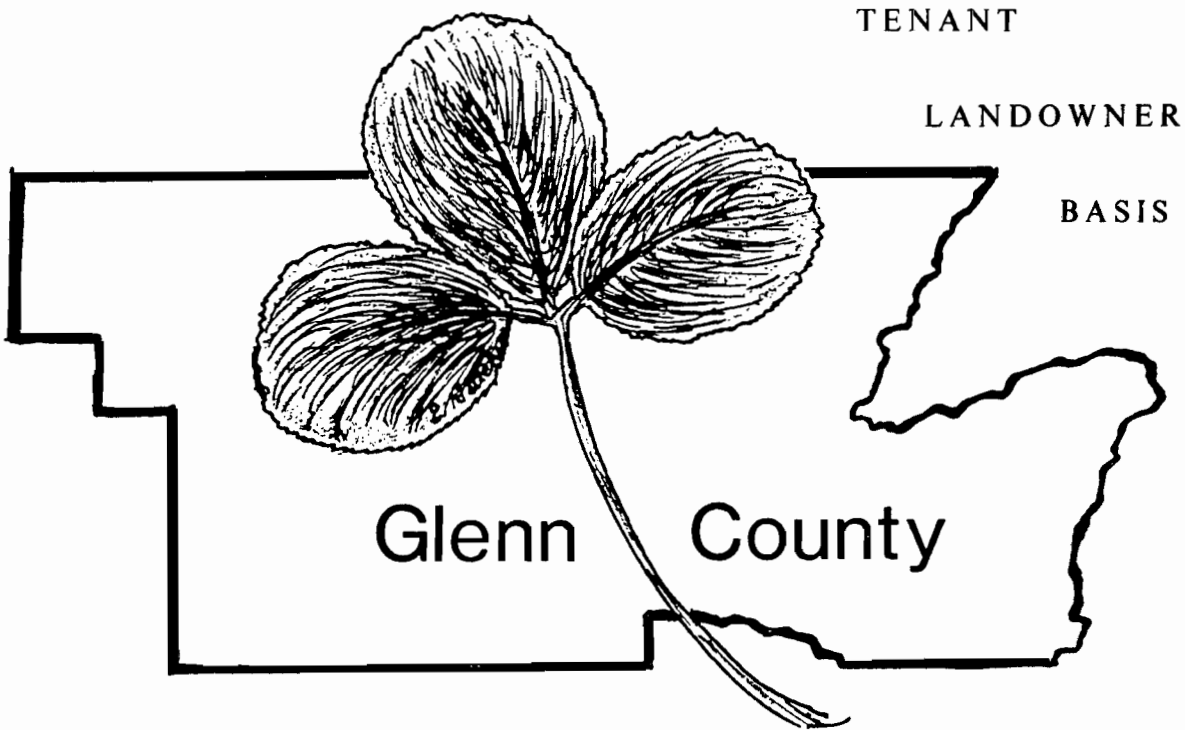


PRODUCTION COSTS FOR LADINO CLOVER SEED

CV-SV-91



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UC COOPERATIVE EXTENSION

U.C. COOPERATIVE EXTENSION SAMPLE COSTS TO ESTABLISH AND PRODUCE LADINO CLOVER SEED IN GLENN COUNTY

by

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The detailed costs for ladino clover seed establishment and production in Glenn County are presented in this study. The hypothetical farm used in this report consists of 1000 acres of which 200 acres are in ladino clover seed production. The remainder of the farm is planted to different field crops.

Practices described are based on those production procedures considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on current figures. Some costs and practices detailed in this study may not be applicable to your situation. This study is only intended as a guide and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. A blank **Your Costs** column is provided to enter your actual costs on **Table 1** and **Table 3, Costs Per Acre To Establish Ladino Clover Seed and Costs Per Acre To Produce Ladino Clover Seed.**

This study consists of **General Assumptions for Establishing and Producing Ladino Clover Seed.** and seven tables.

Table 1.	Costs Per Acre To Establish Ladino Clover Seed
Table 2.	Annual Equipment Costs for Ladino Clover Seed Establishment
Table 3.	Costs Per Acre To Produce Ladino Clover Seed
Table 4.	Monthly Cash Costs Per Acre
Table 5.	Annual Equipment, Investment And Business Overhead for Ladino Clover Seed Production
Table 6.	Ranging Analysis
Table 7.	Costs And Returns / Breakeven Analysis.

