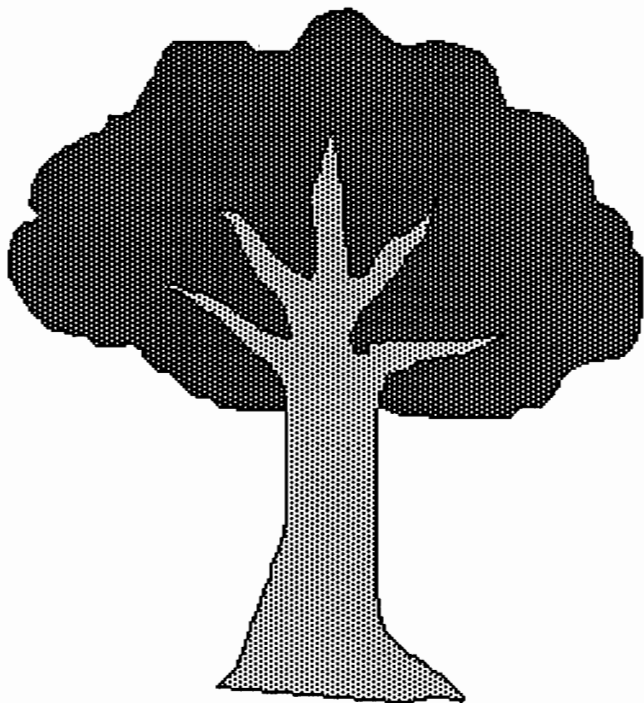


# ALMONDS

San Joaquin Valley  
1985



Alternate Cover Crops  
Blando Brome Cover

Almond Orchard Establishment Costs - Underlying Assumptions  
Northern San Joaquin Valley  
Alternate Cover Crops

1. Trees are planted in January
2. Cover crop goes in in the Fall
3. Weed Control - A pre-emergence herbicide is applied in December or January. Two passes are made with a weedsprayer pulled by a 40 HP tractor moving at 4 mph. The time required, including fillup, is about 12 minutes per acre for the two passes. A contact weed spray is applied in May or June also made in two passes.

The materials per sprayed acre are listed below. For strip weed control only one third of each acre is sprayed.

1st & 2nd year pre-emergence herbicide materials per sprayed acre

1 qt Goal	\$17.00
5 lb Surflan	60.75
1 qt Roundup or Paraquat	22.61
Total Materials	\$100.36

1st and 2nd year contact herbicide & materials per sprayed acre

1 qt Roundup or Dinitro and Paraquat	\$22.61
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Years 3 + pre-emergence herbicide materials per sprayed acre

1 lb Simizine	3.70
3 lb Surflan	36.45
1 qt Roundup	<u>22.61</u>
TOTAL Materials	\$62.76

Years 3+ Contact weed control - same as years 1 & 2

- 3a. Strip weed control - Materials are applied to 1/3 of the acreage.

Pre-emergence strip weed control

	<u>years 1-2</u>	<u>years 3+</u>
Materials	\$33.45	\$20.92
Application	<u>\$ 2.36</u>	<u>2.36</u>
TOTAL	\$35.81	\$23.28

Contact strip weed control - all years

Materials	\$ 7.54
Application	<u>2.36</u>
TOTAL	\$ 9.90

3b. Total Herbicide plot - materials are applied to entire acre.

Pre-emergence	<u>years 1-2</u>	<u>years 3+</u>
Materials	\$100.36	\$63.00
Application	<u>2.36</u>	<u>2.36</u>
TOTAL	\$102.72	\$65.36

Contact weed control - all years

Materials	\$ 22.61
Application	<u>2.36</u>
TOTAL	\$ 24.97

3c. Chemical mow -

Winter - 12 oz Roundup per sprayed acre  
 Summer - 12 oz Roundup 2x  
 Pre-harvest - 16 oz Roundup

TOTAL - 52 oz Roundup per sprayed acre, 4 applications.

35 oz Roundup per tree acre, 4 applications.

