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Issued From:

University of California  
Agricultural Extension Service  
Room 4, Post Office Bldg., Napa, California

## INTRODUCTION

This is the fourth annual report of the current Napa County Poultry Management Study. This study is conducted by the Agricultural Extension Service in cooperation with a small group of interested poultrymen. Its purpose is to help local poultrymen in their management and economic problems. Individual cooperators receive a detailed analysis of their enterprises and an opportunity to compare the many profit factors from month to month and for the entire year. Their records also provide much useful current information for poultrymen in general and others interested.

The individual flock figures are shown by serial number in 3 tables. Averages for all flocks in this study for the 4 years and for 3 other studies in 1954 are shown in Table 4. Since the number of records included in these averages is small, these figures should not be considered as average for the county. They apply only to the records covered and for the calendar years covered.

## OUTLOOK

The year 1954 was a relatively unprofitable one for egg producers. The good profits in 1953 had stimulated expansion, and by midsummer we had too many layers and a surplus of eggs and resulting low prices. For the first time on record, egg prices were lower in the fall than in the spring. These low egg prices have discouraged some producers and resulted in some failures. Hatching of light breed chicks for laying flock replacements is below the previous year in the period December '54 through February '55 in California and in the United States. Laying flocks were culled more heavily than usual this past fall, and fewer late hatched pullets were added. The number of layers on hand in the U. S. is estimated at only 1% above the previous year. Some time this summer or fall the number of layers in flocks will be below the year before, total egg production will be lower, and egg prices should be better.

The maintenance of high fryer production despite low poultry prices and the large supply of hens culled from laying flocks, has resulted in rather low prices of cull hens, particularly of the light breeds. This situation may continue through much of 1955, and somewhat reduce potential profit. It will tend also to make it a little less profitable to maintain such a high percentage of annual replacements.

Feed prices should be lower in 1955, with a large national supply of feed grains and a reduction in government support prices of barley and milo from 85% to 70% of parity. It looks now as though 1955 will be a little more profitable than 1954 for egg producers, and that 1956 may be even better.

DEFINITION OF TERMS USED IN A POULTRY MANAGEMENT STUDY

Total Income is composed of returns from the sale of eggs, poultry manure, and other miscellaneous incomes, the value of eggs and poultry eaten in the home, and the stock inventory increase or less a decrease. Sacks were included in miscellaneous income in previous years, but were deducted from feed costs in recent years.

Total Expense is made up of all costs of feed, poultry, hired labor, and other cash expenses items, the value of operator's and other family labor, depreciation on buildings and equipment, and 5% interest on the average investment shown by the inventory.

Management Income is the amount by which the total income exceeds the total expense. If the total expense is large, 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 operators's and family's labor, and interest on investment. It is the net income the poultryman receives above cash expenses and depreciation. It includes interest for the use of his capital, wages for his actual labor, and profit for his management.

Average Number of Hens is the average number of hens in the flock for the year. It is obtained by dividing the total number of hen days for the year by the number of days in 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 in the home during the year. Dividing the number so disposed of by the average number of hens gives the 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 of total hens in the flock which were pullets between six and eighteen months of age. It is obtained by dividing the total pullets of this age at beginning and end of year by the total hens and pullets at these times.

Net Stock Income is the amount by which income from poultry sold and eaten in the home and increase in inventory value of poultry stock, exceeds actual poultry stock purchases and any decrease in stock inventory value. If the latter items exceed the stock income, there is a Net Stock Cost shown by a minus sign (-).

TABLE I -- MAIN PROFIT FACTORS IN INDIVIDUAL FLOCKS AND STUDY AVERAGES

	47	37	24	26	33	27	30	Av. 7 1954	Av. 7 1953
Size of flock * or av. no. hens	L	S	L	L	S	S	M	1493	1357
Eggs laid per average hen	210	241	187	236	183	253	237	212	212
Per cent mortality, hens	17	9	29	32	22	10	33	25	28
Percent mortality or lost young stock	19.1	4.4	5.9	10.0	---	2.2	12.6	11.4	15
Average price cull hens	.42	.49	.43	.50	.64	.95	.45	.47	.65
Average cost per chick or bird bought	35.5	32.7	34.2	45.1	\$2.00	38.0	32.4	39.2	37.0
Net stock income per hen	.11	-.22	-.12	-.38	-1.08	1.98	.30	-.07	.16
Average price per dozen eggs sold	14.4	37.4	39.5	34.9	42.9	34.3	36.4	39.1	53.5
Dozens sold per hen	17.2	20.1	15.1	21.5	15.2	21.9	20.2	17.7	17.8
Income per hen from eggs sold	7.65	7.51	5.96	7.50	6.54	7.50	7.34	6.94	9.54
Poultry sold	.49	.51	.14	.60	.25	1.37	.80	.44	.60
Miscellaneous income	--	--	--	--	--	--	--	--	.01
Increase in poultry stock inventory	.26	-.32	.12	-.71	.23	1.51	.38	.05	.17
Total income per hen	8.40	7.70	6.22	7.39	7.02	10.38	8.52	7.43	10.32
Total expense per hen	7.93	7.44	6.44	7.95	8.26	11.88	11.47	7.95	9.12
Management income per hen	.47	.25	-.22	-.56	-1.24	-1.50	-2.95	-.52	1.20
Farm income per hen	1.36	1.45	.74	.45	.24	1.44	-.70	.68	2.85

