

Number 178  
April 19, 1996

# AN EGG ECONOMICS UPDATE

## Is your Current Replacement Program Still the Best?

by

Donald Bell, Poultry Specialist  
University of California, Riverside

How long has it been since you've reevaluated your current replacement program relative to today's price/cost relationships with your current flock performance figures? Is your program as relevant today as it was when you first set it up? Many producers have continued using programs that may have been optimum 20 years ago or may have never taken a hard look at all available options. Others may have changed their programs arbitrarily for short-term advantages without considering the long-term effects.

Every producer knows the longer a flock is kept, the lower the rate of egg production and the poorer the egg quality. Producers also recognize that replacements represent the second highest cost of producing eggs. It only stands to reason that there is an optimum cycle length and/or optimum number of cycles which will maximize earnings. Rather than basing decisions upon "components" of what may be correct, it's important to evaluate the net effect of all factors. Replacement programs must be designed to produce the highest returns per unit of time for a farm's layer capacity.

Egg producers typically try to analyze this question by comparing "two 2 cycle flocks with three 1 cycle flocks" or some other combination of cycle numbers which coincide with the same amount of elapsed time. This approach is not necessary when "complete" programs are analyzed to a common unit of time (week or year). This type of analysis allows comparison of an endless number of programs of varying length.

Some 20 years ago, the University of California introduced a computer program which was designed to answer the questions: "Should I plan an all-pullet flock?" "At what age should I plan to sell my flocks?" "Should I molt?" "Should I molt more than once?" The basic question, though, can be best summarized: "How long can I profitably lay my flocks?"

Through the past 20 years, literally hundreds of analyses have been made for egg producers in practically every state and in many countries overseas. Answers have covered the entire range from all pullet programs to lengthy multiple molt programs.

- \* Producers in some countries receive more for their old hens than they pay for new ready-to-lay pullets. Other producers have pullet costs in excess of \$3 and \$4 with very little salvage value. Some producers receive substantial premiums for sizes above large while others are severely penalized for producing eggs of inferior quality at what might be considered very "young" flock ages. Obviously, such ranges in net replacement costs and other factors dictate major differences in replacement policies. A common program is not justified for everyone.

In accordance with applicable Federal laws and University policy, the University of California does not discriminate in any of its policies, procedures or practices on the basis of race, religion, color, national origin, sex, marital status, sexual orientation, age, veteran status, medical condition (as defined in Section 12926 of the California Government Code) or handicap. Inquiries regarding the University's equal opportunity policies may be directed to the Personnel Studies & Affirmative Action Manager, Agriculture & Natural Resources, 2120 University Avenue, Berkeley, California 94720. Phone: (415) 644-4270.

## Building a Model Flock

The University's analysis technique for table egg layer replacement programs takes each producer's unique flock performance characteristics (average of past year's performance) along with expected prices and costs for the planning period (five+ years into the future) and creates a "typical" or model flock. This flock is then projected through a series of 308 different combinations of 1,2, & 3 cycles ranging from 50 weeks to 200 weeks at sale. In addition, each of these flocks is projected at 3 different egg prices and 3 different feed prices. The answer for "What is the best replacement program?" is expressed in terms of:

### **Egg and fowl income minus feed and pullet cost per year per hen housed**

The analysis includes weekly printout for both the current program and the "best" program. Bottom line profitability figures are printed for all 308 options and for the top 10 programs for current, higher and lower egg and feed prices.

## Sample Printout and Forms for Analysis

On page 3, we've listed the key information required to describe a typical flock. We've also included example inputs for each item which were used in the sample printout on pages 4-7. When calculating programs other than your own, the computer adjusts performance for different molting ages. Comparisons of the projected data with breeder performance curves verify the accurateness of the projection procedures.

All flocks will be analyzed at the same egg prices (except for premiums for X-large and Jumbo) and the same feed prices. Enter egg prices in "your" column if you wish a separate analysis with your own egg and feed prices or wish to add premiums to the \$55 large price used for everyone.