	Per Sprayed Acre	Per Tree Acre
Materials -	\$36.92	\$24.85
Application -	\$ 9.44	\$ 6.28
TOTAL COST -	\$46.36	\$31.13

3c. Pre-harvest weed control - applied through sprinkler system starting in the 4th year. It is used only when middles are cultivated or controlled by herbicides.

3 lb Eptam - \$10

4. Pest control program - is the same for all floor covers. Application is made with a PTO speedsprayer pulled by a 60 HP tractor. In the first 2 years a hand gun is used with the weed sprayer and small tractor.

Detail of Materials Applied

Year	Time	Application Method	Material	Cost	Total Cost
1st	May Summer	handgun	1 lb Diazinon	\$4.00	\$8.40
		handgun	1 lb Omite	4.40	
2nd	Dormant	handgun	1 pt Lorsban	4.50	\$20.40
			1 1/2 gal. oil	3.30	
	May	handgun	1 1/2 lb Diazinon	6.00	
	Summer	handgun	1 1/2 lb Omite	6.60	
3rd	Dormant	speed sprayer	1 1/2 pt Lorsban	6.75	\$28.00
			2 1/4 gal. oil	4.45	
	May	handgun	2 lb Diazinon	8.00	
	Summer	handgun	2 lb Omite	8.80	
4th	Dormant	speed sprayer	6 lb of 25% Parathion	5.88	\$90.58
			6 gal. oil	13.20	
	Pink Bud-Feb	1.5 lb Rovral	25.00		
	Full Blossom-Feb	8 lb captan & Sticker	11.00		
	Fall-March	8 lb Ziram	12.00		
		5 lb Neutral Zn	4.00		
		1 lb Solubor	.50		
		Sticker	1.00		
	Midseason (May) or Hull split (July)	2 lb Guthion	13.00		
		1/4 lb Plictran	5.00		

Application costs - Fuel, repairs and labor

Years 3 + Application with speed sprayer,  
PTO - 5 acres per hour

60 HP tractor	\$8.00
Sprayer	5.00
Tractor driver	<u>7.50</u>
	\$20.50 per hour
	\$ 4.10 per acre

Years 1 & 2  
Handgun application 10 acres per hour

40 HP tractor	\$ 3.80
Weed sprayer	.50
Handgun	.01
Tractor drive	<u>\$ 7.50</u>
	\$11.81 per hour = \$1.18/acre

### Cost of Pest Control

Year	Number of Sprays	Material	Application	Total
1st	2	\$ 8.40	\$ 2.36	\$10.76
2nd	3	20.40	3.54	23.94
3rd	3	28.00	12.30	40.30
4th +	5	90.58	20.50	111.08

5. Equipment costs - Costs for fuel and repairs for operating equipment are included under cultural costs. The costs per hour are listed on the equipment list table. The costs per hour are calculated by adding the cost of the labor, tractor and implement. For example, for disking the 60 HP tractor is used. The cost per hour is:

$$\$7.50 + \$8.00 + \$3.60 = \$19.10$$

To calculate the cost per time over each acre the following rates were used:

Disking	3 acres/hr
Mowing	4 acres/hr
Springtooth	4 acres/hr
Rolling	3 acres/hr
Handgun	10 acres/hr
Speedsprayer	5 acres/hr
Weedsprayer	5 acres/hr

The rate of 3 acres per hour is the same as 1/3 hr per acre. So, for disking the cost per time per acre is:

$$1/3 * 19.10 = \$6.43$$

The only difference between the equipment lists for a cover crop or no cover crop is the mower.

### 6. Labor Hours for Various Operations

#### Hours per Acre

Year	1	2	3	4	5	mature
Prune, train-skilled	0	2	4			
prune, train-unskilled				5	5	10
brush disposal-tractor driver	0	.5	.75	1	1	1
brush disposal-unskilled	0	.5	1	1	1	2
irrigate	.5	.5	.5	.5	.5	.5

7. Cover crops planted:

Blando brome - annual cover and clover - perennial cover.  
Seed in September; Fertilize in Spring.

