

FIELD CORN



in



University of California
Agricultural Extension Service
Merced County

mep

FIELD CORN 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. California imports corn from the midwest at the rate of 2000 tons a day, so there is a good market for this crop. In fact there is a good local market with the poultry and livestock feeding industries. 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 AND SEEDBED?

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. Corn can be handled similar to cotton, either furrow out, pre-irrigate, and plant on a harrowed bed, or pre-irrigate and plant flat. A cotton planter with corn plates will be satisfactory.

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. Based on local experience we recommend the following varieties, all of which are late maturing:

For Grain

Pioneer 302
De Kalb 1002
Pfister 484

For Silage

Pioneer 505 (white), 300
De Kalb 1002
Texas 26 or 30

If you should decide to try several varieties try to get those of similar maturity or plant them for successive maturity and harvesting.

WHEN DO I PLANT?

For a grain crop plant in April. In cold ground (50°-55°) corn will require about 18 days to come up. When the soil warms up to 60°-65° 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.

3 oz. of Semesan Jr. per 100 lbs. of seed plus
4 oz. of 25% lindane per 100 lbs. of seed.

This combination will protect against seed rot and wireworm.

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.

FERTILIZATION:

Be prepared to use large amounts of nitrogen.

Actual nitrogen requirements are (including N in soil):

3360 #	corn per acre will require	95 #	of Nitrogen
5600 #	" " " " "	158 #	" "
6720 #	" " " " "	190 #	" "

The other common fertilizer elements, phosphorus and potassium, seem to be present in the soil in adequate amount for full production provided there is enough available nitrogen. The bulk of the nitrogen can best be applied at or before planting. If corn shows nitrogen deficiency by yellowing and firing of the lower leaves nitrogen can be added in the irrigation water.

IRRIGATION:

Total water use will be about the same as cotton; however corn will usually require more frequent irrigations. Considerable savings in labor can be made by checking and flood irrigating. This method also permits quick, light applications of water.

Late applications of water should be avoided; however corn will make good use of water until it is well dented.

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.

HARVESTING:

Many failures in corn production have resulted from losses at harvest time. There are three methods of harvesting corn: (1) the picker, (2) the picker-sheller, and (3) the modified combine.

The picker and picker-sheller operate at high efficiency in corn of over 20% moisture. However, field losses from this type of equipment run as high as 25% in dry corn, due to shelling in the picker rolls. Unfortunately the pickers work at their best efficiency in corn too wet to shell and store.

The combine has real possibilities in dry corn. Here the losses in grade are the lowest, and the cost of drying is saved. Special headers which bring the corn into the machine are available to fit most combines. Hours of use will influence the cost per acre or ton. Often hiring a custom operator will be cheaper than buying special harvesting equipment.

DRYING:

This brings up the problem and cost of drying. Natural drying on the cob in low piles, forced air drying, and artificial drying with heated air are several methods being used. Cost factors either in equipment, labor, or drying charges should be considered as part of the harvest operation. Plans for construction of forced air driers are available at the Farm Advisors office.

CORN FACTS:

56 lbs. shelled corn = 1 bushel

70 lbs. ear corn = 1 bushel

60 bu. (3360 lb.) grain crop = 10 tons silage (approx.)

COST OF GROWING FIELD CORN IN MERCED COUNTY

Based on a yield of 4500 pounds per acre.

(Man Labor 90¢ hr., Heavy Tractor \$2.50 hr., Light Tractor \$1.20 hr.)

	Sample Costs per Acre	My Costs per Acre
PRE-HARVEST LABOR & MATERIAL COSTS:		
Land preparation: disking, etc. 2 hrs. with man & heavy tractor.....	6.80	
Planting: 2 men & heavy tractor 1/2 hr...	2.15	
Irrigation(1 pre. & 6 crop): 7 man hrs.	6.30	
Hoeing: 0-4 man hours - Average 2 hrs..	1.80	
Cultivate: 2 times, man & light tractor 1 1/2 hrs.....	3.15	
Seed: 10 lbs. at 25¢.....	2.50	
Fertilizer: 150 lbs. nitrogen at 14¢ applied.....	21.00	
Water: 3 acre feet at \$2.00.....	6.00	
Miscellaneous labor & materials.....	2.00	
TOTAL PRE-HARVEST LABOR & MATERIALS COSTS	51.70	
HARVESTING COSTS:		
Pick & haul (contract).....	15.00	
Shelling at \$3.00 per ton.....	6.75	
Drying if necessary.....	13.50	
TOTAL HARVEST COSTS	35.25	
CASH OVERHEAD COSTS:		
General expense.....	3.00	
County taxes: \$80 value at \$4.50.....	3.60	
Repairs, insurance, misc. cash costs...	3.00	
TOTAL CASH OVERHEAD COSTS	9.60	
TOTAL CASH LABOR, FIELD POWER, & MATERIAL COSTS	96.55	
DEPRECIATION:		
Irrigation facilities \$60 cost - 20 yr. life.....	3.00	
Tillage & other equipment \$15 for 10 yrs.	1.50	
TOTAL DEPRECIATION	4.50	
INTEREST ON INVESTMENT AT 5%:		
Irrigation facilities, tillage, etc. at 1/2 original cost of \$37.50.....	1.88	
Land at \$450.....	22.50	
TOTAL INTEREST	24.38	
TOTAL COST OF PRODUCTION	125.43	