We welcome you to submit your data for analysis. It will, of course, be treated confidentially. We hope to run similar analyses for each of the major California egg producing companies for a future "Egg Economics Update" discussion of the issue.

If you have any questions about the data required or would prefer a visit regarding this project, please feel free to contact me at:

Donald Bell, Poultry Specialist  
Highlander Hall, Room 142  
University of California  
Riverside, CA 92506  
Telephone (909) 787-4555  
FAX 909-787-7251

Replacement Analysis Form and Example Input Data - (non-seasonal)

(All boxes must be filled)

Your current program: (examples: 75-0-0, 65-40-0, 65-40-35)

(weeks within each cycle - 3 cycles maximum)

		Y Example , u r s
		<u>65-40-0</u>
<b>Cycle one</b>	1 Rate of lay in 21 st week of age (%)	20
	2 Week of peak egg production	28
	3 Rate of lay during peak week (%)	92
	4 Rate of lay @ 65 weeks of age (%)	73
	5 Average weekly mortality (20 to 65 weeks)	.15
	6 Feed consumption in 21 st week (lbs/100)	18
	7 Average daily feed consumption (30 to 65 weeks)	23
	8 Egg size @ 60 weeks (lbs/case)	50.6
	9 Undergrade eggs @ 25 weeks (%)	2
	10 Undernrade eggs @ 65 weeks (%)	1 8
<b>Cycle two</b>	(Assume 65 to 105 weeks of age)	
	11 Age at first molt (wks)	65
	12 Weeks of zero egg production (less than 5%)	4
	13 Week of peak egg production (week of cycle 2)	11
	14 Rate of lay during peak week (%)	84
	15 Rate of lay @ 105 weeks of age (%)	68
	16 Mortality during week 1 of cycle 2 (%)	.50
	17 Mortality during weeks 2-8 of cycle 2 (%)	.20
	18 Mortality durina weeks 9-40 of cycle 2 (%)	.15
	19 Feed consumption week 1 of molt (lbs/100)	0
	20 Feed consumption weeks 2-4 of molt	15
	21 Feed consumption weeks 5-8 of molt	18
	22 Average daily feed consumption weeks 9-40)	23
	23 Underarade eaas @ week 10 of cycle (%)	2 4
	24 Undergrade gg: s @ week 40 of cycle 2 (%)	10
<b>Cycle three</b>	(Assume 105 to 140 weeks of age)	
	25 Age at second molt (wks)	105
	26 Weeks of zero egg production (less than 5%)	4
	27 Week of peak egg production (week of cycle 3)	11
	28 Rate of lay during peak week (%)	78
	29 Rate of lay @ 140 weeks of age (%)	64
	30 Mortality during week 1 of cycle 3 (%)	.50
	31 Mortality during weeks 2-8 of cycle 3 (%)	.20
	32 Mortality during weeks 9-40 of cycle 3 (%)	.15
	33 Feed consumption week 1 of molt (lbs/100)	0
	34 Feed consumption weeks 2-4 of molt	15
	35 Feed consumption weeks 5-8 of molt	18
	36 Average daily feed consumption weeks 9-40)	23
	37 Undergrade eggs @ week 10 of cycle 3 (%)	6
	38 Undergrade eggs @ week 35 of cycle 3 (%)	12
<b>Prices:</b>	39 Lg = \$.55, Med = \$.46, Small = \$.30, UG = \$.25	.55
	40 Extra lg cts/doz	.55
	41 Jumbo cts/doz	.55
	42 Fowl price (cents per fowl)	2
	43 20 week pullet cost (\$)	2.50
	44 Av. lay feed price (\$/100 lbs) (cycle 1)	7.50
	45 Av. lay feed price (\$/100 lbs) (cycle 2)	7.50
	46 Av. lay feed price (\$/100 lbs) (cycle 3)	7.50
	47 Av. feed for wks 2-4 of molt (\$/100 lbs)	6.00
	48 Av. feed for wks 5-8 of molt (\$/100 lbs)	7.50