Mowing Schedule:

1x pre-frost  
1x after 1st heads  
4x for annual grasses  
6x Total

Fertilizer for clover:

11-48-0, 100 lbs applied in Spring through irrigation system.  
Materials \$16.15

Fertilizer for Blando brome: 20 lbs N @ 30 cents/lb., \$6

Seed:

Blando brome 20 lbs/acre \$2.70/lb.  
Clover-coated 10 lbs/acre \$3.44/lb.

8. Water costs

Costs figured at \$22.50/acre foot.

Native Cover: 40" = \$75/acre  
Blando Brome: 31" = \$58/acre  
Mow and Cultivate: 40" = \$75/acre  
Clover: 39" = \$73/acre  
Chemical Mow: 33" = \$62/acre  
Cultivate Centers: 33" = \$62/acre  
Total Herbicide: 34" = \$63/acre

9. Harvest costs -

Polling \$15/acre  
Shake - \$55/hr \$45/acre  
Pickup - \$60/hr \$40/acre  
Rake - \$35/hr \$30/acre  
Hull - 3 cents/lb in shell, 60% of weight is meat.  
Haul - \$7 per gross ton, \$7 per acre, minimum.

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ALMOND ORCHARD ESTABLISHMENT COSTS WORKSHEET  
Strip Weed Control - Blando Brome Cover Crop  
Northern San Joaquin Valley 1985

Costs are for an 80 acre block planted 24' x 24', with 75 trees per acre.  
A solid set sprinkler system is used.

Skilled Labor \$ 7.50  
Field Labor \$ 5.75

	1st Year	2nd Year	3rd Year	4th Year	5th Year
YIELD: lbs. nut meats / acre	---	---	---	300	750
<b>CULTURAL COSTS:</b>					
Land Preparation: backhoe contract	300				
Disk & float: 3 hrs labor and tractor	57				
Fumigate - methyl bromide	112				
Trees: 75 @ \$3 (+2 2nd Yr. and 1 3rd Yr.)	225	6	3		
Survey and Plant: 75 @ \$1.00	75				
Replant @ \$3 per tree		6	3		
Prune and Train - skilled		15	30		
Prune and train - unskilled				29	29
Brush Disposal		9	15	18	18
Mow middles 6X - 4 acres/hr.		26	26	26	26
Contact weed control	10	10	10	10	10
Pre-emergence strip control	36	36	23	23	23
Irrigation labor -.5 hr/acre	3	3	3	3	3
Water - 31"	58	58	58	58	58
Fertilize - labor & material	22	31	34	41	41
Insect and Disease Control	11	24	40	111	111
Pollination - \$25 per hive				25	50
Disk 1X - 3 acres per hour	6				
Springtooth 3X - 4 acres/hr	14				
<b>SEEDBED PREPARATION:</b>					
Springtooth 1X - 4 acres/hr	5				
Planter rental	4				
Seed - blando brome	54				
Fertilize cover crop	6	6	6	6	6
Misc. expenses	20	20	20	20	20
Interest on operating costs	71	17	19	26	28
<b>TOTAL CULTURAL COSTS</b>	<b>1089</b>	<b>267</b>	<b>290</b>	<b>395</b>	<b>482</b>
<b>HARVEST COSTS - CUSTOM</b>				<b>152</b>	<b>175</b>
<b>OVERHEAD COSTS:</b>					
County taxes	60	60	60	60	60
Office and Business Costs	20	20	20	20	20
<b>TOTAL OVERHEAD COSTS</b>	<b>80</b>	<b>80</b>	<b>80</b>	<b>80</b>	<b>80</b>
<b>TOTAL CASH COSTS</b>	<b>1169</b>	<b>347</b>	<b>370</b>	<b>627</b>	<b>677</b>
<b>TOTAL ACCUMULATED CASH COSTS</b>	<b>1169</b>	<b>1516</b>	<b>1886</b>	<b>2514</b>	<b>3190</b>

