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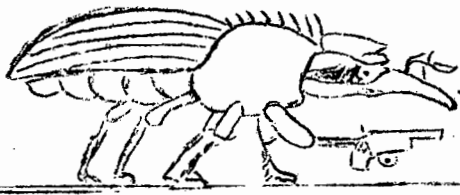
1948 ALFALFA SEED PRODUCTION STUDY IMPERIAL COUNTY

An analysis of production, yields, income and costs on seven alfalfa ranches, covering 475.4 acres for the year 1948.

Averages for 8 records in the 1947 study are also shown in the tables.

Statistical data is also shown on the acreage, production, average yields and farm value by states, and for the United States for the past 16 years.

PROTECT your ALFALFA SEED
from this THIEF



Prepared by the
Agricultural Extension Service
University of California and U. S. Department of Agriculture
Cooperating with
Alfalfa Seed Growers in Imperial County
California

UC Cooperative Extension

INTRODUCTION

The 1948 alfalfa seed production efficiency study is the second to be made for Imperial County. This study brings out the fact even more clearly than was shown in 1947, that alfalfa seed can be commercially produced in this area. It is the purpose of this work to acquaint the people of Imperial Valley with the management practises necessary to successfully produce alfalfa seed in this area.

Imperial Valley is ideally located for large scale seed production. The long, hot summers comparatively free of rain and the constant supply of water afford the conditions necessary to insure a good crop of alfalfa seed each year. One of the limiting factors in seed production in this area has been insect pests. Three years of cooperation by local farmers with the Agricultural Extension Service has shown that when the lygus bug is controlled, a good seed yield can be obtained. At the present time the recommendation of 30 pounds per acre of 5% DDT is still considered the most effective means of lygus bug control. It has also been shown that it is better to irrigate the crop regularly until the majority of the pods are plump and full. This means from two to three irrigations after full bloom. Higher seed yields have been obtained this way than when the water was cut off just before or during full bloom.

This study contains a complete analysis of the costs and income in alfalfa seed production, so that the strong and weak points in management practises may be discovered. This should lead to an increase in efficiency and profits. The relative merits of seed production and hay production are also compared.

A study of table 4 in this report shows the acreage, total yield, average yield per acre and the farm value of alfalfa seed by states and total for the United States for the years 1933-1948. A special tabulation is made for the four southwest states of Colorado, New Mexico, Arizona and California - the states which compete with California. It will be noted that the total U. S. production averaged between 70 and 80 million pounds per year up to the year 1946. In 1946 production increased to 109 millions and 1947, 102 million and in 1948 decreased to 59 million pounds. The four southwest states followed a similar pattern, averaging around 13 million up to 1946. In 1946 production increased to 18 million; 1947, 25 million and in 1948 declined to 14 million. California production averaged between 3 and 4 million up to 1946, when production in 1946 totaled 6 million; in 1947, 8 million and in 1948 declined to 4.7 million. Prices followed the same pattern, except in reverse. In 1947 prices declined about 50 per cent and in 1948 they increased about 50% over 1947. In 1948 California had an average yield of 264 pounds per acre, compared to 97 pounds for the U. S.

The tables in this study are compiled from records and data furnished by seven alfalfa seed growers. The yield of seed varied from 231.8 pounds to 541.3 pounds per acre, with an average of 383.2 pounds per acre. In addition to seed, 3.54 tons of hay was harvested per acre. The total costs of production per acre varied from \$117.47 to \$131.10, with an average cost of \$120.66 per acre. Total income varied widely, with an average from all sources of \$263.66 per acre. The average for the eight records in the 1947 study are also shown in these tables.

A careful study of the tables should disclose some interesting and valuable information for alfalfa growers.

Copies of this report may be obtained by applying to the Farm Advisor's office, Court House, El Centro, California.

