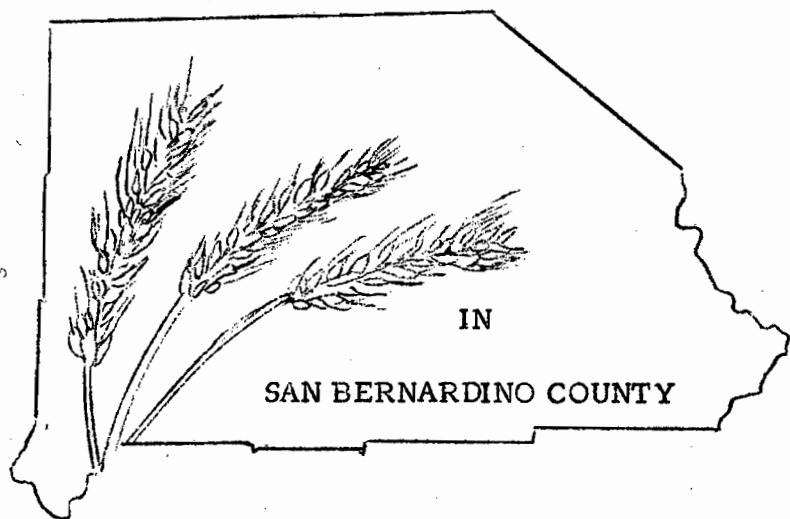


# IRRIGATED AND DRY-FARMED SMALL GRAINS



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# IRRIGATED AND DRY-FARMED SMALL GRAINS

IN

## SAN BERNARDINO COUNTY

Production of irrigated small grains in San Bernardino County is limited almost entirely to the High Desert. There are two reasons for this:

1. Small grains are a very low-income crop, and growers cannot afford to produce them on high-priced land or with high-cost water.
2. In the Valley areas, cereals and sorghums can be utilized more economically as forages because of the dairy industry.

About 200 to 1,000 acres are grown annually on the High Desert, and acreage is almost limited to that grown in rotation with alfalfa or desert entry land development.

Dry-farmed small grain production is limited to the Valley areas, and acreages vary from 500 to 2,500 acres.

### Production Factors

#### Seedbed Preparation

Cereals can be grown on a wide range of soil types. Of the cereals, barley is the most tolerant of alkaline or saline conditions, and frequently is used as an "indicator" crop in desert entry development.

In rotation with alfalfa, growers will frequently drill alfalfa seed into the grain stubble. This requires careful seedbed preparation for the cereal crop.

### Seed

Growers should always use seed of the best quality available. Remember: The cost of seed is only a small percentage of the total production cost of any crop, but use of poor seed could easily result in greatly reduced yields. Planting certified seed assures you the seed has known genetic identity and purity, plus high quality.

### Seeding Recommendations

#### Planting Calendar - High Desert

	<u>Earliest to Latest Date</u>	<u>Optimum</u>
<u>Barley:</u>		
Rojo	Sept. 15 to Nov. 15	Oct. 1 to Nov. 1
California Mariout	Feb. 15 to April 1	Feb. 15 to March 1

### Oats:

Fall:	Sept. 15 to Dec. 1	Oct. 1 to Nov. 15
Spring:	Feb. 15 to April 15	Feb. 15 to March 1

## Planting Calendar - High Desert

(Continued)

	<u>Earliest to Latest Date</u>	<u>Optimum</u>
<u>Wheat:</u>	Nov. 1 to Feb. 15	Dec. 15 to Jan. 15

## Planting Calendar - Valley

	<u>Earliest to Latest Date</u>	<u>Optimum</u>
<u>Barley:</u>		
Rojo	Oct. 1 to Dec. 15	Oct. 1 to Nov. 1
California Mariout	Oct. 1 to Feb. 1	Dec. 15 to Jan. 15

### Oats:

<u>Fall:</u>	Oct. 1 through March 15	October and January
<u>Wheat:</u>	Nov. 1 to Jan. 15	Dec. 15 to Jan. 1

Seeding rates are generally from 60 to 80 pounds per acre when drilled. When broadcast, rates should be increased by 25 per cent as compared with drilling.

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IRRIGATED CEREAL GRAIN  
FOR MOJAVE DESERT  
SAN BERNARDINO COUNTY

Based on: 120 Acres, 20 in Grain  
Rotation: Cereals to Corn, to  
Alfalfa for 3 years

Labor: Tractor Operator - \$1.50/hr.  
Other Labor - \$1.25/hr.  
40 h.p. Tractor - \$1.35/hr.