\* Size of flock--- S-small, under 750 hens; M-medium, 750-1500; L-large, over 1500 hens

The 7 individual records are listed above in order of management income per hen which appears on the next to the last line. This is the best single measure of the operator's management, although the farm income on the last line shows his total earnings per hen. Only the first two records had a management income, the other 5 showing a loss where the value of their own labor and interest on investment were considered as costs. One record, No. 30, had a minus farm income with income too low to even cover cash costs and depreciation by 70¢ per hen. The main trouble here was over culling and over replacement which ran costs up too high. Mortality of hens was also high, but average egg production was good.

The 1954 average may be compared with the 1953 average for these same flocks. Egg production per hen was the same and mortality was down a little. The big change was in income, with egg price down 14.4¢ per doz and cull hen price down 18¢, resulting in loss instead of a profit.

TABLE II -- PRODUCTION AND EGG PRICE FACTORS IN INDIVIDUAL FLOCKS

	47	37	24	26	33	27	30	Av. 7 1954	Av. 7 1953
Eggs laid per av. hen	210	241	187	236	183	253	237	212	212
Fall eggs per fall hen, Sept.-Dec.	68	86	72	77	48	89	79	73	72
Per cent of year's eggs in fall, Sept.-Dec.	33	29	42	38	35	51	36	37	38
Per cent of flock pullets, 6-18 mos.	86	100	69	79	51	100	77	78	81
Per cent pullets added, July-Oct.	49	0	38	29	100	100	45	41	37
Per cent mortality & lost hens	17	9	29	32	22	10	33	25	28
Per cent culled of av. hens	116	93	32	125	38	120	172	91	91
Per cent added	115	116	81	162	78	134	217	123	137
Per cent increase or decrease	-18	14	20	5	18	4	12	7	18
Per cent of all eggs sold									
Large	50	61	68	48	76	50	51	57	53
Medium	41	23	15	24	20	25	27	25	28
Small & commercial	9	16	17	28	4	25	22	18	19
Sold at retail	100	---	4	--	48	9	17	28	5
Average price per dozen									
Wholesale	--	37.4	39.5	34.9	38.3	33.9	35.8	37.2	53.5
Retail	44.8	--	38.3	--	48.1	40.9	41.3	44.3	58.1
All eggs sold	44.4	37.4	39.5	34.9	42.9	34.3	36.4	39.1	53.5
Net cost per dozen	41.7	36.1	40.9	37.5	51.0	41.2	51.0	42.0	46.8
Management income per dozen	2.7	1.3	-1.4	-2.6	-1.1	-6.9	-14.6	-2.9	6.7
Farm income per dozen	7.9	7.2	4.9	2.1	1.6	6.5	-3.5	3.8	16.0
Type of housing	pens on wire	litter	pens on wire	cages 2	litter	litter	cages 2	--	--

High egg production depends on quality of stock and a good culling and replacement program. It was less profitable to make heavy replacements in 1954 with low cull prices--some overdid it and reduced profit even with more eggs per hen. For better production and egg size, most of the replacements should be spring hatched. Notice average egg sizes and prices per dozen in No. 33 and 27, both of which added all their pullets in the 4 months July to Oct. No. 33 had more old hens and 27 was all pullets.

