

**U.C. COOPERATIVE EXTENSION**  
**SAMPLE PRODUCTION COSTS**  
**FOR**  
**ROMAINE LETTUCE**  
**MONTEREY & SANTA CRUZ COUNTIES**

**2000 – 2001**



Prepared by:

Laura Tourte      Farm Advisor – Santa Cruz, Monterey & San Benito Counties  
Richard Smith      Farm Advisor – Monterey, Santa Cruz & San Benito Counties

With contributions from:

William Chaney      Farm Advisor – Monterey, Santa Cruz & San Benito Counties  
Ed Kurtz      Manager – California Lettuce Research Board

For information about the calculations used in this report, refer to the attached narrative, call Laura Tourte, UCCE Santa Cruz County (831) 763-8040, or Richard Smith, UCCE Monterey County (831) 759-7350. Copies of this study may be requested through UCCE Santa Cruz and Monterey Counties. It may also be accessed at the following website: <http://www.agecon.ucdavis.edu/outreach/outreach>.

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## SAMPLE PRODUCTION COSTS FOR ROMAINE LETTUCE MONTEREY & SANTA CRUZ COUNTIES – 2000-2001

The practices described in this study are considered common for leaf (romaine) lettuce production in Monterey and Santa Cruz Counties. Sample costs are given for labor, materials, and custom services, and are based on current figures. However, changes in energy costs may effect the production costs represented in this report. The costs and practices detailed in this study may also not be applicable to all situations or used in each production year. This study is intended as an estimate or guide, which can be helpful in making production decisions, determining potential returns, preparing budgets and evaluating production loans. Individual growers may use this study as a template and modify to more accurately reflect their own situations. The use of trade names does not constitute an endorsement or a recommendation by the University of California.

**Production Statistics.** In both Monterey and Santa Cruz Counties romaine lettuce consistently ranks as a major crop both in terms of yield and value of production. The following table presents information on annual acreage, yield per acre and value of production from 1995-1999 for Monterey County. Similar yields and values of production can be expected for Santa Cruz County.

**Annual Acreage, Yield and Value of Production for Romaine Lettuce<sup>†‡</sup>  
in Monterey County 1995-1999.**

Year	Acreage	Yield/Ac <sup>§</sup>	Value/Acre (\$)	Value/Carton (\$)
1995	18,300	767	5,462	7.12
1996	20,053	748	4,954	6.62
1997	21,149	922	6,345	6.88
1998	19,200	886	7,057	7.96
1999	26,877	887	6,901	7.78

<sup>†</sup> Source: Monterey County Agricultural Commissioner's Crop Reports.  
Similar yields and values can be expected for Santa Cruz County.

<sup>‡</sup> Includes all pack types.

<sup>§</sup> Yield/Ac assumes 37-pound cartons.

**Varieties.** Varieties of romaine lettuce types planted in this area include Paris Island Cos, Pic Bos, Darkland Cos, Capril, Pybas 714 and Green Towers.

**Yield and Returns.** Yield for romaine lettuce can range from 700 to 1,000 24-count 35-pound cartons per acre depending upon many variables including production conditions and location. Price for romaine lettuce can range from \$5 to \$14 per carton depending upon market conditions. The tables that follow give more information on yield and price ranges, as well as associated breakeven price per carton.

**Land Preparation.** Land preparation includes subsoiling, discing, preirrigating, listing, applying a preplant fertilizer, bed shaping and cultivating with a Lilliston cultivator. Some growers use minimum tillage techniques on a portion of their acreage, which decreases the number of operations associated with land preparation.

Soil amendments, which can include such materials as composted manure, gypsum and/or lime, are applied during land preparation. Growers often plant cover crops such as Merced Rye on a portion of their acreage during each production year. Cover crops are planted to build soil organic matter and improve soil structure.