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Table 1. Main Profit Determining Factors in Alfalfa Seed Production

Serial Number	No. Acres	Average Yield per Acre				Income per Acre			Costs per Acre					
		Hay tons	Cleaned Seed pounds	Screenings pounds	Alfalfa straw tons	Hay	Seed crop	Total*	Cultural labor & field power	Harvest labor & field power	Material costs	All overhead costs	Total all costs	Management income
10	128.4	4.82	525.2	--	.22	137.71	197.75	334.46	21.07	42.31	24.80	29.29	117.47	216.99
9	30.0	4.52	410.1	--	.23	138.41	153.81	302.02	22.25	44.61	33.11	30.31	130.28	171.73
15	48.0	4.09	541.3	40	.07	109.00	177.89	291.42	11.51	50.38	27.30	32.61	121.80	169.62
12	74.0	4.94	371.5	--	.38	148.03	115.54	283.84	15.39	60.12	13.30	42.29	131.10	152.73
11	50.0	4.92	261.3	--	.12	145.14	91.20	252.94	10.69	47.11	37.31	30.98	126.09	125.85
14**	110.0	.45	231.8	120	--	11.36	64.64	174.00	28.13	19.79	23.14	37.94	109.00	65.00
13	35.0	2.00	297.1	44	.74	56.00	121.66	188.85	9.21	50.43	28.28	41.43	129.35	59.50
Av. 7 records														
	475.4	3.54	383.2	66	.15	101.99	132.30	263.66	18.96	41.94	24.97	34.79	120.66	143.00
Average of 8 records in 1947														
	565.1	2.7	301	49	.51	59.68	67.75	136.22	10.20	26.08	20.28	26.11	82.67	53.55

* includes income from pasture and other crops. ** includes costs and income from flax and barley nurse crops.

The above table shows the main profit determining factors in determining profit or loss in alfalfa seed production on seven ranches in 1948. The average of all records is shown at the bottom of the table. The average for 8 records in 1947 are shown for comparison. The data in these tables were obtained from growers at the end of the year from their books and their best estimates for other items. All overhead costs includes taxes, insurance, repairs, depreciation, interest on investment at 5%, rent and other miscellaneous costs.

Each record in the study is given a serial number and they are arrayed in descending order of management (net profit) income per acre. It will be noted that average yields per acre were much higher in 1948. The market price of both seed and hay was much higher in 1948 than 1947. These averages should not be taken as the average of the industry as a whole. These records were taken from widely separated parts of the valley. Yields, costs and income vary widely and in that respect do represent the great variation in alfalfa seed production.

Alfalfa seed production in four Southwest states in 1948 was 14 million pounds compared to 25 million in 1947, which accounts for the much higher price (see Table 4).

Table 2. Some Important Factors in Alfalfa Seed Production

Serial Number	10	9	15	12	11	14*	13
Variety	India	India	India	India	India	India	India
Age of Stand - yrs.	3	1	1	1	2	1	1
No. Cuttings hay	4	4	4	4	4	1	2
No. Irrigations	20	19	12	18	24	14	10
Kind soil	Soft	Medium	Heavy	Sandy loam	Heavy	Medium	Medium
Kind Fertilizer	Super Phos. 18%	Super Phos. Li. Nit.	Triple Super Phos.	--	Triple Super Ph., Am S.	16-20 Li. Nit.	Super Ph. 18%
Pounds per Acre	600	200 6 g.	250	--	300 200	300 19.5 g.	800
Number Dustings	2	3	2	2	2	None	2
Pounds Seed per A.	525.2	410.1	541.3	371.5	261.3	231.8	297.1

* A nurse crop of flax (60 acres) and barley (40 acres) was grown on this acreage.

The above table presents some of the management practices and other items that probably account for some of the wide variation in yield, income and costs. All but one reported the use of DDT for the control of the lygus bug. The use of phosphate fertilizer is a generally accepted practice.

Table 3. Analysis of Alfalfa Seed Production Costs and Income - Average of 7 Records, 475.4 Acres

