

PY-SI-66

1966

POULTRY

MANAGEMENT

STUDY



RIVERSIDE AND ORANGE COUNTIES

AGRICULTURAL EXTENSION SERVICE - UNIVERSITY OF CALIFORNIA - RIVERSIDE COUNTY

UC Cooperative Extension

INTRODUCTION

The University of California Agricultural Extension Service conducted Poultry Management Studies in six California counties in 1966. This report represents the combined study in Orange-Riverside Counties.

There are several purposes for conducting such studies. The first and most important is to help the individual cooperator analyze his management decisions and economic situation. The second purpose is to provide a set of management and economic standards which can form the basis for industry comparison. It is only through accumulated data of this type that poultrymen can know where they stand and then make changes to improve their position. One of the side benefits of a uniformly conducted study of this type is the standardization of terminology throughout the industry.

In 1966 ten ranches participated in this two-county study. All of these ranches submitted full cost and income data as well as production and management information on a regular interval every four weeks. The records were processed at the University of California at Riverside Computer Center, and complete analyses were mailed back to each cooperator representing each four week period as well as the entire year to date.

RANCH SIZES

Smallest Ranch	12,897
Largest Ranch	57,128
Average Ranch	26,573
TOTAL HENS	265,727

DISCUSSION

Egg prices received by cooperators in 1966 were the highest since 1960 when the Riverside County price was 33.8¢ per dozen. The 33.8¢ per dozen average price in 1966 was a marked improvement over the 27.8¢ received in 1965. Much of this was due to the relatively low 1965 hatch (9% less than 1964) and to increased military purchases. Management income, on the other hand, was the highest since 1953 and the second highest since 1947.

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GENERAL INFORMATION

All records are kept on a "hen-day" basis. In other words, a daily inventory of all chickens is maintained throughout the year. The ranches in all tables are listed in the order of decreasing management income per hen (as shown on page 6).

TERMS

1. Hens - all chickens 24 weeks of age and older.
2. % Culled
% Died
% Added
Total number of birds in each category
divided by average number of hens.
3. Commercial Eggs - Includes cracks, pee wees, and B grade eggs.
4. Change in Stock Inventory - Increase or decrease in flock valuation.
5. Miscellaneous Costs - Vaccines, medication, repairs, taxes, utilities, small equipment, etc.
6. Depreciation - From Federal Income Tax Report.
7. Family Labor - Estimated hours @ \$1.50 per hour.
8. Interest on Investment - Average value of stock, buildings and equipment, and market value for land times 6%.
9. Costs and Income Per Dozen - Costs or income divided by dozens of eggs sold.
10. Feed Consumption and Conversion - Feed used divided by dozens of eggs produced.
11. Cost per cwt. of Feed - Value of all feed purchased divided by total weight.
12. Chick Cost - Total cost of chicks divided by total chicks delivered, including extras.
13. Cash Income - Amount remaining after all cash costs are paid.
14. Net Farm Income - Amount remaining after all cash costs and depreciation costs are paid.
15. Management Income - Amount remaining after all cash, depreciation, and non-cash costs (family labor and interest on investment) are paid.

A - 10-15,000 hens

B - 15-30,000

C - 30-50,000

D - 50,000 and over

EGG PRODUCTION, SIZES AND PRICES

Serial No. and Size	Eggs Per Hen	% Production	% Large	% Medium	% Small	% Commercial	% Retail	Average Egg Price		
								Wholesale	Retail	All Eggs
1B	236.7	64.8	74.3	16.1	2.5	7.1	0	33.9	--	33.9
2A	247.5	67.8	61.5	22.7	3.4	12.4	.3	32.5	33.4	32.5
3D	231.2	63.4	69.2	20.8	5.0	5.0	0	34.3	--	34.3
4C	245.2	67.2	68.5	20.7	4.4	6.5	4.7	33.3	43.5	33.8
5C	209.6	57.4	73.6	15.0	2.9	8.6	.6	33.5	51.7	33.5
6B	205.0	56.2	71.5	15.0	2.6	10.9	6.7	33.1	41.5	33.7
7B	252.8	69.3	72.5	18.5	3.2	5.9	4.1	33.7	38.3	33.9
8B	228.9	62.7	72.1	13.8	5.5	8.6	.8	34.7	45.7	34.8
9B	217.4	59.6	72.3	18.1	2.0	7.6	.4	33.8	37.2	33.9
10A	234.4	64.2	65.2	23.0	4.2	7.5	7.1	33.0	42.6	33.7
Top 3	238.5	65.3	68.3	19.9	3.6	8.2	.1	33.6	33.4	33.6
Bottom 3	226.9	62.2	69.9	18.3	3.9	7.9	2.8	33.8	41.8	34.1
1966 Average	230.9	63.3	70.1	18.4	3.6	8.0	2.5	33.6	41.7	33.8
1965 Average	234.2	64.2	73.2	17.5	3.1	6.4	4.3	27.3	34.3	27.8