EXAMPLE 4/1/96

ANALYSIS OF CURRENT PROGRAM 65 - 40 - 0

UK	WEEKLY EGGS										WEEKLY FEED						ACCUMULATED \$		
	BEGIN HENS	% LOST	FOUL %	PROD DOZ	%L+	%JG	CT/AVG DOZ	TOTAL VALUE	LBS/ 100HD	TOTAL LBS	S/CUT	TOTAL COST	LBS/ DOZ	TOTAL INCOME	TOTAL COST	- COST	/1000 MM		
	\$							\$						\$	\$	\$	\$		
21	1000.0	0.15	19.97	20.0	117.	6.3	1.3	31.6	36.85	18.0	1259.	7.50	94.43	10.8	56.82	2594.43	-2537.60	-845.87	
22	998.5	0.15	19.94	39.1	228.	5.4	1.4	34.7	78.95	18.5	1292.	7.50	96.91	5.7	135.74	2691.34	-2555.59	-638.90	
23	997.0	0.15	19.91	62.6	364.	5.5	1.5	37.6	136.77	19.0	1325.	7.50	99.38	3.6	272.48	2790.71	-2518.23	-503.65	
24	995.5	0.15	19.88	79.3	460.	7.4	1.7	40.4	185.66	19.5	1358.	7.50	101.84	3.0	458.11	2892.55	-2434.44	-405.74	
25	994.0	0.15	19.85	85.2	494.	11.5	1.9	42.7	210.88	20.0	1391.	7.50	104.29	2.8	668.95	2996.84	-2327.89	-332.56	
26	992.5	0.15	19.82	88.2	510.	18.0	2.0	44.7	227.94	20.5	1423.	7.50	106.74	2.8	896.86	3103.58	-2206.72	-275.84	
27	991.0	0.15	19.79	90.5	523.	26.3	2.2	46.4	242.44	21.0	1456.	7.50	109.18	2.8	1139.27	3212.75	-2073.49	-230.39	
28	989.5	0.15	19.76	92.0	531.	35.7	2.3	47.8	253.75	21.5	1488.	7.50	111.61	2.8	1392.99	3324.36	-1931.37	-193.14	
29	988.0	0.15	19.73	91.5	527.	44.9	2.5	48.9	257.81	22.0	1520.	7.50	114.03	2.9	1650.76	3438.39	-1787.62	-162.51	
30	986.5	0.15	19.70	91.0	523.	53.6	2.6	49.9	261.05	22.5	1553.	7.50	116.44	3.0	1911.78	3554.83	-1643.04	-136.92	
31	985.0	0.15	19.67	90.5	519.	61.2	2.8	50.7	263.21	23.0	1585.	7.50	118.85	3.1	2174.96	3673.67	-1498.71	-115.29	
32	983.5	0.15	19.64	89.9	516.	67.5	2.9	51.3	264.50	23.0	1582.	7.50	118.67	3.1	2439.43	3792.34	-1352.92	-96.64	
33	982.0	0.15	19.61	89.4	512.	72.7	3.1	51.8	265.05	23.0	1580.	7.50	118.49	3.1	2704.44	3910.83	-1206.39	-80.43	
34	980.5	0.15	19.58	88.9	508.	76.8	3.2	52.1	264.99	23.0	1577.	7.50	118.30	3.1	2969.41	4029.13	-1059.73	-66.23	
35	979.0	0.15	19.55	88.4	504.	80.0	3.4	52.4	264.51	23.0	1575.	7.50	118.12	3.1	3233.88	4147.26	-913.37	-53.73	
36	977.5	0.15	19.52	87.9	501.	82.6	3.5	52.7	263.67	23.0	1573.	7.50	117.94	3.1	3497.52	4265.20	-767.67	-42.65	
37	976.0	0.15	19.49	87.4	497.	84.5	3.6	52.8	262.44	23.0	1570.	7.50	117.76	3.2	3759.93	4382.96	-623.03	-32.79	