Total Costs per Acre				Cost of Seed Crop per Acre	Cost of Hay Crop Per Acre		
Items	Labor & Field Power	Material	Total				
Pre-harvest costs							
Renovating, etc.	\$1.43		\$1.43	Dusting	\$5.90	Harvesting	\$21.65
Fertilizing	.86	10.98	11.84	Harvesting	20.29	Irrigation	75% 9.03
Irrigation	4.49	7.55	12.04	Fertilizer	50% 5.92	Fertilizer	50% 5.92
Dusting	2.18	3.72	5.90	Irrigation	25% 3.01	Other preharvest	50% 5.05
Miscellaneous	5.95	2.72	8.67	Other preharvest	50% 5.05	Cash overhead	50% 5.88
Total pre-harvest	14.91	24.97	39.88	Cash overhead	50% 5.88	Depreciation	50% 6.25
Harvesting costs				Depreciation	50% 6.25	Interest on invest.	50% 5.26
Hay crop				Interest on inv.	50% 5.26		
Cut and windrow	5.56		5.56	Total	57.56	Total	59.04
Haul and stack	4.06		4.06	Less income straw, etc.	4.26	Less income from pasture, etc.	9.64
Bale	12.03		12.03	Net cost seed	53.30	Net cost of hay	49.40
Total hay harvest	21.65		21.65	Cost per # seed(383.2)	13.91	Cost per ton - (3.54)	13.95
Seed crop				Income per cwt.	33.41	Income per ton	28.82
Cut and windrow)	12.37		12.37	Mgt. income per cwt.	19.50	Mgt. income per ton	14.87
Thresh or combine)				Income per acre		Income per acre	
Re-clean seed	4.60		4.60	Seed	128.04	Hay - 3.54 tons	101.99
Straw	1.52		1.52	Screenings	.54	Pasture	9.64
Haul	.66		.66	Straw	3.72	Total	111.63
Miscellaneous	1.14		1.14	Total	132.30		
Total seed crop	20.29		20.29	Management income	74.74	Management income	52.59
Total harvest cost	41.94		41.94				
Total labor & material	56.85	24.97	81.82				
Cash overhead			11.76				
Sub-total			93.58				
Depreciation			12.50				
Sub-total			106.08				
Interest on inv. or rent			10.53				
Total all costs			116.61				
Total income			243.93				
Management income			127.32				

This table presents an estimated breakdown of costs and income from the seed crop and the hay crop as shown in the past two sections. The harvesting costs of hay are low because some was sold standing in the field to the dehydrator.

Table 4. U.S. Acreage, Production, Average Yields, and Farm Value by States 1933-42 Average, Annual 1943, 1944, 1945, 1946, 1947 and 1948.

State	Acreage Harvested							Yield Per Acre						
	1933-42*	1943	1944	1945	1946	1947	1948	1933 - 1942*		1945	1946	1947	1948	
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Pounds	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Ohio	18,200	2,000	50,000	13,000	6,500	5,200	3,400	58	42	51	36	39	39	51
Ind.	9,930	1,500	30,000	8,600	8,200	5,000	2,000	54	45	42	42	30	45	48
Mich.	79,200	25,000	118,000	30,000	50,000	53,000	42,000	59	39	51	39	51	60	57
Wisc.	30,690	10,000	40,000	16,000	24,000	20,000	22,000	58	42	48	54	66	102	60
Minn.	84,800	66,000	60,000	51,000	55,000	55,000	25,000	73	54	42	51	72	66	60
Iowa	14,920	8,600	11,000	7,500	9,000	8,500	6,500	73	54	33	42	42	42	48
N.Dak.	16,490	24,000	30,000	37,000	41,000	39,000	21,000	56	48	54	39	54	51	39
S.Dak.	18,280	26,000	32,000	50,000	45,000	51,000	36,000	65	63	42	54	69	69	54
Nebr.	67,200	105,000	67,000	118,000	215,000	108,000	81,000	81	75	57	60	73	66	66
Kansas	88,300	170,000	141,000	178,000	299,000	218,000	92,000	95	84	66	66	90	84	66
Okla.	61,300	92,000	105,000	100,000	108,000	126,000	54,000	114	120	96	99	102	120	90
Texas	5,970	5,000	12,000	17,000	17,000	19,000	10,000	169	135	150	240	180	210	210
Mont.	42,200	67,000	84,000	80,000	92,000	70,000	62,000	122	87	60	90	78	96	84
Idaho	46,800	29,000	25,000	21,000	23,000	23,000	20,000	162	123	126	114	108	102	132
Wyo.	18,250	20,000	19,000	16,900	16,000	12,000	14,000	119	84	78	66	81	78	102
Colo.	20,570	32,000	30,000	22,000	25,000	21,000	10,000	122	120	96	96	108	120	150
N.Mex.	5,320	5,000	7,500	11,500	14,000	15,000	3,000	178	120	219	168	186	186	156
Ariz.	28,300	31,000	44,000	40,000	46,000	61,000	40,000	259	192	105	150	156	198	180
Utah	35,300	30,000	35,000	38,000	44,000	46,000	45,000	112	96	72	72	150	120	174
Wash.	3,367**	1,700	2,000	2,000	3,500	3,000	4,000	128**	162	120	180	150	240	270
Oreg.	6,630	4,000	5,000	7,000	6,000	4,000	3,200	142	120	102	108	120	108	120
Calif.	17,710	14,000	20,000	24,000	27,000	33,000	18,000	195	210	198	150	222	252	264
U.S.	718,380	768,800	967,500	888,500	1,174,200	995,700	614,100	102	91	71	80	93	103	97