**Cultural Operations.** Romaine lettuce is planted in Monterey and Santa Cruz Counties from late December through mid August for harvest between April and October. It can be grown on a variety of soil types provided soil has good structure and drainage. Although Monterey County has a “host or lettuce free period” (December 7 to December 21) during which time lettuce may not be planted, Santa Cruz County does not. The purpose of the host free period is to break pest cycles and decrease the incidence of Lettuce Mosaic Virus (LMV). Both counties require lettuce seed to be indexed and shown to be free of LMV prior to planting.

Romaine lettuce can be direct seeded or transplanted. This study assumes lettuce is direct seeded with pelleted seed using a precision planter on 40-inch double-line beds. It should also be noted that romaine lettuce for the “hearts” market is also produced on 80-inch five to six line beds. Costs for this type of production are not included in this study.

Seedbeds are sprinkler irrigated after planting, with sprinkler irrigation most often used as the season progresses. As an alternative, furrow irrigation is sometimes used during the season. Labor costs include time to set up and monitor the system for proper function.

**Fertilizers.** Fertilizer costs include a preplant fertilizer (400 pounds of 15-15-15), which is applied at the time beds are listed. In addition, beds are side dressed with 132 units of N (AN20) after planting, and 40 units of N (CAN17) as a water-run application later in the growing season.

**Pest Management.** Weeds are managed using one herbicide application at planting, mechanical cultivations, and hand weeding. Material applications for insect and disease management vary from year to year and location to location. An average cost per acre for materials and custom application is included in this study.

**Cash Overhead.** Overhead costs are included in this report as 10% of production costs (excluding land rent) to account for a variety of administration and office expenses, which include, but are not limited to, telephone, supplies, utilities bookkeeping and accounting. Land rent impacts production costs and returns in that it varies significantly from location to location in Monterey and Santa Cruz Counties. Two different analyses are included here to illustrate potential cost variations.

**Harvest Operations.** Harvest is either performed by the grower or a custom operator. In this study, harvest costs for romaine lettuce are calculated at \$3.50 per 24-count 35-pound carton for cutting, packing and hauling. Cooling and selling costs are an additional \$1.50 per carton. Costs will vary depending on the pack type and packing company, with some packs increasing costs considerably.

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**Additional Information.** *Leaf Lettuce Production in California*, a publication of the University of California Division of Agriculture and Natural Resources, is available at many county UC Cooperative Extension offices. The same publication may be accessed through the internet at <http://vric.ucdavis.edu/selectnewcrop.lettuce>.

U.C. Cooperative Extension  
 Sample Production Costs for Romaine Lettuce\* 2000 - 2001  
 North Monterey and South Santa Cruz Counties

Yield per Acre: 900 24-count 35-pound cartons      Labor Rate: \$13.40 machine labor  
 Price per Carton: \$8.00      \$11.40 non-machine labor

Operation	No. of Times/ Crop/Acre	Cost/ Time/Acre	Material Cost/Acre	Non-Machine Labor		Total Cost (\$/Acre)
				Hours/ Acre	Cost/ Acre	
<i>Land Preparation:</i>						
Cover Crop	.20	75	25			20
Disc	4X	13				52
Soil Amendments	1X	10	50			60
Subsoil	2X	35				70
Chisel	2X	21				42
Minimum Tillage	.10	40				4
Laser Level	.25	160				40
Land Plane	.25	12				3
List & Preplant Fertilizer	1X	15	60			75
Preirrigate	1X		8	1	11.40	18
Lilliston	2X	8				16
Bed Shape/Preparation	1X	15				<u>15</u>
<i>Total Land Preparation Costs</i>						<u>415</u>
<i>Cultural:</i>						
Precision Plant	1X	8	118			126
Irrigate	8X		64	9	11.40	167
Thin	1X			13	11.40	148
Cultivate & Fertilize	1X	10	92			102
Cultivate & Break Bottoms	1X	17				17
Herbicide	1X	8	40			48
Insect & Disease Management	Mult					310
Hand Weed	1X			5	11.40	57
Water Run Fertilizer	1X	8	29			<u>37</u>
<i>Total Cultural Costs</i>						<u>1,012</u>
<i>Cash Overhead:</i>						
Overhead—10% of Prod. Costs						143
Land Rent – N. Mont./S. SC.						<u>1,100</u>
<i>Total Cash Overhead Costs</i>						<u>1,243</u>
<i>Harvest:</i>						
Cut, Pack, Haul @ \$3.50/crtn						3,150
Cool & Sell @ 1.50/crtn						<u>1,350</u>
<i>Total Harvest Costs</i>						<u>4,500</u>
<i>Total Cash Costs/Crop/Acre</i>						<u>7,170</u>
<i>Total Cash Costs/Carton</i>						<u>7.97</u>

