



University of California  
Agricultural Extension Service  
Merced County

## CORN FOR PROFIT IN MERCED COUNTY

By

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Field corn has become well established in Merced County as an ensilage crop. In recent years it has been grown for grain. This leaflet outlines the usual cultural practices for the crop. A special table of estimated costs of production has been included for your consideration. You might want to keep a record of your costs for comparison in the columns provided.

### HOW ABOUT SOIL?

Corn requires good soil for high yields. Heavy textured (Clay loam) soils are easier to manage from an irrigation or moisture standpoint. Sands require very frequent irrigations. Actually, corn has done better than expected on shallow hardpan soils, however, avoid alkali and put the corn on good land for best results.

### VARIETIES:

Variety trials have been conducted by farm advisors and the experiment station for a period of years. As a rule the late maturing varieties out yield the early ones. Some varieties seem to be less susceptible to Fusarium or pink ear rot than others.

The purpose for which the crop is grown, silage or grain, also has some influence on variety choice, as well as time of planting. If you plant varieties of different maturity, try to handle each one according to its needs for moisture. Our trials and observations show the following to be good choices:

## For Silage

Texas 30  
Texas 32  
Pfister 483  
Pioneer 505 (White)

## For Grain

Texas 30  
Pioneer 302

If you are interested in results of corn variety trials they are available in a separate leaflet.

### WHEN DO I PLANT?

For a grain crop plant in April. In cold ground ( $50^{\circ}$  -  $55^{\circ}$ ) corn will require about 18 days to come up. When the soil warms up to  $60^{\circ}$  -  $65^{\circ}$  corn will come up in 8 to 10 days. Corn for silage can be planted from June 15 to the first of July.

### SEED TREATMENT:

Seed treatment is low cost insurance. Make sure the seed you buy has been treated for both rot and insect damage.

### SEEDING RATE:

Plant 10 to 12 pounds per acre for grain and 15 pounds per acre for silage.

One plant per 6 to 9 inches has given highest grain yield for most varieties. Texas 30 will tolerate wider spacing. If you plant two or more varieties be sure to use the same size seed.

### FERTILIZATION:

Be prepared to use large amounts of nitrogen.

SAMPLE COSTS TO PRODUCE FIELD CORN FOR GRAIN IN MERCED COUNTY (Single Crop)

Yield - 2½ Tons Shelled Corn

Operation	Hours Per Acre	Cash and Labor Cost Per Acre			Total	Your Costs
		Labor	Fuel and Repairs-Equip.	Material & Other Costs		
<b>Cultural:</b>						
Land Preparation	2.0	\$2.00	\$2.20		\$4.20	
Seed & Planting (4 row)	.5	.50	.65	12# seed @ 25¢ \$ 3.00	4.15	
Cultivate & Fertil. (4 row)	1.0	1.00	1.10	120# N @ 12¢ 14.40	16.50	
Irrigate (1 pre., 6 crop)	7.0	7.00	2.00	3½ ac. ft., tax & power 7.00	16.00	
Miscellaneous		1.65	.85	1.35	3.85	
Taxes				6.00	6.00	
<b>Total Cultural Costs</b>		<b>\$12.15</b>	<b>\$6.80</b>	<b>\$31.75</b>	<b>\$50.70</b>	
<b>Harvest:</b>						
Pick and Shell				Contract \$12.50		
Haul				2½ Tons@ 2.00 per ton 5.00		
<b>Total Harvest Costs</b>				<b>\$17.50</b>	<b>\$17.50</b>	
<b>Total Cash and Labor Costs</b>					<b>\$68.20</b>	
<u>INVESTMENT</u>	<u>Per Acre</u>			<u>Annual Cost</u>		
Land	\$4.00			Depreciation Interest @ 6%		
Irrig. System	40			-- \$24.00		
Buildings	40			\$2.00 (20 yrs.) 1.20		
Tractor & Truck	30			2.00 (20 yrs.) 1.20		
Equipment	20			3.00 (10 yrs.) .90		
Total	\$530			2.00 (10 yrs.) .60		
				\$9.00 \$27.90		\$36.90
				<b>Total Cost Per Acre</b>		<b>\$105.10</b>
				<b>Cost Per Ton @ 2½ Ton Yield</b>		<b>42.04</b>

Actual nitrogen requirements are:

- 95# required for a 3360# per acre yield
- 150# required for a 5600# per acre yield
- 190# required for a 6720# per acre yield

Since a good portion of this nitrogen requirement can be met by the soil it is not necessary to supply all of it in commercial form. Phosphorus has not been considered a limiting factor for corn production. A few responses have been noted, but the increased yields have not paid for the material. If you want to try phosphorus on corn it should be applied at or before planting.

#### IRRIGATION:

Early in the season and late in the season water requirements are low. At peak growth, during hot spells, corn can use one-half acre inch per day. With 3-inch applications, an irrigation every six days will barely keep up with demand. Where large heads of water are available, flood irrigation can be very efficient.

Late irrigation after the kernels are dented should be avoided. A USDA Farmers Bulletin No. 2059 entitled "Irrigating Corn" gives some good pointers. It is available at our office for your use.

#### CULTIVATION:

Do not cultivate except to destroy weeds. Root pruning by deep cultivation should be avoided.

## PESTS & DISEASES:

Fusarium or pink ear rot is a serious disease for grain, but not important for silage. Some varieties are more resistant than others to this disease.

Corn ear worm and corn aphid are not considered serious enough pests to justify control. Red spider can cause serious damage to silage corn but control measures are not considered practical.

## HARVESTING:

Often the corn grower with small acreage will be money ahead by hiring custom operators for harvesting.

## DRYING:

If corn is not dry enough to store at harvest time the grower can either take it to a commercial drier, or be prepared for storage and forced air drying on the farm. Plans for construction of forced air driers are available at the Farm Advisors Office.

## MARKETING:

In recent years the market price at harvest time has been low. Adequate on-the-farm storage will make it possible to hold corn for more favorable prices.

## CORN FACTS:

56 Lbs. shelled corn - 1 bushel  
70 Lbs. ear corn - 1 bushel  
60 Bu. (3360#) grain crop - 10 tons silage (apx.)

## WHERE IS THE PROFIT?

There are three factors which determine profit:

Yield per acre

Cost per unit

Price per unit

Two of the three factors are subject to some control by the farmer. Assuming that the costs in this leaflet are "rock bottom" what is the effect of yield per acre?

<u>Yield #/acre</u>	<u>Cost per Cwt.</u>	<u>Cost per Ton</u>
4000	\$2.60	\$52.05
5000	2.10	42.04
6000	1.76	35.36

With the prospect of a price of \$45 a ton for corn, a yield of  $2\frac{1}{2}$  tons per acre is about the break even point. Your profit will depend on beating the average yield and cutting the sample costs.