* 10 year average/** short time average

*** In millions of pounds.

Source: Av. 1933-42 and 1943, U.S.D.A. Agricultural Statistics - 45:26: 1944-46. B.A.E. Farm Production, etc. 1944-45:29 May, 1946.

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Table 4 -
Continued

State	Production in Millions of Pounds							Value of Production						
	1933*- 42	1943	1944	1945	1946	1947	1948	1933- 1942*	1943	1944	1945	1946	1947	1948
	Pounds***	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Ohio	1,073	84	2,520	468	252	204	174	211	31	895	165	102	70	84
Ind.	520	66	1,260	360	246	228	96	108	24	454	127	101	79	45
Mich.	4,584	972	6,000	1,170	2,520	3,180	2,400	963	358	2,120	411	1,004	1,230	1,104
Wis.	1,854	420	1,920	864	1,560	2,040	1,320	426	77	666	301	681	792	704
Minn.	6,168	3,540	2,520	2,580	3,960	3,600	1,500	1,213	1,030	882	903	1,525	1,200	712
Iowa	1,061	462	360	312	378	360	312	239	177	128	107	151	130	150
N.Dak.	971	1,152	1,620	1,440	2,220	1,980	840	191	405	570	516	851	624	377
S.Dak.	1,152	1,620	1,320	2,700	3,120	3,540	1,920	238	460	464	950	1,206	1,127	877
Nebr.	5,417	7,860	3,840	7,080	16,800	7,140	5,340	993	2,529	1,350	2,490	6,104	2,142	2,296
Kans.	8,150	14,280	9,300	11,760	26,880	18,300	6,060	1,386	3,900	3,038	3,822	9,094	4,087	2,505
Okla.	6,750	11,040	10,080	9,900	11,040	15,120	4,860	945	3,494	3,091	3,135	3,754	2,822	1,847
Texas	996	672	1,800	4,080	3,060	3,960	2,100	148	202	579	1,312	1,076	871	672
Mont.	5,156	5,820	5,040	7,200	7,200	6,720	5,220	1,048	2,066	1,823	2,556	2,916	2,318	2,610
Idaho	7,523	3,540	3,120	2,400	2,460	2,340	2,640	1,555	1,137	1,243	968	1,086	788	1,368
Wyo.	2,111	1,680	1,500	1,116	1,320	936	1,440	398	802	530	398	532	320	713
Colo.	2,570	3,840	2,880	2,100	2,700	2,520	1,500	463	1,274	970	707	963	647	662
N.Mex.	877	600	1,620	1,920	2,580	2,760	468	132	180	529	653	929	534	152
Ariz.	6,750	5,940	4,620	6,000	7,200	12,060	7,200	972	1,911	1,532	2,020	2,580	2,151	2,148
Utah	3,966	2,880	2,520	2,760	6,600	5,520	7,800	727	1,287	949	1,095	2,739	1,693	3,861
Wash.	359***	276	240	360	528	720	1,080	81**	99	89	136	219	228	526
Oregon	951	480	510	756	720	432	384	195	151	199	287	301	139	188
Calif.	3,440	2,940	3,960	3,600	6,000	8,340	4,740	538	946	1,287	1,290	2,200	1,876	1,422
U. S.	72,339	70,164	68,550	70,926	109,344	102,000	59,394	13,021	22,540	23,388	24,349	40,114	25,868	25,023
Total yearly production of 4 western states: Colorado, N.Mex., Ariz., & Calif.:														
	13,637	13,320	13,080	13,620	18,480	25,680	13,908							