Interest: 6% on 1/2 Original Cost

1964

Yield: 3,000 lbs. Grain

Operation	Annual Hours	Labor	Equipment	Materials	Cost	Combined Costs	Total Cost
<b>Land Preparation</b>							
Pre-Irrigate	.5	\$ .65	\$	Water - 1½" @ \$4.25/Acre-foot	\$ .55	\$ 1.20	\$
Flow	1.0	1.50	1.85			3.35	
Disc - 2 x	.6	.90	.90			1.80	
Border	.5	.75	.70			1.45	
Harrow and Float	.5	.75	.80			1.55	
Water Level - 3 x	1.0	1.50	1.45	Water - 6" @ \$4.25/Acre-foot	2.15	5.10	14.45
<b>Cultural</b>							
Plant and Fertilize*	.6	.90	1.30	Seed - 80 lbs. treated @ 6¢/lb.	4.80		
				N - 40 lbs. @ 11¢/lb.	4.40	11.40	
Irrigate - 6 x	2.0	2.50	--	Water - 1½ Acre-feet @ \$4.25/A-ft.	6.40	8.90	20.30
<b>Harvest</b>							
Combine - Contract - 3,000 lbs. @ \$6/Acre, plus 25¢/cwt. over 2,000 lbs.						8.50	
Haul - Contract - 10¢/cwt.						3.00	11.50
<b>Cash Overhead</b>							
General Expense (accounting, office, insurance, transportation, etc.)						6.20	
Taxes						5.50	11.70
						<b>TOTAL CASH COSTS</b>	<b>\$ 57.95</b>
<b>Non-Cash Overhead</b>							
		<u>Investment</u>	<u>Depreciation</u>	<u>Interest</u>			
Land		\$600.00	\$ --	\$36.00	Depreciation		17.40
Equipment (10-yr. life)		111.75	11.15	3.35			
Building (20-yr. life)		25.00	1.25	.75	<b>TOTAL CASH AND DEPRECIATION COSTS</b>		<b>\$ 75.35</b>
Irrigation System (30-yr. life)		150.00	5.00	4.50	Per Cwt.	\$2.50	
		<u>\$886.75</u>	<u>\$17.40</u>	<u>\$44.60</u>	Interest on Investment		44.60
					<b>TOTAL ALL COSTS</b>		<b>\$119.95</b>
					Per Cwt.	\$4.00	

\* If phosphorus is deficient, apply 40 to 50 lbs. before discing.

Blanco Mariout - Briefly, this is a "white-seeded California Mariout" variety. It is adapted to the same areas as California Mariout.

Rojo - Released in 1944, it is much later in maturity than California Mariout. It is more tolerant to yellow dwarf than any other California barley variety. Although it has out-yielded California Mariout in locally conducted trials, difficulty experienced in removing the awns at harvest has restricted its acceptance.

#### Wheat:

Ramona 50 - A very early, short, high-yielding variety. In 1959, it accounted for about 42 per cent of the total acreage planted in California.

Onas 53 - This variety is medium in maturity and height, with a stiff straw. It is generally adapted to areas where later maturing varieties are necessary because of frost hazard.

#### Rye:

Use of cereal rye is restricted mainly to use as a forage or erosion control crop, with little demand for use as a feed grain. See leaflet "Cereals for Forage in San Bernardino County" for description of rye varieties.

## Irrigation

One and one-half to two acre-feet of water will be required to produce a high yield of cereal grain. Moisture stress between jointing and heading stages is more injurious to the plants than in earlier or later stages of development. Irrigation after heading, or in the milk stage, is seldom beneficial.

## Fertilization

Cereals following alfalfa require very little nitrogen. This would also be true of phosphate if the previous crop was well fertilized.

In case of a deficiency, 40 to 60 pounds of actual nitrogen per acre and 30 to 50 pounds of actual phosphate per acre should be applied.

## Diseases and Pests

Cereal seed should be treated with an effective fungicide for control of seed-borne diseases. Control of yellow dwarf is only practical with tolerant or resistant varieties.

An annual publication "Pest Control Guide for Small Grains" is available from the Agricultural Extension Service office.

## Weeds

An annual publication listing latest registered and recommended weedicides is also available from this office.