

BARLEY AND CEREAL GRAIN PRODUCTION
PALO VERDE VALLEY - RIVERSIDE COUNTY

Barley has ranged from 8,000 to 13,000 acres in the Palo Verde Valley during the past four years. It is often planted on saline or alkali soil and improperly cared for. Accordingly, average yield is about 3,000 pounds per acre with 5,000 pounds being possible on fair to good land under careful management. Wheat and oat (grain) acreage in the Valley is generally less than 100 acres.

SOILS: Barley's soil requirements are not strict. It tolerates moderate amounts of salinity and grows fairly well on soils in poor physical condition. Naturally it does best on deep, salt-free, medium-textured soils, but because it lodges so badly under the best conditions, a wide range of soils can produce optimum yields. Barley yields poorly in sands. Wheat and oats are somewhat less salt tolerant and generally have stricter soil requirements.

LAND PREPARATION: Cereal grains will do the best with a minimum amount of pre-plant soil tillage, especially on saline or alkali fields. One discing is often sufficient. The land should be level enough for uniform irrigation and smooth enough to harvest.

VARIETIES: Barley varieties recommended are California Mariout, Blanco Mariout, and Arivat. Ramona or Lerma Rojo wheat are recommended. Curt or Indio oats are the best oat varieties but even low shatter varieties of oats shatter badly under Palo Verde Valley conditions and yield one-fourth less than barley.

PLANTING: December 1 through January 1 is the optimum period. California or Blanco Mariout should be planted after about December 20. Plantings before December 1 may be attacked by Yellow Dwarf disease. After January 15, growers should consider planting safflower or grain sorghums. Cereal grains are drilled at rates of between 80 and 150 pounds of seed per acre and irrigated up. Later plantings and sandy fields require high rates.

FERTILIZER: Eighty to 120 pounds actual nitrogen per acre is adequate for optimum yields on most soils. When needed, 40 to 80 pounds P_2O_5 per acre, pre-plant or at planting time, is adequate. A soil test may aid in determining need for phosphate for barley. (A good practice is to apply all of the phosphate and one-half the nitrogen pre-plant, and the rest of the nitrogen soon after emergence.)

IRRIGATION: Cereal grains should be adequately irrigated especially when it is six inches high, just before coming out of the boot, and in the milk. Cease irrigating at the hard dough stage.

PESTS, DISEASES, AND WEEDS: Certified seed is the best insurance against loose smut. Yellow Dwarf cannot be controlled except by "resistant" varieties or planting after December 1 when the aphid vector population is the lowest. Yellow Dwarf is often seen in barley fields already damaged by some other adverse condition such as high amounts of salt. Nearly all broad-leafed weeds, which are bothersome to cereal grain, can be controlled by spraying the field before the grain heads but after it is six inches high with 2,4-D. Wild oats can be controlled with Carbyne. Growers may obtain, upon request from the farm advisors' office, pest, disease, and weed control guides.

HARVESTING: Combine the grain when the heads and stalks are dry enough to snap and not bend, and the grain is below 15 per cent moisture. The straw intake should be less than 120 pounds straw per minute and the reel speed to ground speed ratio should be about 1.5.

BARLEY AND OTHER CEREAL GRAINS
IN
DESERT VALLEYS - RIVERSIDE COUNTY, 1961

SAMPLE COSTS OF PRODUCTION

Based on 3,500 pounds yield per acre and 1/2 year land utilization.

	LABOR & EQUIP- MENT COST/Acre	MATERIALS KIND & COST/Acre	TOTAL COST/Acre
Disc-2x	\$ 5.00		\$ 5.00
Plant	2.00	100 lbs seed \$4.00	6.00
Fertilize	1.50	100 lbs N 8.50 50 lbs P ₂ O ₅ 6.25	16.25
Border-1x	.75		.75
TOTAL LAND PREPARATION AND PLANTING			\$ 28.00
Fertilize		50 lbs N \$4.25	\$ 4.25
Irrigate-8x	\$ 4.80	Water 1/2 yr. 3.75	8.55
Ditch work, miscellaneous	1.00	1/2 yr. 1.00	1.00
TOTAL GROWING PERIOD			\$ 13.80
TOTAL CULTURAL COST (Land preparation, planting, plus growing period)			\$ 41.80
Taxes and standby 1/2 yr.			\$ 4.75
Cash overhead (office, car, phone, insurance, etc.)-1/2 yr.			5.50
Depreciation on buildings and equipment-1/2 yr.			.25
Interest on investment on land, buildings, and equipment-1/2 yr.			15.00
TOTAL CASH AND NON-CASH OVERHEAD-1/2 yr.			\$ 25.50
TOTAL PREHARVEST COST			\$ 67.30
Harvest			
Combine @ \$5/Acre plus 10¢ cwt.			\$ 8.50
Haul @ 10¢ cwt.			3.50
TOTAL HARVEST COST			\$ 12.00
TOTAL ALL COSTS			\$ 79.30
TOTAL COST PER TON		\$45.30	

The above sample costs are based primarily on contract rates which include interest on investment and depreciation on equipment used. Efficient owner-operators will usually perform these operations for less than the above costs.

PRICES: Average prices over the last 5 years as reported by the Agricultural Commissioners' office have ranged from \$2.10 to \$2.30 per cwt. in the Palo Verde Valley. All barley produced in the Palo Verde Valley can be sold locally to the feed lot industry.

Agricultural Extension Service, Room 7, Post Office Building, Riverside, Calif.