One of the greatest differences between the low and high profit ranches (Bottom 3 vs. Top 3) was the twelve eggs difference in production rates. This accounted for one-third of the difference in management income. As important as this factor may be in determining overall returns, it must be coupled with a low cost per dozen if it is to result in the highest return to management. Ranch number 7B produced 22 more eggs than the average ranch, but failed to finish in the top group because of higher costs.

The number of commercial eggs produced by these ranches seems to be on the rise when compared with previous years. In 1964 the average ranch in the study had only 4.5% commercials; in 1965 6.4% and in 1966 8.0%. Most of this is probably due to the increase in average age of our commercial flocks.

INCOME PER HEN

Serial No. and Size	Egg Sales	Cull Hens	Change in Stock Inventory	Misc.	Total
1B	\$ 6.75	\$.11	\$.09	\$ —	\$ 6.95
2A	6.67	.14	.14	—	6.95
3D	6.61	.34	.04	—	6.99
4C	6.80	.23	-.13	—	6.90
5C	5.87	.11	.33	.02	6.33
6B	5.70	.12	.32	—	6.14
7B	6.91	.15	-.06	—	7.00
8B	6.38	.11	.05	—	6.54
9B	6.11	.09	.50	—	6.70
10A	6.47	.17	.13	.01	6.78
Top 3	6.68	.20	.09	0	6.96
Bottom 3	6.32	.12	.23	0	6.67
1966 Average	6.43	.16	.14	0	6.73
1965 Average	5.38	.09	.14	.03	5.63

Total egg income was up over \$1.00 per hen from 1965. Cull hen income was up 7¢ per hen. This was a reflection of much higher cull prices and a slight increase in the rate of culling. Change in stock inventory, a measure of flock growth, remained constant. Miscellaneous income is generally from manure sales. On most ranches manure disposal is a miscellaneous cost item rather than a source of income.

COSTS PER HEN

Serial No. and Size	CASH COSTS					Depre- ciation	NON-CASH COSTS		Total Costs
	Feed	Replac- ment *	Hired Labor	Misc.	Total		Family Labor	Int. on Investment	
1B	\$3.43	\$.17	\$.33	\$.22	\$ 4.15	\$.16	\$.13	\$.22	\$ 4.66
2A	3.52	.24	.28	.32	4.36	.31	.11	.26	5.04
3D	2.96	1.50	.28	.19	4.93	.14	0	.11	5.18
4C	3.77	.29	.22	.28	4.56	.15	.19	.23	5.13
5C	3.34	.29	.16	.33	4.12	.24	.20	.21	4.77
6B	3.49	.22	.05	.30	4.06	.15	.26	.19	4.66
7B	3.52	.48	.58	.43	5.01	.08	.11	.35	5.55
8B	3.53	.21	.22	.44	4.40	.44	.18	.23	5.25
9B	3.72	.20	.23	.52	4.67	.39	.25	.40	5.71
10A	3.82	.48	.47	.64	5.41	.20	.31	.29	6.21
Top 3	3.30	.64	.30	.24	4.48	.20	.08	.20	4.96
Bottom 3	3.69	.30	.31	.53	4.83	.34	.25	.31	5.73
1966 Average	3.51	.39	.25	.35	4.50	.21	.16	.23	5.10
1965 Average	3.29	.57	.31	.33	4.50	.18	.15	.20	5.04

* Cost of baby chicks and/or started pullets.