For an explanation of calculations used for the study refer to the attached **General Assumptions** or call the Department of Agricultural Economics, Cooperative Extension, University of California, Davis, California, (916) 752-3589 or call the Farm Advisor in the county of interest.

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University of California and the United States Department of Agriculture cooperating.

ASSUMPTIONS FOR ESTABLISHING AND PRODUCING LADINO CLOVER SEED

Glenn County - 1991
U.C. Cooperative Extension

The following is a description of some general assumptions pertaining to sample costs of ladino clover seed production in Glenn County.

1. LAND:

This cost of production study is based on a 1,000 acre field and row crop operation of which 200 acres dedicated to growing ladino clover seed. Other crops grown on the same acreage in rotation with clover seed might include small grains, grain hay, alfalfa hay, sugarbeets, sudangrass seed, grain sorghum, field corn, etc.

2. RENT AGREEMENT:

The land used for ladino clover seed production in this study is rented on a tenant-landowner basis. Under this agreement the landowner receives 20% of the gross crop receipts from the sale of clean seed. The landowner pays 20% of the costs for seed cleaning, sampling and bagging. Interest cost for land is incurred by the landowner. Land is not depreciated.

3. STAND ESTABLISHMENT:

A **Costs Per Acre To Establish Ladino Clover Seed, Table 1**, and **Costs Per Acre To Produce Ladino Clover Seed, Table 3**, for a one year period, are included in the study. The clover stand is planted in the fall and the first year's seed is harvested the following summer. The annual production cost in the study represents the second or a third year's production cost. To obtain total annual production cost (**Table 3**), the annual production cost has one-third (3 year life) of the cost for the stand establishment (**Table 1**) added to it. Seed can be produced in some ladino clover plantings over a 4 year period when stands remain adequate and relatively clean. In such cases the cost of stand establishment would be spread out over a 4 year period. However, due to heavy populations of weeds, reduced stands, etc., clover fields may be rotated out of production after only 2 or 3 years.

4. CULTURAL PRACTICES:

The cultural, pesticide and fertilizer inputs for the production of ladino clover seed vary considerably from grower to grower and field to field. While a field can produce certified seed for up to 4 years, as indicated above, conditions may reduce this period by one or more years. The practices and inputs used in this cost study serve only as a sample or a guide. Variations as to cultural practices and inputs can be significant. Contact your local Farm Advisor for advice on production practices.

5. YIELDS & RETURNS:

The crop yield used in this study is 425 pounds of clover seed per acre. While this yield for ladino clover may be above the normal average ladino clover seed yield in Glenn County, the level used is, perhaps, a reasonable goal for growing ladino clover for seed. An estimated price of a \$1.60 per pound of clean seed is used in this study. Returns for different varieties will vary and the \$1.60 per pound used in the cost study is, at best, an estimate taking into consideration current situations. Consult contracting seed companies should you have interest in the price outlook for ladino clover seed.

6. HARVEST:

In discussions with growers assisting with this cost study, it was decided to use contract price for a direct combine harvest. If a grower is doing his own harvesting, equipment

for the required operations should be inventoried, labor, fuel, repairs, depreciation, interest on investment, etc. would need to be calculated as a cost of production.

7. LABOR:

Basic hourly wages for workers are \$7.09 and \$5.00 per hour for skilled and field workers respectively. Adding 34% for SDI, FICA, insurance and other benefits gives the labor rates shown of \$9.50 per hour for skilled labor and \$6.70 per hour for field labor. The labor for operations involving machinery are 10% higher than the machine hours to account for the extra labor involved in equipment set-up, moving, maintenance and repair.

8. OVERHEAD:

County taxes are calculated as 1% of the average of the equipment, buildings and improvements. Insurance is charged at 1% of the average value of the equipment over its useful life. Office and business costs are estimated at \$30 per acre for the ranch. These expenses include office supplies, phone, bookkeeping, accounting, legal fees, road preparation and maintenance, etc. Pickup truck operating costs are based on 8,000 miles per year of use at \$0.15 per mile.

