

Carl Reed

Poultry Management Study

Monterey, San Benito, and Santa Cruz Counties

1953

**AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA
UNITED STATES DEPARTMENT OF AGRICULTURE**

Study Conducted by

Local Poultrymen
Monterey, Santa Cruz
and San Benito Counties

Arthur S. Greathead
Farm Advisor
P. O. Box 1370
Salinas, California

John W. Melendy
Farm Advisor
555 Ocean Street
Santa Cruz, California

Daniel M. Irving
Farm Advisor
Court House
Hollister, California

Report Prepared by

Arthur Shultis
Extension Specialist - Farm Management
UC Cooperative Extension

INTRODUCTION

This is the sixth annual report of the Monterey and Santa Cruz Counties Poultry Management Study. These 14 individual poultry enterprises are all in the same general area and records covered the calendar year, 1953. Averages shown at the bottom of Tables 1 to 4 and in columns in table 5 apply only to the poultry farms covered by these complete and detailed records. They may or may not be truly typical of the area, but are not represented as "average". They provide considerable useful information on what is currently happening in the local poultry business.

These studies are conducted by the Agricultural Extension Service of the University of California, in cooperation with local poultrymen for the purpose of helping them to make as much profit as possible under the constantly changing technical and price conditions. Individual cooperators in these studies receive, in addition to this report, a more detailed complete record and analysis of their business and also a monthly comparison of results and prices obtained. Other poultrymen and those interested in the business may also find in this report much helpful information.

OUTLOOK

Egg prices in 1954 started out rather well despite higher total production, more layers than the previous year and some decline in consumer purchasing power. By April increasing production has brought rather large supplies which have resulted in prices considerably below a year ago. Consumer purchasing power is expected to continue at about current levels through the rest of the year but a larger supply of eggs is expected to result in prices considerably below a year ago.

Hatchings of both meat and egg type chicks have been higher the first part of this year than in 1953 so more layers are predicted by fall.

Feed will probably be lower in price than a year ago with grains in surplus but protein concentrates not too plentiful. With no better consumer purchasing power expected, a bigger supply of eggs and meat and slightly lower feed costs the year of 1954 will be less profitable for California poultrymen than 1953. It may be poor enough to result in some losses instead of profits but the good manager with a good egg producing flock will have a profit opportunity.

EXPLANATION OF TERMS USED IN THIS POULTRY STUDY

TOTAL INCOME - is composed of returns from the sale of eggs, poultry, manure, and other miscellaneous income and the value of eggs eaten in the home, if any. The income from sacks sold was deducted from feed cost to make feed prices more comparable to bulk buying costs.

TOTAL EXPENSE - is made up of all costs of feed, chicks or poultry, hired labor, and other cash expenses, the value of farm-grown feeds, the value of the operator's or family labor, depreciation on buildings and equipment, and interest on the average investment.

MANAGEMENT INCOME - is the amount by which the total income exceeds the total expense. If the total expense is larger, a Net Loss occurs, which is designated by a minus sign (-), preceding the figure.

FARM INCOME - is the sum of the management income, the value of the operator's labor, and interest on investment. It is the net income above cash expenses and depreciation. It includes interest for the use of capital, wages for actual labor, and profit for management.

AVERAGE NUMBER OF HENS - is the average number of hens in the flock for the year. It is obtained by dividing the total hen days in the year by the number of days for the year.

PERCENT MORTALITY - is the percent of the average number of hens that died during the year. It is obtained by dividing the number died by the average number of hens.

PERCENT CULLED - is the percent of the average number of hens that were sold and eaten the home during the year. Dividing the number so disposed of by the average number of hens, gives this figure.

PERCENT ADDED - is the percent of the average number of hens which were actually added to the flock during the year. It is obtained by dividing total additions by the average number of hens. Pullets are added at about six months of age.

PERCENT PULLETS - is the percent pullets 6 to 18 months of age are of total layers in the flock as counted as beginning and end of the year.

