the grower wishes to precision plant, 12 to 15 lbs. of seed per acre is recommended. This planting should result in about 40,000 plants per acre. It has been observed that different types of soils require different plant populations.

On soil that has a tendency to produce rank cotton, about 20,000 to 30,000 plants per acre gave best results. On lighter types of soil where rank cotton is not a problem, 40,000 to 50,000 plants per acre was best. Tests have shown no apparent differences in yield between plant populations of 20,000 up to 50,000 plants per acre, or spacings of 4 to 9 inches between plants.

IRRIGATION:

Cotton plants use varying amounts of water in different localities and soil types. The length of the growing and climatic factors such as humidity, temperature, wind, and hours of sunlight all help determine the water needs.

As the plant develops in size and leaf area, the rate of water use increases; thus you will need your heaviest irrigations in late July and early August. Then the temperatures are highest and the plants are at the peak of flowering and boll development.

These are some ways you can insure maximum results from irrigation:

- Be sure to wet the soil down to the lower levels with each irrigation. Deep soil moisture encourages full depth of plant rooting.
- Keep a readily available supply of moisture in contact with the roots at all times.
- Time your irrigations carefully. If you do a good job in the early growth stages, your plants will fruit earlier. Then you can harvest a higher percentage at the first picking.

You can determine your water needs more accurately if you use these checking methods.

- Check the soil moisture with a soil tube or auger. Observe the moisture conditions of the soil at several depths.
- Wilting plants in the drier portions of the field indicate that an irrigation is needed.

11-55

WHAT WILL IT COST TO GROW COTTON IN KERN COUNTY

George V. Ferry*

Burt Burlingame**

Based on a yield of 750 lbs. of lint per acre
 Man labor at \$.90 and \$1.05; 30 H.P. wheel tractor at \$1.60 per hour

	Sample Costs		My Costs	
	Per Acre	Per Cwt. L.	Per Acre	Per Cwt. L.
PREHARVEST LABOR AND MATERIAL COSTS:				
Land preparation: 4 hours - man and tractor	\$ 10.60			
Plant: (4 row planter) 2 men & tractor .3 hr.	1.07			
Seed: 18 pounds at 8¢	1.44			
Irrigate: 1 pre. and 6 crop - 21 hrs.	18.90			
Water: power to pump 3-1/2 A. ft. @ \$4.50	15.75			
Cultivate and fertilize: 3-1/2 man & 3 tractor hrs.	8.40			
Fertilizer: to provide 80 lbs. nitrogen	12.80			
Hoe & Weed: 3 times - 12 man hours	10.80			
Pest Control: apply dust twice - contract @ 4¢ lb.	2.00			
Dust: 50 pounds @ 9¢	4.50			
Miscellaneous labor and materials	2.50			
Total pre-harvest labor, field power & material	88.76	11.84		
HARVESTING COSTS:				
Picking \$1.50 Cwt.: machine - contract - 1st & 2nd pick	32.10			
Hauling: field to gin	1.50			
Ginning, bagging, ties, ins. & storage @ 1.00 cwt.	21.40			
Total harvesting cost	55.02	7.34		
CASH OVERHEAD COSTS:				
General expense: (5% of labor and material costs)	7.68			
County taxes:	6.25			
Miscellaneous repairs, insurance, etc.	5.00			
Total cash overhead costs	18.93	2.52		
TOTAL CASH, LABOR AND FIELD POWER COSTS:	162.71	21.70		
DEPRECIATION:				
Irrigation facilities: (original cost \$200)	15.00			
Crop equip: (except tractors & harvest.) cost \$17	1.70			
Total depreciation	16.70	2.23		
INTEREST ON INVESTMENT @ 5%:				
Facilities and equipment: 1/2 av. value - \$108.50	5.43			
Land at \$500	25.00			
Total interest on investment	30.43	4.06		
TOTAL COST OF PRODUCTION	209.84	27.99		
Credit for 1125 lbs. seed @ \$60 per ton	33.75	4.50		
NET COST OF PRODUCTION LINT COTTON	176.09	23.49		

*Farm Advisor

**Extension Specialist
 in Farm Management

These costs are estimated to be typical for the Kern County cotton grower. They are not designed to fit any single grower's cost. The cost will vary under different types of conditions. It is suggested that the above data be used as a guide.

CULTIVATION:

The primary purpose of cultivation is weed control. The cultivation should be shallow. This is because soils usually dry out as deeply as they are stirred. As soon as the plant reaches a sufficient height, the soil should be gradually worked toward them at each cultivation, in order to cover any weeds that appear in the row and at the same time throw up a small ridge along the row. It is easier, then, to control the subsequent irrigations, as well as furnish support for the cotton plant late in the season.

FERTILIZATION:

Extensive cotton fertilizer field trials have been conducted in Kern County during the past years. This work has shown that several factors influence the amount and type of fertilizer that should be used. Important factors to be considered are the cropping history of the land, type of soil, and the natural fertility of the soil.

Nitrogen has proven to be the most important single fertilizer element needed. An ammonia source of nitrogen is preferred to nitrate nitrogen because it is not readily leached below the root zone of the plants. These tests have shown that on heavy black soils such as Merced Clay loam best yields were produced with 40 to 50 pounds of actual nitrogen per acre. The medium type soils, such as the Hesperia series, will require about 80 to 100 lbs. of nitrogen; while the light soils, such as some of the San Emigdio series, will require 100 to 150 lbs. of nitrogen for best results.

Phosphorous is deficient as a plant food in the San Emigdio soil series. These soils are located in the Wheeler Ridge-Lakeview and Maricopa areas. Some other soils near Arvin and Rosedale may also require addition of phosphorous in the fertilizer practice.

Potash has not increased yields in any of these tests. In some instances, potash has actually decreased yields of cotton.

In general, fertilizer should be applied early in the growing season. Split applications are recommended only where leaching is a problem. The fertilizer should be side dressed and placed in a band about 6 inches to the side of the drilled row and about 4 inches below the level at which the seed was planted.

Insect Control:

Effective and timely insect control has a very important bearing on cotton yields. It is advantageous for the grower to be able to recognize it and evaluate the population of harmful insects. Further information may be obtained at the University of California, Agricultural Extension Service Office.

Defoliation:

Defoliation is recommended only when there is a distinct need. Some reasons for defoliation would be: increases machine picking efficiency, improves grade of lint, reduces boll rot, reduces leaf stain, and other reasons of less importance.

Some factors which contribute to good defoliation are:

- (1) Well leveled land with a gradient which insures good water penetration, and relative freedom from alkalinity.
- (2) An ample plant population per acre that is uniformly distributed over the field.
- (3) Sufficient fertility to insure good plant growth but with nitrogen, in particular, fairly well depleted by the time the crop is ready for defoliation.
- (4) A moderate, but constant soil moisture supply throughout the growing and fruiting season.