9. INTEREST:

Interest on operating capital is based on cash costs and is calculated monthly, for nine months, until harvest at the rate of 12.5% per year. Interest is also charged on investment at 12% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is based on the average value of the buildings and equipment.

10. EQUIPMENT COSTS:

In allocating the equipment costs per acre, the following calculations were made and shown in Table 3: (a) **Original Cost** of equipment is the cost of the new equipment plus sales tax. (b) **Depreciation** is straight line with no salvage value. (c) **Interest** on investment is calculated as one-half of the new cost per acre (the average value of the equipment during its useful life) multiplied by an interest rate of 12%. (d) The total investment costs are also calculated as 60% of the depreciation and the interest costs for all new equipment to reflect a mix of the new and used equipment. These values are also used in Table 1. Most of this equipment is used on the entire 1000 acre ranch.

11. FUEL & REPAIR:

The fuel and repair cost for each operation in Tables 1 and 3, is determined by multiplying the total hourly operating cost for each piece of equipment by the number of hours per acre for that operation. Prices for gasoline and diesel are on-farm delivery prices. On-farm delivery prices for gasoline and diesel are \$0.85 per gallon and \$1.03 per gallon respectively.

12. ACKNOWLEDGEMENT:

Several Glenn County ladino clover seed producers assisted in furnishing information for this study. Appreciation is expressed to those growers and other individuals who provided assistance.

Table. 1

U.C. COOPERATIVE EXTENSION
 COST PER ACRE TO ESTABLISH LADINO CLOVER SEED
 GLENN COUNTY - 1991

Labor Rate: \$ 9.50/hr. machine labor Interest Rate: 12.50%
 \$ 6.70/hr. non-machine labor Yield per Acre: 425.00 lb

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Your Cost
		Labor Cost	Fuel & Repairs	Material Cost	Custom/ Rent			
Cultural:								
Burn	0.10	0.57	0.00	0.00	0.00	0.57		
Irrigate	0.60	3.42	0.00	18.75	0.00	22.17		
Fertilize	0.00	0.00	0.00	28.00	4.50	32.50		
Chisel field	0.16	1.84	3.19	0.00	0.00	5.02		
Disc field 2X	0.33	3.76	7.39	0.00	0.00	11.15		
Laser level custom	0.00	0.00	0.00	0.00	37.50	37.50		
Land plane field	0.30	3.42	5.99	0.00	0.00	9.41		
Make levees	0.05	0.57	0.34	0.00	0.00	0.91		
Plant	0.00	0.00	0.00	10.00	5.00	15.00		
Spray herbicides	0.04	0.43	0.31	38.06	2.50	41.30		
TOTAL CULTURAL COSTS	1.58	14.00	17.22	94.82	49.50	175.54		
Interest on operating capital @ 12.50%							20.54	
TOTAL OPERATING COSTS/ACRE		14.00	17.22	94.82	49.50	196.08		
TOTAL OPERATING COSTS/LB						0.46		
CASH OVERHEAD:								
Office expense							30.00	
Property Taxes							0.97	
Equipment Insurance							0.49	
Investment Repairs							0.75	
TOTAL CASH OVERHEAD COSTS							32.21	
TOTAL CASH COSTS/ACRE							228.29	
TOTAL CASH COSTS/LB							0.54	
NON-CASH OVERHEAD:								
Investment	Per producing Acre	Annual Cost		Interest @ 12.50%				
		Depreciation						
Shop & Buildings	50.00	2.00		3.00			5.00	
Flatbed #2, 2 ton	10.00	1.29		0.66			1.95	
Shop tools	10.00	0.60		0.66			1.26	
Pickup, used	6.00	1.35		0.40			1.75	
Pickup, new	16.00	2.06		1.06			3.11	
ATV, 4wd	6.50	1.17		0.43			1.60	
Equipment	82.96	6.14		5.48			11.61	
TOTAL NON-CASH OVERHEAD COSTS		181.46	14.60		11.68		26.28	
TOTAL COSTS/ACRE							254.57	
TOTAL COSTS/LB							0.60	