PERCENT INCREASE - is increase in number of layers in the flock between the beginning and end of the year. A decrease is shown by a minus sign.

TABLE 1 - HERE IS HOW PROFIT IS DETERMINED

Rank	Eggs Laid Per Hen	Doz. Sold Per Hen	Avg. Price Dozen Eggs	Egg Income	Poultry Sales & Misc.	Incr. Stock Inven.	Total Income	Total Expense	Management Income	Farm Income
1	244	22.1	54.2¢	11.99	.62	0.05	12.66	8.91	3.75	5.18
2	212	18.4	54.5	10.04	1.33	-.02	11.35	8.72	2.63	4.56
3	223	18.4	54.1	9.93	.65	.64	11.22	9.25	1.97	3.41
4	229	18.8	52.3	9.81	2.49	.38	12.68	10.86	1.82	4.45
5	200	16.9	76.4	12.89	2.76	.20	15.85	14.49	1.36	4.24
6	207	17.0	56.8	9.65	.59	.02	10.26	8.96	1.30	2.45
7	225	18.7	54.8	10.26	.73	.55	11.54	10.38	1.16	3.91
8	198	17.2	51.4	8.86	.59	.39	9.84	8.95	.89	2.55
9	211	17.8	53.8	9.56	1.13	-.65	10.04	9.26	.78	1.77
10	183	15.2	49.8	7.55	1.05	.87	9.47	9.25	.22	2.71
11	158	13.8	52.3	7.19	.59	.20	7.98	8.00	-.02	1.52
12	196	16.7	54.0	9.00	.32	-.57	8.75	9.68	-.93	.44
13	153	12.3	93.1	11.43	3.15	.30	14.88	16.16	-1.28	1.68
14	178	15.0	54.2	8.14	1.05	-.14	9.05	10.59	-1.54	.77
Avg. 1953	204	17.3	56.9	9.85	1.10	.12	11.07	9.92	1.15	2.90
Avg. 1952	187	15.6	52.3	8.17	1.23	.22	9.62	9.80	-.18	1.30

The 14 individual records for 1953 are listed above in order of management income per hen, which appears in the next to the last column above. This is the best single measure of over-all management ability since it is the amount earned over and above all expenses, including the value of the operator's labor and interest on the total investment. Farm income, in the next column, shows the total amount the poultryman makes, including his wages and interest on investment.

Profit is total income less total expense. Income is largely determined by the number of dozen eggs sold per hen and the average price received per dozen. Poultry sales also influence income but are minor as compared to the egg income. To save space in the above table, we have combined the miscellaneous incomes, largely from the sale of manure, with the poultry sales.

The most profitable record in this study also had the highest egg production per hen and the greatest number of dozen eggs sold per hen and had a total expense per hen that was below average so enjoyed the high management income of \$3.75 per hen. On the other hand the last four records all show a minus management income. Three of these records show a loss and a rather low total income per hen, whereas No. 13 had a very high income but expenses that were too high to permit a profit.

The two averages at the bottom of the table cover the fourteen records for 1953 and also fourteen records for 1952, with only one in the fourteen being different in 1953. Hence a comparison of practices in these farm flocks shows well the changes that took place in profit opportunities between the two years. Higher egg prices were received in 1953 and production per hen was a little higher also.