Costs on a per hen basis were up slightly over 1965 costs. The increased feed cost per hen was a reflection of the 10 cent per hundred pounds increase in average feed price plus the increase in the number of ranch grown pullets which resulted in more feed purchased. Because of the increase in ranch grown pullets we also experienced a decrease in the average cost of replacements.

The high income ranches used 18¢ less labor per hen (hired plus family) and 29¢ less was spent on miscellaneous items. The key to top efficiency is the ability to pare costs in all categories.

INCOME OVER COSTS PER HEN

Serial No. and Size	Total	Cash	Cash	Depre-	Net Farm	Non-Cash	Management
	Income	Costs	Income	ciation	Income	Costs	Income
1B	\$ 6.95	\$ 4.15	\$ 2.80	\$.16	\$ 2.64	\$.35	\$ 2.29
2A	6.95	4.36	2.59	.31	2.28	.37	1.91
3D	6.99	4.93	2.06	.14	1.92	.11	1.81
4C	6.90	4.56	2.34	.15	2.19	.42	1.77
5C	6.33	4.12	2.21	.24	1.97	.41	1.55
6B	6.14	4.06	2.08	.15	1.93	.45	1.48
7B	7.00	5.01	1.99	.08	1.91	.46	1.45
8B	6.54	4.40	2.14	.44	1.70	.41	1.29
9B	6.70	4.67	2.03	.39	1.64	.65	.99
10A	6.78	5.41	1.37	.20	1.17	.60	.57
Top 3	6.96	4.48	2.48	.20	2.28	.28	2.00
Bottom 3	6.67	4.83	1.84	.34	1.50	.55	.95
1966 Average	6.73	4.57	2.16	.23	1.93	.42	1.51
1965 Average	5.63	4.50	1.13	.18	.95	.35	.60

Management income is the amount left over after paying all cash costs, depreciation, unpaid family labor, and interest on the investment. It is probably the most accurate means of measuring the true value of the management used on each ranch. As usual, there is considerable spread between the most efficient and least efficient ranches. The interesting thing to note is that the top ranches excelled in all the factors which determine management income--total income, cash expenses, depreciation, and non-cash expenses. Together they added up to a \$1.05 per hen advantage in management income over the least efficient ranches.

INCOME AND COSTS PER DOZEN EGGS SOLD

Serial No and Size	INCOME			CASH COSTS					Cash In-come	Depre-cia-tion	Net Farm Income	NON-CASH COSTS		Total Costs	Manage-ment Income
	Eggs	Other	Total	Feed	Re-placements	Hired Labor	Misc.	Total				Family Labor	Int. on Invest.		
1B	33.9¢	1.0¢	34.9¢	17.2¢	.9¢	1.7¢	1.1¢	20.9¢	14.0¢	.8¢	13.2¢	.7¢	1.1¢	23.5¢	11.4¢
2A	32.5	1.4	33.9	17.2	1.2	1.4	1.6	21.4	12.5	1.5	11.0	.6	1.3	24.8	9.1
3D	34.3	1.9	36.2	15.4	7.8	1.5	1.0	25.7	10.5	.7	9.8	0	.6	27.0	9.2
4C	33.8	.5	34.3	18.7	1.5	1.1	1.4	22.7	11.6	.7	10.9	.9	1.2	25.5	8.8
5C	33.5	2.6	36.1	19.1	1.6	.9	1.9	23.5	12.6	1.4	11.2	1.2	1.2	27.3	8.8
6B	33.7	2.6	36.3	20.6	1.3	.3	1.8	24.0	12.3	.9	11.4	1.6	1.2	27.7	8.6
7B	33.9	.5	34.4	17.3	2.4	2.9	2.6	25.2	9.2	.4	8.8	.6	1.7	27.9	6.5
8B	34.8	.9	35.7	19.2	1.2	1.2	2.4	24.0	11.7	2.4	9.3	1.0	1.3	28.7	7.0
9B	33.9	3.3	37.2	20.6	1.1	1.3	2.9	25.9	11.3	2.2	9.1	1.4	2.2	31.7	5.5
10A	33.7	1.6	35.3	19.9	2.5	2.5	3.3	28.2	7.1	1.1	6.0	1.6	1.5	32.4	2.9
Top 3	33.6	1.4	35.0	16.6	3.3	1.5	1.2	22.6	12.4	1.0	11.4	.4	1.0	25.0	10.0
Bot.3	34.1	1.9	36.0	19.9	1.6	1.7	2.9	26.1	9.9	1.9	8.0	1.3	1.7	31.0	5.0
1966 Average	33.8	1.6	35.4	18.5	2.2	1.5	2.0	24.2	11.2	1.2	10.0	1.0	1.3	27.7	7.7
1965 Average	27.8	1.4	29.2	17.0	3.1	1.6	1.7	23.4	5.7	.9	4.8	.8	1.0	26.2	3.0