U.C. COOPERATIVE EXTENSION

Table 2

ANNUAL EQUIPMENT COSTS FOR LADINO SEED CLOVER ESTABLISHMENT
GLENN COUNTY

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over. -		- Cash Overhead -		Total
				Depre- ciation	Interest	Insur- ance	Taxes	
90	200 hp 4wd tractor	94000	10	8460.00	6204.00	258.50	517.00	15439.50
90	70 hp 2wd Tractor	38000	10	3420.00	2508.00	104.50	209.00	6241.50
90	Chisel, heavy 16'	7500	15	450.00	495.00	20.63	41.25	1006.88
90	Disc, offset 18'	16500	15	990.00	1089.00	45.37	90.75	2215.12
90	Ridger, 3pt	1800	15	108.00	118.80	4.95	9.90	241.65
90	Sprayer, SP 40'	15000	15	900.00	990.00	41.25	82.50	2013.75
90	Triplane, 16'	16000	15	960.00	1056.00	44.00	88.00	2148.00
TOTAL		188800		15288.00	12460.80	519.20	1038.40	29306.40
60% of New Cost *		113280		9172.80	7476.48	311.52	623.04	17583.84

* Used to reflect a mix of new and used equipment.

UC COOPERATIVE EXTENSION

Table 3

U.C. COOPERATIVE EXTENSION
 COST PER ACRE TO PRODUCE LADINO CLOVER SEED
 GLENN COUNTY - 1991

Labor Rate: \$ 9.50/hr. machine labor Interest Rate: 12.50%
 \$ 6.70/hr. non-machine labor Yield per Acre: 425.00 lb

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Your Cost
		Labor Cost	Fuel & Repairs	Material Cost	Custom/ Rent			
Cultural:								
Irrigate	2.60	17.42	0.00	65.00	0.00	82.42		
Spot spray	0.20	1.34	0.00	5.00	0.00	6.34		
Apply rodenticide	0.20	1.34	0.00	5.00	0.00	6.34		
Spray herbicides	0.06	0.68	0.50	42.59	0.00	43.77		
Roll field	0.14	1.63	0.98	0.00	0.00	2.61		
Water run herbicide	0.00	0.00	0.00	12.42	0.00	12.42		
Spray insecticide/miticide	0.04	0.46	0.33	48.12	0.00	48.91		
Pollination	0.00	0.00	0.00	15.00	0.00	15.00		
TOTAL CULTURAL COSTS	3.24	22.87	1.80	193.13	0.00	217.81		
Preharvest:								
Defoliate	0.02	0.23	0.17	19.82	0.00	20.21		
Mow borders	0.00	0.00	0.00	0.00	3.00	3.00		
TOTAL PREHARVEST COSTS	0.02	0.23	0.17	19.82	3.00	23.21		
Harvest:								
Harvest	0.00	0.00	0.00	0.00	65.00	65.00		
Haul seed	0.00	0.00	0.00	0.00	1.32	1.32		
Clean, sample & bag seed	0.00	0.00	0.00	0.00	42.50	42.50		
TOTAL HARVEST COSTS	0.00	0.00	0.00	0.00	108.82	108.82		
Interest on operating capital @ 12.50%						12.20		
TOTAL OPERATING COSTS/ACRE		23.10	1.97	212.95	111.82	362.03		
TOTAL OPERATING COSTS/LB						0.85		
CASH OVERHEAD:								
Landowner share						136.00		
Office expense						30.00		
Property Taxes						1.86		
Equipment Insurance						0.93		
Investment Repairs						0.75		
TOTAL CASH OVERHEAD COSTS						169.54		
TOTAL CASH COSTS/ACRE						531.57		
TOTAL CASH COSTS/LB						1.25		

U.C. COOPERATIVE EXTENSION
Table. 3 continued

NON-CASH OVERHEAD:

Investment	Per producing Acre	Annual Cost		
		Depreciation	Interest @ 12.50%	
Shop & Buildings	50.00	2.00	3.00	5.00
Flatbed #2, 2 ton	10.00	1.29	0.66	1.95
Establishment Cost	254.57	84.86	15.27	100.13
Shop tools	10.00	0.60	0.66	1.26
Pickup, used	6.00	1.35	0.40	1.75
Pickup, new	16.00	2.06	1.06	3.11
ATV, 4wd	6.50	1.17	0.43	1.60
Equipment	12.19	0.81	0.80	1.62
TOTAL NON-CASH OVERHEAD COSTS	365.26	94.13	22.28	116.41
TOTAL COSTS/ACRE				647.98
TOTAL COSTS/LB				1.52

