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CORN IN FRESNO COUNTY
COST ANALYSIS WORK SHEETS

by
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Corn in Fresno County is planted in April or May as a full season summer crop. Many growers plant corn in June and July, following the harvest of barley, oats, or an oat-vetch hay crop. This practice is often referred to as double-cropping.

Corn is grown for grain or for silage. For optimum yields it should be planted on fertile, well-drained soils. Planting it on shallow soils and soils high in salts will rarely produce economically profitable yields.

PLANTING

To obtain rapid germination and good seedling growth, corn should be planted when the soil temperature is above 50°F.

Planting rates should be determined by the size of the seed and plant population desired. A population of 18,000 to 24,000 plants per acre is desirable and if medium flat seeds are planted, approximately 14 to 16 pounds of seeds per acre will be needed.

FERTILIZATION

Corn is a heavy user of nitrogen. It will require 160 to 250 lbs. of actual nitrogen per acre. Any form of nitrogen can be used, but split applications, especially on sandy soils, are desirable.

In many areas of Fresno County, corn will benefit from phosphorus fertilization. A soil test is the best method to determine the need for phosphorus.

If phosphorus is needed, 10 - 18 lbs./A of P (elemental phosphorus) is adequate and in most areas of the County, an all water soluble source of phosphorus should be used.

IRRIGATION

During the growing season corn will require approximately 40" of water. The frequency of irrigation and the amount of water to apply at each irrigation should be determined by the depth and texture of the soil. Corn should not suffer from lack of moisture, especially when the plants are tasseling and silking.

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VARIETIES

Several well adapted varieties of hybrid corn are available to Fresno County growers. These varieties will produce mature grain in 120 to 160 days, or silage in 90 - 120 days.

New varieties of corn are developed and introduced yearly. The performance and local adaptability of old and new varieties are being evaluated continually by personnel of the University of California.

Information about corn varieties to plant is available at the local Farm Advisors Office.

CULTIVATION AND WEED CONTROL

Corn in its early stage of development is a poor competitor with weeds, but once it attains a height of 18 to 20 inches, it will shade and keep ahead of the weeds. Therefore, two well-timed cultivations should be adequate.

Effective selective herbicides are available for use in corn. Herbicides to be used should be selected with careful consideration of its residual properties. Certain chemical weed killers used in corn may limit the crops that can be planted following corn.

INSECTS AND DISEASES

The need for insect control, other than seed treatment, varies greatly from year to year. In certain years or in some areas, it is not needed; therefore, it is not listed as a cost item in these cost analysis work sheets.

HARVESTING & STORING

Corn can be harvested when the moisture content of the kernel is in the range of 22-25%, if grain drying facilities are available. For safe storage the moisture content of shelled corn should be 15% or below,

When harvesting for silage the kernels should be well dented and the average moisture content of the plants should be 67% to 70%.

COST OF GROWING CORN

The average yield of corn in Fresno County is 4,000 pounds per acre; but yields of 6,000 to 8,000 pounds per acre are not uncommon. With good management, a grower can produce 3 to 3½ tons per acre.

Land values, taxes, water and labor costs vary from one area of the county to the other. Hauling cost is influenced by the location of the field from the storage site. Therefore, the actual cost to produce field corn as a full season crop, or in a double-cropping program, on any one farm will vary from the ones here presented.

The usefulness of these cost analysis work sheets is limited. They can be useful as work sheets or guides when planning a cropping program to estimate needed cash and to make production cost comparisons between two or more crops.

**FIELD CORN - SINGLE CROPPED
COST ANALYSIS WORK SHEET**

Sample costs to produce field corn, single cropped, in Fresno County. Based on a yield of 6,000 lbs. per acre. Man labor at \$1.30 per hour total, and equipment operator \$1.60. Medium wheel tractor per hour cash costs \$1.20, depreciation \$.60 and interest \$.30.

	Sample Per Acre	Costs Per Cwt.	My Costs Per Acre	Per Cwt.
<u>PRE-HARVEST CASH COSTS</u>				
Land preparation: 1 3/4 hr. man and tractor	4.90			
Fertilize: material, 180 lbs. N. at 8¢; application, 1/2 hr. man and tractor	14.40			
Plant: seed, 15 lbs. at 25¢ 1/3 hr. man and tractor	3.75			
Cultivate 2 times: total 1 hr. man and tractor	2.80			
Irrigate: (1 pre and 5 - 7 crop) 6 man hrs. Water: power for 3 acre feet at \$5	7.80			
Misc. including 1 man hr. 2/3 hr. tractor	15.00			
County Taxes:	2.80			
Repairs to equipment except tractor	11.55			
Office, car, operating capital, insurance, etc.	2.50			
TOTAL PRE-HARVEST CASH COSTS	72.23	1.20		
<u>HARVESTING COSTS</u>				
Combine: man and S.P. combine harvester	4.75			
Haul from Field: \$2 ton	6.00			
TOTAL HARVESTING COSTS	10.75	.18		
TOTAL CASH COSTS	82.98	1.38		
<u>DEPRECIATION</u>				
Irrigation system and well: cost \$210 15 yrs.	14.00			
Tractor: 4 1/4 hrs. at 60¢	2.55			
Combine: Cost \$60 10 yrs. life	6.00			
Other equipment \$20 cost 10 yrs. life	2.00			
TOTAL DEPRECIATION	24.55	.41		
<u>INTEREST ON INVESTMENT AT 6%</u>				
Irrigation system and well: 1/2 cost \$105	6.30			
Tractor: 4 1/4 hrs. at 30¢	1.28			
Combine: 1/2 cost \$30	1.80			
Other Equipment: 1/2 cost \$10	.60			
Land: \$750	45.00			
TOTAL INTEREST ON INVESTMENT	54.98	.92		
TOTAL COST OF PRODUCTION	162.51	2.71		