The total cost of production was up 1.5¢ per dozen over 1965 costs. It is interesting to note that the three top ranches had a 6¢ per dozen advantage over the three bottom ranches. In years of low egg prices, this could be the difference between profit and loss.

In good years we can expect ranches to spend more money on repairs, small equipment, and other items which in poor years have to wait. Some ranches, of course, will do more of this than others.

EGG PRODUCTION MISCELLANEOUS COSTS

PER HEN

Ranch	Medicines 1) & Vaccines	Repairs & Small Equip.	Utilities 2)	Auto & 3) Truck	Insurance	Taxes	Rent	Other	Total
1B	7.88¢	1.66¢	3.35¢	1.32¢	--	5.58¢	--	2.66¢	22.45¢
2A	3.80	2.99	13.79	.90	1.91	5.34	--	3.33	32.06
3D	2.97	4.03	.97	.13	.11	3.47	3.50	3.78	18.96
4C	4.84	.62	4.01	.64	.08	11.92	--	5.65	27.76
5C	8.19	9.39	7.24	.92	.84	5.30	--	.73	32.61
6B	7.30	3.83	7.24	1.97	.99	7.86	--	.74	29.93
7B	21.83	7.06	3.88	.82	2.71	11.96	.68	4.85	53.79
8B	9.81	5.93	5.31	3.23	1.20	5.71	--	12.49	43.68
9B	8.93	11.75	5.71	1.97	2.49	10.78	--	9.90	51.53
10A	2.10	7.69	12.20	2.87	3.77	15.04	--	19.95	63.52
Top 3	4.88	2.89	6.04	7.83	.67	4.80	1.17	3.26	31.54
Bot. 3	6.95	8.46	7.74	2.69	2.49	10.51	--	14.11	52.95
1966 Avg.	7.77	5.50	6.37	1.48	1.41	8.39	.42	6.41	37.64
1965 Avg.	5.68	5.24	5.81	1.52	1.14	6.43	2.68	4.39	32.88

PER DOZEN EGGS SOLD

1B	.40¢	.08¢	.17¢	.07¢	--	.28¢	--	.13¢	1.13¢
2A	.19	.15	.67	.04	.09	.26	--	.16	1.56
3D	.15	.21	.05	.01	.01	.18	.18	.20	.99
4C	.24	.03	.20	.03	--	.59	--	.28	1.37
5C	.47	.54	.41	.05	.05	.30	--	.04	1.86
6B	.43	.22	.43	.12	.06	.46	--	.04	1.76
7B	1.07	.35	.19	.04	.13	.59	.03	.24	2.64
8B	.53	.32	.29	.18	.07	.31	--	.68	2.38
9B	.50	.65	.32	.11	.14	.60	--	.55	2.87
10A	.11	.40	.63	.15	.20	.72	--	1.04	3.31
Top 3	.25	.16	.30	.04	.03	.24	.06	.16	1.24
Bot. 3	.38	.46	.41	.16	.14	.56	--	.75	2.87
1966 Avg.	.41	.30	.34	.08	.08	.44	.02	.34	2.01
1965 Avg.	.29	.28	.31	.08	.06	.34	.14	.24	1.74

1) Includes all antibiotics or drugs added to the feed as well as those used separately, vaccines & veterinary service.

2) Water, electricity, gas, telephone.

3) 10 cents per mile.