TABLE 2 - HIGH PRODUCTION PER HEN IS IMPORTANT

Rank	Eggs Laid Per Hen	Fall Eggs Per Fall Hen	Per- cent Mor- tality	Culled		Per- cent Pul- lets	Percent added July- October	Size of Flock	Breed (H - heavy)	Housing and birds per pen
				Per cent	No. Mo. %					
1	244	80	12.5	75.2	12	83	51	L	L	Cage 1
2	212	70	8.0	74.9	11	70	100	M	L	Pen 125
3	223	79	15.0	72.1	11	65	0	L	L	Pen 300; Cage 2
4	229	80	12.3	197.2	5	80	70	S	L	Shed 90
5	200	67	14.1	147.6	12	100	32	M	L	Shed 130-240
6	207	66	20.4	83.0	7	59	45	L	H	Pen 400-500
7	225	75	12.3	65.3	12	82	100	M	L	Shed 120-200
8	198	66	17.6	69.6	10	89	56	L	L	Cage 2; Pen 200
9	211	74	14.5	113.5	10	83	58	L	L & H	Shed 400
10	183	53	36.6	111.1	9	49	58	M	L	
11	158	49	12.3	49.9	12	62	100	L	L & H	Shed 200
12	196	63	60.7	54.8	6	100	0	S	L	Cage 20-60 Shed 160
13	153	51	22.1	181.6	10	81	0	M	H	Shed
14	178	56	47.9	92.2	10	86	65	S	L & H	Shed 200 Pen 30
Avg. 1953	204	68	17	94	-	77	45	1476	-	---
Avg. 1952	187	62	22	83	-	80	60	1482	-	---

* Size of Flock: S-under 750 hens; M-750 - 1500; L- over 1500 hens

Individual records for 1953 are listed above in the same order as in the previous table. Notice that the seven most profitable records near the top of the table all had more than 200 eggs per hen and that only one in the latter group had more than 200. High egg production is not the only profit factor, but it is certainly important in obtaining sufficient income to show a profit. High annual production also depends on rather high production in the fall. Notice that toward the end of the second column above, the fall eggs per fall hen tend to be lower than the more profitable flocks with higher total production. Mortality among hens, shown in the third column above, also tends to be lower in the high producing, more profitable flocks.

The percentage culled, shown above, is composed of the normal day to day removal culls plus the disposal of older hens to make place for newer pullets. A culling percent of somewhere around 70% is ordinarily necessary to maintain a young, high-producing flock. One would normally expect a few culls to be removed every month of the year; and where less than 1% are removed in any month, it is possible that this practice is not being conducted thoroughly. It is possible to over cull and hence increase replacement costs, as well as to under cull.

Adding the major portion of the replacements during the months of July to October usually results in better fall egg production and a higher average annual egg price. This percentage may be seen above to range from a low of none to a high of 100%.

TABLE 3 - COSTS PER HEN ARE IMPORTANT AND VARY WIDELY

Rank	Cost Per CWT			Per- cent Mash	Lbs. Feed Per Hen	Est. Need Per Hen	% Fed of Est. Need	% Chicks Lost	Hours Labor Per Hen	Total Feed Cost	Chick Cost	Misc. Cost	Labor	Depr. and Int.	Total Costs
	Mash	Grain	Mash and Grain												
1	4.41	-	4.41	100	131	128	102	5.0	1.3	5.78	.28	.74	1.29	.82	8.91
2	4.93	3.47	4.21	50	131	119	110	5.8	1.7	5.61	.21	.58	1.95	.37	8.72
3	5.40	3.59	4.59	55	143	138	104	18.0	1.2	6.63	.47	.56	1.23	.36	9.25
4	4.62	2.83	3.79	54	176	162	108	7.1	2.3	6.73	.82	.57	2.33	.41	10.86
5	5.02	3.61	4.50	63	199	177	112	2.1	2.5	9.01	.80	1.46	2.47	.75	14.49
6	4.40	3.47	4.03	60	164	114	128	2.3	.8	6.67	.10	.52	.85	.82	8.96
7	4.89	3.58	4.48	68	146	137	107	9.2	2.5	6.62	.44	.37	2.52	.43	10.38
8	4.78	3.57	4.56	82	130	121	107	9.5	1.5	5.94	.43	.58	1.45	.55	8.95
9	4.87	4.66	4.87	99	123	119	103	-	1.0	6.08	1.19	.28	1.03	.68	9.26
10	4.82	3.68	4.29	53	118	131	90	10.8	2.3	5.12	.62	.58	2.25	.68	9.25
11	4.92	3.59	4.36	58	120	111	108	4.8	1.5	5.24	.46	.38	1.53	.39	8.00
12	4.82	-	4.82	100	144	114	126	17.5	1.1	6.97	.21	.76	1.05	.69	9.68
13	5.10	3.33	4.45	63	250	192	130	17.3	2.5	11.17	.71	.81	2.51	.96	16.16
14	4.72	3.66	4.24	55	159	125	127	21.6	2.0	6.78	.36	.74	1.96	.75	10.59
Avg. 1953	4.81	3.49	4.42	70	148	-	-	9.3	1.6	6.61	.52	.61	1.56	.62	9.92
Avg. 1952	5.13	3.67	4.63	66	148	-	-	17.6	1.5	6.89	.48	.49	1.42	.52	9.80