TABLE III -- COST FACTORS AND COSTS PER HEN

	47	37	24	26	33	27	30	Av. 7 1954	Av. 7 1953
Average price per cwt. mash	4.51	4.25	4.51	4.18	4.95	4.24	4.01	4.31	4.66
Average price per cwt. grain	2.99	2.94	2.74	3.24	3.86	3.02	2.71	2.86	3.43
Average price mash and grain	4.03	3.76	3.54	4.16	4.46	3.76	3.64	3.82	4.28
Per cent of feed mash	69	63	45	98	55	61	72	66	69
pounds of mash and grain per hen	113	132	122	141	99	168	186	132	135
Investment per hen	4.20	5.15	2.67	3.79	3.39	10.03	7.12	4.13	4.27
Hours of labor per hen	2.6	.9	1.1	1.0	1.3	2.4	1.9	1.6	1.5
Total feed costs per hen	4.59	5.02	4.37	5.91	4.42	6.38	6.79	5.08	5.84
Poultry stock bought	.65	.40	.38	.27	1.56	.90	.88	.56	.61
Miscellaneous costs	.12	.59	.30	.32	.67	.98	1.11	.42	.46
Depreciation	.18	.24	.15	.23	.13	.68	.44	.22	.23
Hired labor	1.50	--	.28	.21	--	--	--	.47	.33
sub total, cash costs & deprec.	7.04	6.25	5.48	6.94	6.78	8.94	9.22	6.75	7.47
Value operator's labor	.68	.93	.83	.82	1.31	2.44	1.89	.99	1.44
Interest on investment	.21	.26	.13	.19	.17	.50	.36	.21	.21
Total all costs	7.93	7.44	6.44	7.95	8.26	11.88	11.47	7.95	9.12

Costs are about as important as income in determining profit. For example No. 27 which had highest production per hen with heavy replacements also had highest income per hen despite the lowest egg price. Yet high expense per hen wiped out any profit opportunity. A large part of this, however, was the non-cash cost of operator's labor so the net farm income (Table I) was second only to No. 37.

Notice the variation in cost per 100 lbs. of grain and mash from 3.54 in No. 24 which fed only 45% mash to 4.46 in No. 33 which fed 55% of a very high priced mash. No. 33 bought pullets already raised so had the low feed use of 99 lbs. per hen which is for the hens only, there being no young stock raised. Despite the low price of grain in No. 30, the high percent of mash used (72%) resulted in a higher price than necessary for all feed. The high quality used (186 lb.) was the result of raising too many replacements. Poultry stock and miscellaneous costs are also high for this reason.

TABLE IV -- STUDY AVERAGES OTHER YEARS AND COUNTIES

	Napa				Alameda	Sonoma	San Bernardino
	1951	1952	1953	1954	1954	1954	1954
Number of records	12	8	7	7	22	27	19
Av. No. hens per flock	1309	1358	1357	1493	2638	2293	2571
Eggs laid per hen	204	190	212	212	208	228	229
Per cent mortality, hens	26	22	28	25	22	13	12
Per cent culled	62	77	91	91	98	96	108
Per cent increase or decrease	23	-3	18	7	-9	20	-1
Av. price per doz. eggs	53.8	47.0	53.5	39.1	42.0	40.7	38.4
Av. price per cull hen	.85	.63	.65	.47	.51	.58	.57
Av. cost per cwt. mash & grain	4.23	4.69	4.28	3.82	3.94	3.79	3.91
Per cent of feed mash	70	71	69	66	68	56	91
Hours of labor per hen	1.5	1.3	1.5	1.6	1.0	1.2	1.2
Income per hen, eggs sold	9.16	7.37	9.54	6.94	7.52	8.05	7.32
Poultry stock sold	.53	.53	.60	.44	.53	.57	.62
Miscellaneous income	.20	---	.01	---	.06	.04	.09
Increase stock inventory	.26	.10	.17	.05	-.04	.43	.16
Total income per hen	10.15	8.00	10.32	7.43	8.07	9.09	8.19
Total feed cost per hen	5.63	5.83	5.84	4.08	5.31	5.15	5.61
Poultry stock bought	.58	.48	.61	.56	.46	.60	.62
Miscellaneous costs	.45	.45	.46	.42	.45	.62	.45
Depreciation	.23	.19	.23	.22	.32	.27	.25
Hired labor	.24	.34	.33	.47	.14	.24	.37
Cash & deprec. costs per hen	7.13	7.29	7.47	6.75	6.68	6.88	7.30
Farm income per hen	2.80	.71	2.85	.68	1.39	2.21	.89
Value operator's labor	1.21	.90	1.44	.99	1.07	1.45	.87
Int. on investment	.22	.18	.21	.21	.25	.29	.25
Mgmt income per hen	1.59	-.37	1.20	-.52	.07	.47	-.23

Above are study averages for our small Napa County study for the last 4 years and 1954 study averages for 3 larger studies in other counties where number of records and flock size was larger. Notice that our few Napa records show lower egg production than in two other studies and lower earnings per hen than the other three groups. That shows some room for improvement here.

The average price per dozen eggs shown is for all eggs sold for hatching and home use, so is not strictly comparable between studies.

Feed prices show only a small range, being more mash and grain in Sonoma and Alameda counties and largely the all-in-one cage ration in San Bernardino County.