

Rec April 1907

GROWING SPRING AND FALL POTATOES IN THE
WESTERN VALLEYS OF RIVERSIDE COUNTY

Potatoes are well adapted to Western Riverside County. Under good management yields of 400 - 100 pound sacks of spring planted potatoes are not uncommon. The fall crop usually yields lower than the spring crop under otherwise similar situations. A fall crop of 300 - 100 pound marketable sacks is considered good.

SOILS: For best tuber formation and yield, potatoes prefer sandy-loam and loam soils. Fine textured soils and soils which tend to pack are undesirable. Alkali soils should be avoided as should soils and irrigation waters high in boron. Experienced growers prefer not to plant potatoes on the same land oftener than once every four years.

VARIETIES: White Rose, a long white variety, is most commonly planted. Occasionally, plantings of Red Pontiac are made.

PLANTING:

Time: Spring Crop - March 1 to April 15 - for harvest July 1-15.
Fall Crop - July 20 to August 15 - for harvest December, January
(In warm locations potatoes are sometimes planted in late February for the production of seed for fall planting.)

Method: Spring Crop - Usually no pre-irrigation is required for the spring crop. Following a chiseling, plowing or heavy discing, and as many light tillage operations as necessary to break down clods, the potatoes are planted with special planting machinery. Some growers plant "flat" and furrow out with the first fertilizer application; some growers prefer to plant and furrow out in one operation.

Fall Crop - Pre-irrigation is necessary and should be uniform. Sprinkler irrigation is often used for this purpose. On light colored, light textured soils a sprinkling is given as the shoots emerge to prevent shoot burn which often occurs under such conditions.

Fall crop seed is often cut 12 to 24 hours ahead of planting, stored in sacks in the shade and wet down several times with a hose. The purpose of this procedure is to "suberize" the cut surface of the seed piece to prevent break-down after planting.

Amount of Seed: Spring Crop - The usual planting rate for the spring crop is 1800 pounds per acre.

Fall Crop - Although 1800 pounds is sufficient under ideal conditions, many growers prefer to plant 2200 - 2500 pounds per acre. This rate is used to compensate for "break-down" of seed pieces before emergence.

FERTILIZERS: Potatoes require heavy nitrogen application for maximum production. 160 or more pounds of actual nitrogen from ammonia sources such as sulfate of ammonia, anhydrous or aqua ammonia is the standard rate. Some growers supply part of this nitrogen from time to time on a given piece of land from manure applied at the rate of five tons per acre well ahead of planting.

Phosphate is not usually needed but a few soils in the county have shown a slight tendency to respond to this element. Growers in doubt, should make trial applications of phosphate to a few rows. Manure, where used, supplies some of the phosphate requirement.

IRRIGATION: Frequent irrigation is a must. Some soils need irrigation every four days or more (often applied in every other furrow every other day). No precise rule can be laid down except that potatoes should not be allowed to suffer from lack of adequate soil moisture. Growers should not attempt to grow potatoes unless they can get water "on call".

A total of $3\frac{1}{2}$ to 4 acre feet per acre per crop is often required to irrigate potatoes adequately. Growers of fall potatoes using sprinklers have produced maximum crops using as little as 2 acre feet of water applied to the crop.

PEST CONTROL: (For more detail, ask for Control of Potato Insects and Potato Disease Control).

- Tuber Worm - Dust with D.D.T. on finding moths or worms in the field. Two to three dustings are often necessary.
- Wire-worms - Treat soil with D.D.T. four to six months previous to planting. Use aldrin if treatment is made just before planting.
- Nematodes - Fumigate soil several weeks before planting with E.D.B. or D.D. This treatment also kills wire-worms.
- Scab - Where scab is serious, rotation is necessary. Sulfur applied to the soil sometimes reduces scab infestation for crops planted 8 to 12 months later but is impractical on high lime soils.
- Rhizoctonia- A soil fungus. Only known control is rotation. Alfalfa should not be directly followed by potatoes.
- Seed Born Diseases - Many rots, mosaics and wilts are introduced and spread through infected tubers used for seed. The only practical control is to use disease free seed. Where knowledge is lacking on locally produced seed, certified seed should be used.

HARVESTING AND MARKETING: Potatoes are usually dug, picked, hauled to the shed, washed, graded and sorted by contract operators. Marketing is usually performed through locally established brokers.

Generally, 85 to 90% of the field yield is marketable. The rest are culls and may be used for livestock feed or discarded. Sixty-five to 75% of the field yield may grade No. 1's, the rest are No. 2's and eggs which are marketable. Harvesting and processing costs are based on field yield.

Since potatoes are usually marketed through a broker at the local shed, the cost of marketing is usually calculated in the total production cost.

NOTE: The sample costs on the next pages are at the contract rate and are, therefore, higher than efficient owner-operator costs. To compute YOUR COST use the column provided and adapt each item cost to suit your situation.