CREDIT FOR PRODUCTION @ \$1/LB.				300	750
NET CASH COST OF PRODUCTION	1169	347	370	327	-73
ACCUMULATED NET CASH COST	1169	1516	1886	2214	2140
DEPRECIATION:					
Building, equipment, and irrigation system	107	107	107	107	107
INTEREST ON INVESTMENT @ 13%:					
Building, equipment, and irrigation system	90	90	90	90	90
Land \$60000	780	780	780	780	780
Interest on accum. cash cost	152	197	245	327	415
TOTAL INTEREST ON INVESTMENT	1022	1067	1115	1197	1285
TOTAL NET COST FOR THE YEAR	2298	1521	1592	1631	1318
ACCUMULATED NET COST	2298	3820	5411	7043	8361



ALMOND ORCHARD PRODUCTION COSTS WORKSHEET  
 Strip Weed Control - Blando Brome Cover Crop  
 Northern San Joaquin Valley 1985

Costs are for an 80 acre block planted 24' x 24', with 75 trees per acre.  
 solid set sprinkler system is used.

Skilled Labor \$ 7.50  
 Field Labor \$ 5.75

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YIELD: lbs. nut meats / acre 1500

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CULTURAL COSTS:

Prune and train - unskilled	58
Brush Disposal	24
Mow middles 6X - 4 acres/hr.	26
Contact strip weed control	10
Pre-emergence strip control	23
Irrigation labor-.5 hr/acre	3
Water - 31"	58
Fertilize - labor & materials	66
Insect and Disease control	111
Pollination - 2 hives/acre	50
Fertilize cover crop	6
Misc. expenses	20
Interest on operating costs	32

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TOTAL CULTURAL COSTS 486

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TOTAL HARVESTING COSTS - custom 223

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OVERHEAD COSTS:

County taxes	60
Office and Business Costs	20

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TOTAL OVERHEAD COSTS 80

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TOTAL CASH COSTS 788

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Investment costs:

	Depreciation	Interest @ 13%	
Land - \$6000/acre		780	780
Trees	209	543	752
Building, equipment, and irrigation system	107	90	197

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TOTAL DEPRECIATION AND INTEREST 1729

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TOTAL COST PER ACRE 2518

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ALMOND ORCHARD WITH COVER CROP  
EQUIPMENT AND BUILDING LIST  
San Joaquin Valley - 1985

ITEM	ORIGINAL COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (YEARS)	OVERHEAD		COST PER HOUR
					DEPRECIATION	INTEREST AT 13%	
<b>Tractors:</b>							
40 HP wheel diesel	17000	80	212.50	10	21.25	13.81	3.80
60 HP wheel diesel	31000	80	387.50	10	38.75	25.19	8.00
Flail mower, 12'	4000	80	50.00	10	5.00	3.25	2.00
Disk, tandem 14'	7500	80	93.75	10	9.38	6.09	3.60
Springtooth harrow	7800	80	97.50	10	9.75	6.34	3.70
Roller	1000	80	12.50	15	.83	.81	.05
Brush Rake	1000	80	12.50	15	.83	.81	1.00
Speed sprayer, PTO	12000	80	150.00	15	10.00	9.75	5.00
Weedsprayer	1200	80	15.00	10	1.50	.98	.50
Handgun	50	80	.63	5	.13	.04	.01
3-Wheel Motorcycle	1500	80	18.75	5	3.75	1.22	1.50
Pickup	8000	80	100.00	5	20.00	6.50	6.00
Misc. Tools	1000	80	12.50	10	1.25	.81	6.00
Pump and Well	10000	80	125.00	20	6.25	8.13	
Irrigation System	72000	80	900.00	20	45.00	58.50	
Buildings	10000	80	125.00	30	4.17	8.13	
<b>TOTAL COST</b>	<b>185050</b>		<b>2313.13</b>		<b>177.83</b>	<b>150.35</b>	
<b>60% OF NEW COSTS</b>	<b>111030</b>		<b>1387.88</b>		<b>106.70</b>	<b>90.21</b>	