FEED CONSUMPTION AND FEED CONVERSION

Serial No. and Size	Pounds Feed Per Hen		Pounds Per Dozen		Cost Per CWT All Feed	Est. Cost Per CWT Lay Feed	Feed Cost Per Dozen
	All Feed	Layers	All Feed	Layers			
1B	107.7	93.0	5.46	4.71	\$ 3.18	\$ 3.11	14.6¢
2A	112.4	92.2	5.47	4.47	3.13	3.17	14.2
3D	89.7	79.9	4.65	4.15	3.30	3.25	13.5
4C	117.9	96.9	5.77	4.74	3.20	3.13	14.8
5C	103.1	85.9	5.90	4.92	3.24	3.17	15.6
6B	105.5	86.4	6.17	5.06	3.31	3.24	16.4
7B	106.4	90.9	5.05	4.31	3.30	3.25	14.0
8B	108.5	89.5	5.69	4.69	3.26	3.19	15.0
9B	109.2	87.6	6.03	4.84	3.40	3.33	16.1
10A	112.4	89.7	5.76	4.59	3.39	3.32	15.2
Top 3	103.3	88.4	5.19	4.44	3.20	3.18	14.1
Bot.3	110.0	88.9	5.83	4.71	3.35	3.28	15.4
1966 Avg.	107.3	89.2	5.60	4.65	3.27	3.22	14.9
1965 Avg.	103.6	90.2	5.33	4.66	3.18	3.12	14.5

Feed consumption and conversion records are based on the total quantity of feed purchased on the ranch divided by the average number of hens or the total number of dozens of eggs produced. The column headed "layers" is an estimate of the portion of the total used by the hens over 24 weeks of age. If a poultryman purchased started pullets we would expect the "all feed" figure to be less.

MANAGEMENT FACTORS

Serial No. and Size	Per Cent Mortality 1 Day to 24 Weeks*	Per Cent of Average Laying Flock			
		Died	Culled	Added	Increase or Decrease
1B	5.8	15.9	48.7	65.3	+ .7
2A	7.0	8.6	54.8	84.7	+ 21.3
3D	N/A	19.4	90.9	113.6	+ 3.3
4C	5.7	11.2	84.3	91.0	- 4.5
5C	19.2	24.1	42.9	56.7	- 10.3
6B	3.6	20.4	39.9	76.8	+ 16.5
7B	5.3	12.9	59.0	95.3	+ 23.4
8B	7.4	18.6	54.2	70.3	- 2.5
9B	3.1	17.6	26.7	71.3	+ 27.0
10A	5.1	11.5	72.6	122.7	+ 38.6
Top 3	6.4	14.6	64.8	87.9	+ 8.4
Bot.3	5.2	15.9	51.2	88.1	+ 21.0
1966 Avg.	6.9	15.0	57.4	84.8	+ 11.4
1965 Avg.	7.0	13.9	55.9	82.7	+ 13.2

* Purchased and added in 1966

Layer mortality was the highest experienced in the Riverside County study during the last 19 years. Two ranches had mortality rates over 20% of the average flock. Much of this is probably due to the increased average age of the flocks and less use of frequent culling.

MISCELLANEOUS DATA

Serial No. and Size	Hours of Labor Per Hen	Per Cent Labor Hired	Price Rec'd Per Cull	Chick Cost	Started Pullet Cost		Per * Cent Started Pullets	Per** Cent Force Molted
					16 Wk.	20 Wk.		
1B	.24	64	24.4¢	29.3¢	--	--	0	35
2A	.22	65	25.7	29.2	--	--	0	0
3D	.15	100	36.9	--	1.35	--	100	0***
4C	.27	57	28.5	28.0	--	--	0	0
5C	.24	44	26.3	28.3	--	--	0	45
6B	.21	15	31.0	29.3	--	--	0	30
7B	.38	80	25.6	27.8	--	1.55	27	15
8B	.27	56	26.2	28.3	--	--	0	25
9B	.29	44	32.8	27.8	--	--	0	24
10A	.48	58	23.7	30.8	--	--	24***	0
Top 3	.20	76	29.0	29.3	--	--	33	12
Bottom 3	.35	53	27.6	29.0	--	--	8	16
1966 Average	.28	58	28.1	28.8	1.35	1.55	15	17
1965 Average	.28	65	16.6	29.8	--	1.57	40	18

* % of total replacements purchased which were started pullets.