Table. 4

MONTHLY CASH COST PER ACRE TO PRODUCE LADINO CLOVER SEED

Beginning SEP 89 Ending AUG 90.	SEP 89	OCT 89	NOV 89	DEC 89	JAN 90	FEB 90	MAR 90	APR 90	MAY 90	JUN 90	JUL 90	AUG 90	TOTAL
Cultural:													
Irrigate	6.3	6.3							19.0	31.7	19.0		82
Spot spray		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		6
Apply rodenticide		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		6
Spray herbicides		3.8		27.3			12.7						44
Roll field						2.6							3
Water run herbicide									12.4				12
Spray insecticide/miticid										27.2	21.7		49
Pollination										15.0			15
TOTAL CULTURAL COSTS	6.3	11.4	1.3	28.6	1.3	3.9	13.9	1.3	32.7	75.2	42.0		218
Preharvest:													
Defoliate												20.2	20
Mow borders												3.0	3
TOTAL PREHARVEST COSTS												23.2	23
Harvest:													
Harvest												65.0	65
Haul seed												1.3	1
Clean, sample & bag seed												42.5	43
TOTAL HARVEST COSTS												108.8	109
Interest on oper. capital	0.1	0.2	0.2	0.5	0.5	0.5	0.7	0.7	1.0	1.8	2.3	3.6	12
TOTAL OPERATING COSTS/ACRE	6.4	11.6	1.5	29.1	1.8	4.4	14.6	2.0	33.8	77.0	44.3	135.7	362
TOTAL OPERATING COSTS/LB	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.3	1
OVERHEAD:													
Landowner share												136.0	136
Office expense												30.0	30
Property Taxes								0.9				0.9	2
Equipment Insurance					0.9								1
Investment Repairs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1
TOTAL CASH OVERHEAD COSTS	0.1	0.1	0.1	0.1	1.0	0.1	0.1	1.0	0.1	0.1	0.1	167.0	170
TOTAL CASH COSTS/ACRE	6.5	11.7	1.5	29.1	2.8	4.5	14.7	3.0	33.8	77.1	44.3	302.7	532
TOTAL CASH COSTS/LB	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.7	1

Table. 5

ANNUAL EQUIPMENT, INVESTMENT AND BUSINESS OVERHEAD COSTS
FOR LADINO CLOVER SEED PRODUCTION

GLENN COUNTY

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	- Non-Cash Over. -		- Cash Overhead -		Total	
			Yrs Life	Depre- ciation	Insur- ance	Taxes		
90	70 hp 2wd Tractor	38000	10	3420.00	2508.00	104.50	209.00	6241.50
90	Roller, flat 16'	2200	15	132.00	145.20	6.05	12.10	295.35
90	Sprayer, SP 40'	15000	15	900.00	990.00	41.25	82.50	2013.75
TOTAL		55200		4452.00	3643.20	151.80	303.60	8550.60
60% of New Cost *		33120		2671.20	2185.92	91.08	182.16	5130.36

* Used to reflect a mix of new and used equipment.

ANNUAL INVESTMENT COSTS

Yr	Description	Price	- Non-Cash Over. -		- Cash Overhead -		Taxes	Repairs	Total
			Yrs Life	Depre- ciation	Insur- ance	Interest			
INVESTMENT									
	ATV, 4wd	6500	5	1170.00	429.00	17.88	35.75	50.00	1702.63
	Establishment Cost	50914	3	16971.30	3054.84	127.29	254.57	0.00	20408.00
	Flatbed #2, 2 ton	10000	7	1285.71	660.00	27.50	55.00	200.00	2228.21
	Pickup, new	16000	7	2057.14	1056.00	44.00	88.00	150.00	3395.14
	Pickup, used	6000	4	1350.00	396.00	16.50	33.00	150.00	1945.50
	Shop & Buildings	50000	25	2000.00	3000.00	125.00	250.00	100.00	5475.00
	Shop tools	10000	15	600.00	660.00	27.50	55.00	100.00	1442.50
TOTAL INVESTMENT		149414		25434.15	9255.84	385.67	771.32	750.00	36596.98