SAMPLE COSTS PER CWT. AT VARYING YIELDS

Yield: lbs. per acre	3000	4000	5000	6000	7000	8000
Cash costs per cwt.	2.66	2.02	1.64	1.38	1.20	1.06
Total cost per cwt.	5.32	4.01	3.23	2.71	2.33	2.06

HOW MUCH PROFIT PER ACRE?

Yield in Tons/Acre	Sample Prod. Costs/Acre	Selling Price of Field Corn per Ton				
		<u>\$46.00</u>	<u>\$48.00</u>	<u>\$50.00</u>	<u>\$52.00</u>	<u>\$54.00</u>
2	\$160.51	-\$68.51	-\$64.51	-\$60.51	-\$56.51	-\$52.51
2 1/2	161.51	- 46.51	- 41.51	- 36.51	- 31.51	- 26.51
3	162.51	- 24.51	- 18.51	- 12.51	- 6.51	- 0.51
3 1/2	163.51	- 2.51	4.49	11.49	18.49	25.49
4	164.51	19.49	27.49	35.49	43.49	51.49

**FIELD CORN - DOUBLE CROPPED
COST ANALYSIS WORK SHEET**

Sample costs to produce field corn, double cropped, in Fresno County. Based on a yield of 4,000 lbs. per acre. Man labor at \$1.30 per hour total and equipment operator \$1.60. Medium wheel tractor per hour cash costs \$1.20, depreciation \$.60 and interest \$.30.

	Sample Costs		My Costs	
	Per <u>Acre</u>	Per <u>Cwt.</u>	Per <u>Acre</u>	Per <u>Cwt.</u>
<u>PRE-HARVEST CASH COSTS</u>				
Land preparation: 1 hr. man and tractor	2.80			
Fertilize: 160 lbs. N. at 8¢ application, ½ hr. man and tractor	12.80			
Plant: seed, 15 lbs. at 25¢	.70			
1/3 hr. man and tractor	3.75			
Cultivate 2 times: total 1 hr. man and tractor	.93			
Irrigate: (1 pre and 4 - 5 crop) 5 man hrs.	2.80			
Water: power for 2½ acre feet at \$5	6.50			
Misc: including 1 man hr. and 2/3 tractor hr.	12.50			
County taxes: 60% of \$11.55	2.80			
Repairs to equipment except tractor	6.93			
Office, car, operating capital, insurance, etc.	2.00			
TOTAL PRE-HARVEST CASH COSTS	3.75	58.26	1.46	
<u>HARVESTING COSTS</u>				
Combine: custom, \$10 acre + \$3 ton	16.00			
Haul from field at \$2 ton	4.00			
Drying: \$4.75 ton	9.50			
Haul to storage: \$1 ton	2.00			
TOTAL HARVESTING COSTS	31.50	.79		
TOTAL CASH COSTS	89.76	2.25		
<u>DEPRECIATION</u>				
Irrigation system: \$210 cost, 15 yrs. 60%	8.40			
Tractor: 3¼ hrs. at 60¢	1.95			
Other equipment: \$20 cost 10 yrs. 60%	1.20			
TOTAL DEPRECIATION	11.55	.29		
<u>INTEREST ON INVESTMENT AT 6%</u>				
Irrigation system: ½ cost \$105 60%	3.78			
Tractor: 3¼ hrs. at 30¢	.98			
Other equipment: ½ cost \$10 60%	.36			
Land: \$750 60%	27.00			
TOTAL INTEREST ON INVESTMENT	32.12	.80		
TOTAL COST OF PRODUCTION	133.43	3.34		

SAMPLE COSTS PER CWT. AT VARYING YIELDS

Yield: lbs. per acre	3000	4000	5000	6000	7000
Cash costs per cwt.	2.81	2.25	1.90	1.68	1.51
Total costs per cwt.	4.27	3.34	2.78	2.40	2.14

HOW MUCH PROFIT PER ACRE?

Yield in Tons/Acre	Sample Prod. Costs/Acre	Selling Price of Field Corn per Ton				
		\$46.00	\$48.00	\$50.00	\$52.00	\$54.00
1½	\$128.06	\$-59.06	\$-56.06	\$-53.06	\$-50.06	\$-47.06
2	133.43	-41.43	-37.43	-33.43	-29.43	-25.43
2½	138.81	-23.81	-18.81	-13.81	- 8.81	- 3.81
3	144.18	- 6.18	0.18	5.82	11.82	17.82
3½	149.56	11.44	18.44	25.44	32.44	39.44

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