\* Costs will vary depending on many factors including individual grower, production location, land rent, water costs, material inputs, weather conditions and energy costs.

Net Returns Above Cash Costs for Romaine Lettuce 2000 - 2001  
 North Monterey and South Santa Cruz Counties

Cartons/ Acre	Price/Carton (\$)					Breakeven \$/Carton
	6.00	7.00	8.00	9.00	10.00	
700	-1,970	-1,270	-570	130	830	8.81
800	-1,870	-1,070	-270	530	1,330	8.34
850	-1,820	-970	-120	730	1,580	8.14
900	-1,770	-870	30	930	1,830	7.97
1,000	-1,670	-670	330	1,330	2,330	7.67

U.C. Cooperative Extension  
 Sample Production Costs for Romaine Lettuce\* 2000 - 2001  
 South Monterey County

Yield per Acre: 900 24-count 35-pound cartons      Labor Rate: \$13.40 machine labor  
 Price per Carton: \$8.00      \$11.40 non-machine labor

Operation	No. of Times/ Crop/Acre	Cost/ Time/Acre	Material Cost/Acre	Non-Machine Labor		Total Cost (\$/Acre)
				Hours/ Acre	Cost/ Acre	
<i>Land Preparation:</i>						
Cover Crop	.20	75	25			20
Disc	4X	13				52
Soil Amendments	1X	10	50			60
Subsoil	2X	35				70
Chisel	2X	21				42
Minimum Tillage	.10	40				4
Laser Level	.25	160				40
Land Plane	.25	12				3
List & Preplant Fertilizer	1X	15	60			75
Preirrigate	1X		8	1	11.40	18
Lilliston	2X	8				16
Bed Shape/Preparation	1X	15				15
<i>Total Land Preparation Costs</i>						415
<i>Cultural:</i>						
Precision Plant	1X	8	118			126
Irrigate	10X		80	11	11.40	205
Thin	1X			13	11.40	148
Cultivate & Fertilize	1X	10	92			102
Cultivate & Break Bottoms	1X	17				17
Herbicide	1X	8	40			48
Insect & Disease Management	Mult					310
Hand Weed	1X			5	11.40	57
Water Run Fertilizer	1X	8	29			37
<i>Total Cultural Costs</i>						1,050
<i>Cash Overhead:</i>						
Overhead – 10% of Prod. Costs						147
Land Rent – S. Mont. County						400
<i>Total Cash Overhead Costs</i>						547
<i>Harvest:</i>						
Cut, Pack, Haul @ \$3.50/crtn						3,150
Cool & Sell @ \$1.50/crtn						1,350
<i>Total Harvest Costs</i>						4,500
<i>Total Cash Costs/Crop/Acre</i>						6,512
<i>Total Cash Costs/Carton</i>						7.24

\* Costs will vary depending on many factors including individual grower, production location, land rent, water costs, material inputs, weather conditions and energy costs.

Net Returns Above Cash Costs for Romaine Lettuce 2000 - 2001  
 South Monterey County

Cartons/ Acre	Price/Carton (\$)					Breakeven \$/Carton
	6.00	7.00	8.00	9.00	10.00	
700	-1,312	-612	88	788	1,488	7.87
800	-1,212	-412	388	1,188	1,988	7.52
850	-1,162	-312	538	1,388	2,238	7.37
900	-1,112	-212	688	1,588	2,488	7.24
1,000	-1,012	-12	988	1,988	2,988	7.01