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Landowner share	200.00	acre	136.00	27200.00
Office expense	1000.00	acre	30.00	30000.00

U.C. COOPERATIVE EXTENSION
RANGING ANALYSIS

Table. 6 COSTS PER ACRE AT VARYING YIELDS TO PRODUCE LADINO CLO

	YIELD (LB/ACRE)						
	300	350	400	425	450	500	550
OPERATING COSTS/ACRE:							
Cultural Cost	218	218	218	218	218	218	218
Preharvest Cost	23	23	23	23	23	23	23
Harvest Cost	96	101	106	109	111	117	122
Interest on operating capital	12	12	12	12	12	12	12
TOTAL OPERATING COSTS/ACRE	349	354	359	362	365	370	375
TOTAL OPERATING COSTS/LB	1.16	1.01	0.90	0.85	0.81	0.74	0.68
CASH OVERHEAD COSTS/ACRE	170	170	170	170	170	170	170
TOTAL CASH COSTS/ACRE	519	524	529	532	534	539	545
TOTAL CASH COSTS/LB	1.73	1.50	1.32	1.25	1.19	1.08	0.99
NON-CASH OVERHEAD COSTS/ACRE	116	116	116	116	116	116	116
TOTAL COSTS/ACRE	635	640	645	648	651	656	661
TOTAL COSTS/LB	2.12	1.83	1.61	1.52	1.45	1.31	1.20

U.C. COOPERATIVE EXTENSION

Table. 6 RANGING ANALYSIS (Continued)

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR LADINO CLOVER SEED

PRICE (DOLLARS PER LB)	YIELD (LB/ACRE)						
	300	350	400	425	450	500	550
1.30	41	101	161	190	220	280	340
1.40	71	136	201	233	265	330	395
1.50	101	171	241	275	310	380	450
1.60	131	206	281	318	355	430	505
1.70	161	241	321	360	400	480	560
1.80	191	276	361	403	445	530	615
1.90	221	311	401	445	490	580	670

NET RETURNS PER ACRE ABOVE CASH COSTS FOR LADINO CLOVER SEED

PRICE (DOLLARS PER LB)	YIELD (LB/ACRE)						
	300	350	400	425	450	500	550
1.30	-129	-69	-9	21	51	111	170
1.40	-99	-34	31	63	96	161	225
1.50	-69	1	71	106	141	211	280
1.60	-39	36	111	148	186	261	335
1.70	-9	71	151	191	231	311	390
1.80	21	106	191	233	276	361	445
1.90	51	141	231	276	321	411	500

NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR LADINO CLOVER SEED

PRICE (DOLLARS PER LB)	YIELD (LB/ACRE)						
	300	350	400	425	450	500	550
1.30	-245	-185	-125	-95	-66	-6	54
1.40	-215	-150	-85	-53	-21	44	109
1.50	-185	-115	-45	-10	24	94	164
1.60	-155	-80	-5	32	69	144	219
1.70	-125	-45	35	75	114	194	274
1.80	-95	-10	75	117	159	244	329
1.90	-65	25	115	160	204	294	384

Table. 7

U.C. COOPERATIVE EXTENSION
 COSTS AND RETURNS / BREAKEVEN ANALYSIS
 GLENN COUNTY

COSTS AND RETURNS - PER ACRE BASIS

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
LADINO CLOVER SEED	680	362	318	532	148	648	32

COSTS AND RETURNS - TOTAL ACREAGE

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
LADINO CLOVER SEED	136000	72407	63593	106314	29686	129596	6404
TOTAL	136000	72407	63593	106314	29686	129596	6404

BREAKEVEN PRICES PER YIELD UNIT

CROP	Base Yield (Units/Acre)	Yield Units	Breakeven Price To Cover		
			Operating Costs	Cash Costs	Total Costs
LADINO CLOVER SEED	425.0	1b	0.85	1.25	1.52

BREAKEVEN YIELDS PER ACRE

CROP	Yield Units	Base Price (\$/Unit)	Breakeven Yield To Cover		
			Operating Costs	Cash Costs	Total Costs
LADINO CLOVER SEED	1b	1.60	226.3	332.2	405.0

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

University of California
Cooperative Extension
Glenn County
January 1991
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