** % molted hens on December 31, 1966.

*** Ranch No. 3 did practice some force molting during the year.

**** 13-week old pullets.

HOUSING INFORMATION

Serial No. and Size	No. of Hens Per Pen			
	1	2-6	7-40	Over 40
	Percent on Each Ranch			
1B	6	94	--	--
2A	75	25	--	--
3D	--	100	--	--
4C	--	100	--	--
5C	--	100	--	--
6B	--	100	--	--
7B	8	74	6	12
8B	--	54	46	--
9B	--	100	--	--
10A	12	88	--	--

The typical cage size used by the cooperators in this study was the 12" by 18" cage with three hens per cage. Most of the poultry houses were open type structures. One-half were single aisle with one row of cages on each side of the aisle. The other half had three to five rows of back to back cages per house. All cages were single decked.

SUMMARY OF COST OF PRODUCTION PER DOZEN

Serial No. and Size	Feed	Replacements	Hired Labor	Misc.	Depre- ciation	Family Labor	Interest on Investment	Total Costs	Minus Non-Egg Costs	Net Costs
1B	17.2¢	.9¢	1.7¢	1.1¢	.8¢	.7¢	1.1¢	23.5¢	- 1.0¢	22.5¢
2A	17.2	1.2	1.4	1.6	1.5	.6	1.3	24.8	- 1.4	23.4
3D	15.4	7.8	1.5	1.0	.7	0	.6	27.0	- 1.9	25.1
4C	18.7	1.5	1.1	1.4	.7	.9	1.2	25.5	- .5	25.0
5C	19.1	1.6	.9	1.9	1.4	1.2	1.2	27.3	- 2.6	24.7
6B	20.6	1.3	.3	1.8	.9	1.6	1.2	27.7	- 2.6	25.1
7B	17.3	2.4	2.9	2.6	.4	.6	1.7	27.9	- .5	27.4
8B	19.2	1.2	1.2	2.4	2.4	1.0	1.3	28.7	- .9	27.8
9B	20.6	1.1	1.3	2.9	2.2	1.4	2.2	31.7	- 3.3	28.4
10A	19.9	2.5	2.5	3.3	1.1	1.6	1.5	32.4	- 1.6	30.8
Top 3	16.6	3.3	1.5	1.2	1.0	.4	1.0	25.0	- 1.4	23.6
Bot.3	19.9	1.6	1.7	2.9	1.9	1.3	1.7	31.0	- 1.9	29.1
1966 Average	18.5	2.2	1.5	2.0	1.2	1.0	1.3	27.7	- 1.6	26.1
1965 Average	17.0	3.1	1.6	1.7	.9	.8	1.0	26.1	- 1.4	24.7

To obtain the true cost of producing a single dozen of eggs it is necessary to subtract an estimate of the costs of producing the non-egg products (cull hens and manure) and to adjust for changes in total flock size. Since costs of producing manure or cull hens are not available, it is assumed that the income received for these items is the best approximation of their cost of production. The change in stock inventory figure is used to adjust for increases or decreases in flock size. (The breakdown of these three items on a per hen basis is shown on page 4.) When the average value of these items on a per dozen basis (1.6¢) was subtracted from total cost, the average net cost of producing a dozen eggs in 1966 was 26.1¢.

ACKNOWLEDGEMENTS

The Agricultural Extension Service would like to express it's appreciation to the ten poultrymen who cooperated in the study this year. Without their full interest such a study would be impossible to conduct.

Many persons participated in the processing of these data, and due recognition should be given to them.

1. Dr. Thomas Little, Extension Biometrician, U.C.R. - Dr. Little devoted considerable time to the development of the computer program, and his office processed the monthly reports.
2. Mrs. Isabel Reidle, Junior Statistician, U.C.R. - Mrs. Reidle was responsible for transferring the original data to punch cards for processing, and for returning the analyses to the County office.
3. Mrs. Millicent Harrell, Secretary Riverside County A.E.S. office - Mrs. Harrell assisted in the final analyses and printed the final reports.

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