In using the cost sheets to estimate the approximate local F.O.B. price, subtract 30¢ per sack from the Los Angeles quotation.

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WHAT DOES IT COST TO GROW SPRING POTATOES
IN THE WESTERN VALLEYS OF RIVERSIDE COUNTY?

Based on 300 - 100 pound sacks

ITEMS	SAMPLE COSTS		YOUR COSTS	
	Per Acre	Per Cwt.	Per Acre	Per Cwt.
<u>Land Preparation and Planting</u>				
Chisel or Plow lx	\$ 4.00			
Disc lx	2.00			
Harrow lx	1.50			
Plant and Fertilize lx	7.00			
Add Fumigation - \$30.00 if necessary	-----			
TOTAL PREPARATION AND PLANTING.	\$ 14.50	\$.05		
<u>Cultural Labor and Field Power</u>				
Irrigate 15x at \$1.00,	\$ 15.00			
Side-Dress fertilizer lx	2.50			
Cultivate or Furrow	2.00			
TOTAL LABOR AND FIELD POWER	\$ 19.50	\$.06		
<u>Materials</u>				
Irrigation Water - 4 acre feet . .	\$ 40.00			
Fertilizer - 160# Nitrogen	24.00			
Insecticide (Material and applica- tion) 3x @ \$4.00	12.00			
Seed - 1800 pounds @ \$4.00 cwt. . .	72.00			
TOTAL MATERIALS	\$148.00	\$.49		
<u>Cash Overhead</u>				
General Expense @ 5% of above . . .	\$ 9.10			
Taxes \$5.60 (sometimes $\frac{1}{2}$ of \$5.60).	5.60			
Insurance and Miscellaneous	4.00			
TOTAL CASH OVERHEAD	\$ 18.70	\$.06		
TOTAL PRE-HARVEST COST EXCEPT RENT . .	\$200.70	\$.66		
i.e. \$50.00 Minus				
Rent (Estimate your own) \$5.60 taxes	\$ 44.40	\$.15		
GROWING COST	\$245.10	\$.81		
<u>Harvest, Process and Market</u>				
Dig, Haul, Wash, Sort, Grade				
330 Sacks @ 90¢	\$297.00	\$.99		
Brokerage on 300 sacks	30.00	.10		
TOTAL HARVEST, PROCESS AND MARKET COSTS	\$327.00	\$1.09		
TOTAL ALL COSTS	\$572.10	\$1.90		

Note: Most of the above sample costs are for the contract rate and are, therefore, higher than efficient owner-operator costs. To compute YOUR COSTS, use the column provided and adapt each item cost to suit your situation.

WHAT DOES IT COST TO GROW FALL POTATOES

IN THE WESTERN VALLEYS OF RIVERSIDE COUNTY

Based on 200 Marketable Sacks - (220 field yield)

ITEMS	SAMPLE COSTS		YOUR COSTS	
	Per Acre	Per Cwt. (÷ 200)	Per Acre	Per Cwt. (÷ 200)
<u>Land Preparation and Planting</u>				
Chisel or Plow lx	\$ 4.00			
Pre-irrigate (Labor only)	1.25			
Disc lx	1.50			
Harrow lx	1.25			
Plant and Fertilize lx	7.00			
TOTAL PREPARATION AND PLANTING	\$15.00	\$.08		
<u>Cultural Labor and Field Power</u>				
Irrigating Labor 20x at \$1.00	\$20.00			
Side-Dress Fertilizer lx.	2.50			
Cultivate or Furrow lx.	2.00			
TOTAL LABOR AND FIELD POWER	\$24.50	\$.12		
<u>Materials</u>				
Irrigation Water, 4 acre feet	\$ 40.00			
Fertilizer (160# N.)	24.00			
Insecticide (Material and applica- tion) 2x @ \$4.00	8.00			
Seed: 2200# @ \$5.50	121.00			
TOTAL MATERIALS	\$193.00	\$.96		
<u>Cash Overhead</u>				
General Expense @ 5% of above	\$ 11.62			
Taxes \$6.00	6.00			
Insurance and Miscellaneous	4.00			
TOTAL CASH OVERHEAD	\$ 21.62	\$.10		
TOTAL PRE-HARVEST COST EXCEPT RENT	\$254.12	\$1.26		
Rent - Estimate your own. \$75.00 minus taxes \$6.00	\$ 69.00	\$.34		
TOTAL GROWING COST	\$323.12	\$1.60		
<u>Harvesting, Packing and Marketing</u>				
Dig, pick, haul, wash, sort, grade, 220 sacks @ 90¢	\$198.00	\$.99		
Brokerage on 200 sacks	20.00	.10		
TOTAL HARVEST, PACKING AND MARKETING	\$218.00	\$1.09		
TOTAL ALL COSTS	\$541.12	\$2.69		

NOTE: The above figures are at the contract rate.