Total cost per hen is practically as important as total income in determining profit. A careful study of the above figures should disclose those items that appear out of line. Feed is the largest and most important cost and hence offers the greatest opportunity for economy or extravagance. The quantity fed will vary widely with the number of replacements being raised and, to some extent, with the breed of hens and the egg production per hen. This year, for the first time, we have estimated the probable need in each flock on the basis of the young stock raised and the eggs laid per hen, in a column above — in the next column, the per cent fed of this estimated need. This is done to help the cooperator spot possible waste of feed. Maybe Number 10 did not feed enough.

Grain is from \$1.00 to \$1.50 per hundredweight cheaper than mash. Standard laying mashers are designed to be fed with an equal quantity of grain. Feeding over 50% mash increases feed cost per hundredweight. Lowest feed cost per cwt. was in Number 4 where 54% of the feed was mash and where grain cost only \$2.83 per cwt. There should be some good buys in barley this summer with a record crop expected and storage tight. At the average price differential above of \$1.32, cutting from 65 to 50% mash would save 20 cents per cwt. on feed cost - about 30 cents per hen - \$600 on 200 hens. Do you need the money?

TABLE 4 - EGG PRICE AND COST AFFECT PROFIT

Rank	Percent of Eggs Sold						Percent Eggs Sept.-Dec.	Lbs. Feed Per Doz.	Average Price				Net Cost	Mgt. Income	Farm Income
	Large Market & Hatch	Med. Mkt.	Small and Com'l.	Whs. Mkt.	Re-tail	Hatching			Whs. Mkt.	Re-tail	Hatching	All			
									Cents Per Dozen Eggs Sold						
1	67	22	11	100	-	-	39	5.9	54.2	-	-	54.2	37.2	17.0	23.4
2	72	15	13	92	3	5	36	7.1	53.4	63.9	74.5	54.5	40.2	14.3	24.8
3	61	26	13	94	6	-	33	7.8	54.5	49.6	-	54.1	43.4	10.7	18.6
4	57	30	13	92	6	-	43	9.4	52.5	50.0	-	52.3	42.6	9.7	23.7
5	69	19	12	43	2	55	31	11.8	47.4	64.6	99.5	76.4	68.3	8.1	25.1
6	62	21	17	66	-	32	37	9.7	47.4	-	78.3	56.8	49.1	7.7	14.4
7	55	36	9	92	8	-	48	7.8	53.6	69.0	-	54.8	48.6	6.2	20.9
8	-	-	-	100	-	-	42	7.5	51.5	-	-	51.4	46.2	5.2	14.8
9	73	19	8	88	11	-	37	6.9	53.1	59.3	-	53.8	49.4	4.4	9.9
10	57	24	19	100	-	-	26	7.8	49.8	-	-	49.8	48.3	1.5	17.9
11	64	23	13	95	4	-	37	8.7	52.1	59.4	-	52.3	52.4	-1.1	11.0
12	66	24	10	92	8	-	33	8.6	52.9	66.3	-	54.0	59.6	-5.6	2.6
13	89	7	4	16	2	82	17	20.4	46.2	62.1	103.1	93.1	103.5	-10.4	13.7
14	65	23	12	93	7	-	36	10.6	54.8	49.4	-	54.2	64.4	-10.2	5.1
Avg. 1953	62	25	13	85	4	11	36	8.6	52.3	58.8	92.8	56.9	50.3	6.6	16.8
Avg. 1952	67	20	13	84	3	13	36	9.4	46.4	53.6	91.0	52.3	53.5	-1.2	8.3

Price received for eggs helps determine the total income but does not actually account for very wide ranges in earnings in different flocks. Wholesale market eggs may be seen to have varied from a low of 46¢ in flock No. 13 to a high of 54.8¢ in flock No. 14. The few eggs sold at retail were at variable prices but were not enough to greatly influence the average price of all eggs sold. Flocks Nos. 5, 6, and 13 sold a considerable proportion of hatching eggs, hence receiving a rather high price. Highest price of all was in Flock No. 13 which was not profitable because it had to use 20 pounds of feed for each dozen eggs sold as compared to 5.9 pounds of feed per dozen eggs sold in the first flock at the head of the table. This pounds per dozen is an overall feed efficiency factor with feed for raising of replacements included. In the 3 hatching egg flocks feed for cocks is also included.

Market eggs price is influenced by size, quality, and seasonal distribution of sales. Ordinarily the higher the percent of eggs sold in the 4 fall months, September to December, the higher will be the price since eggs are usually higher in the fall than in the spring. Getting more eggs in the fall means having a full flock then by hatching most replacements in early spring and getting a good fall lay from these spring hatched pullets.

TABLE 5 - COMPARISON WITH OTHER STUDIES AND YEARS

	Santa Cruz			Alameda	Sonoma	San Diego
	1951	1952	1953	1953		
Number of records	19	14	14	23	24	35
Avg. No. hens per flock	1222	1482	1476	2785	1920	3801
Eggs laid per hen	203	187	204	200	218	228
Hens: % Mortality & loss	14	22	18	19	14	15
% Culled	83	83	94	75	97	76
% Added	112	116	129	91	131	107
% Increase or decrease	15	11	17	-3	20	16
Av. price mash & grain per cwt.	4.17	4.63	4.42	4.10	4.14	4.06
Pounds mash & grain per hen	142	148	148	125	144	122
Percent mash	61	66	70	69	53	100
Hours labor per hen	1.9	1.5	1.6	1.0	1.2	1.1
Avg. price eggs per dozen	56.0	52.3	56.9	55.3	55.0	51.4
Net cost per dozen	43.9	53.5	50.3	44.5	42.3	36.3
Management income per dozen	12.1	-1.2	6.6	10.8	12.7	15.1
<u>Income per hen</u>						
Egg sales	9.51	8.17	9.85	9.28	10.37	9.64
Poultry sales	.99	1.14	1.02	.63	.95	.58
Miscellaneous income	.33	.09	.08	.05	.03	.05
Inventory change	.47	.22	.12	-.13	.57	.33
Total	11.30	9.62	11.07	9.83	11.92	10.60
<u>Cash & Depreciation Costs</u>						
Feed	5.91	6.89	6.61	5.16	6.03	4.96
Stock bought	.52	.48	.52	.40	.66	.50
Miscellaneous	.53	.49	.61	.44	.57	.41
Depreciation	.23	.24	.32	.27	.26	.37
Hired labor	.19	.20	.11	.17	.17	.46
Total	7.38	8.30	8.17	6.44	7.69	6.70
<u>Farm Income</u>						
Family labor	1.61	1.22	1.45	1.35	1.55	.85
Interest	.27	.28	.30	.23	.28	.21
Management Income	2.04	-.18	1.15	1.81	2.40	2.84

The above comparison of study averages in 4 counties for 1953 covers these few records in the study which may not be typical of the county. Our Santa Cruz flocks are as a group somewhat smaller in size and less efficient and profitable than the other three groups. Income per hen was almost as good but costs were a little higher and hence there was less per hen.

The San Diego flocks were all cage or small pen or wire flocks and all used a cage ration instead of grain and mash and got their feed at a slightly lower price than here in the bay area.