38	974.5	0.15	19.46	86.9	493.	86.2	3.8	52.9	261.14	23.0	1568.	7.50	117.58	3.2	4021.04	4500.54	-479.50	-23.97	
39	973.0	0.15	19.43	86.4	490.	87.3	4.0	53.0	259.55	23.0	1565.	7.50	117.40	3.2	4280.56	4617.94	-337.38	-16.07	
40	971.5	0.15	19.40	85.8	486.	88.2	4.1	53.1	257.86	23.0	1563.	7.50	117.22	3.2	4538.39	4735.16	-196.76	-8.94	
41	970.0	0.15	19.37	85.3	482.	89.0	4.3	53.1	256.10	23.0	1560.	7.50	117.04	3.2	4794.46	4852.19	-57.73	-2.51	
42	968.5	0.15	19.34	84.8	479.	89.5	4.4	53.1	254.25	23.0	1558.	7.50	116.86	3.3	5048.68	4969.05	79.63	3.32	
43	967.0	0.15	19.31	84.3	475.	90.0	4.5	53.1	252.36	23.0	1556.	7.50	116.67	3.3	5301.01	5085.73	215.28	8.61	
44	965.5	0.15	19.28	83.8	472.	90.3	4.7	53.1	250.44	23.0	1553.	7.50	116.50	3.3	5551.42	5202.22	349.20	13.43	
45	964.1	0.15	19.25	83.3	468.	90.8	4.9	53.1	248.66	23.0	1551.	7.50	116.33	3.3	5800.05	5318.56	481.50	17.11	
46	962.7	0.15	19.23	82.8	464.	90.9	5.0	53.1	246.69	23.0	1549.	7.50	116.16	3.3	6046.71	5434.72	611.99	21	
47	961.3	0.15	19.20	82.2	461.	91.1	5.1	53.1	244.71	23.0	1547.	7.50	115.99	3.4	6291.40	5550.71	740.69	25.54	
48	959.9	0.15	19.17	81.7	457.	91.2	5.3	53.1	242.75	23.0	1544.	7.50	115.82	3.4	6534.12	5666.53	867.59	28.92	
49	958.5	0.15	19.14	81.2	454.	91.3	5.5	53.1	240.75	23.0	1542.	7.50	115.65	3.4	6774.84	5782.19	992.65	32.02	
50	957.1	0.15	19.11	80.7	450.	91.3	5.6	53.0	238.76	23.0	1540.	7.50	115.49	3.4	7013.57	5897.67	1115.90	34.87	
51	955.7	0.15	19.09	80.2	447.	91.3	5.8	53.0	236.73	23.0	1538.	7.50	115.32	3.4	7250.27	6012.99	1237.28	37.49	
52	954.3	0.15	19.06	79.7	443.	91.3	5.9	53.0	234.75	23.0	1535.	7.50	115.15	3.5	7484.99	6128.14	1356.85	39.91	
53	952.9	0.15	19.03	79.2	440.	91.3	6.0	52.9	232.73	23.0	1533.	7.50	114.98	3.5	7717.69	6243.11	1474.58	42.13	
54	951.5	0.15	19.00	78.6	436.	91.2	6.2	52.9	230.73	23.0	1531.	7.50	114.81	3.5	7948.39	6357.92	1590.47	44.18	
55	950.1	0.15	18.97	78.1	433.	91.2	6.4	52.9	228.73	23.0	1529.	7.50	114.64	3.5	8177.09	6472.56	1704.53	46.07	
56	948.7	0.15	18.95	77.6	429.	91.1	6.5	52.8	226.73	23.0	1526.	7.50	114.47	3.6	8403.80	6587.03	1816.76	47.81	
57	947.3	0.15	18.92	77.1	426.	91.0	6.7	52.8	224.71	23.0	1524.	7.50	114.30	3.6	8628.48	6701.34	1927.14	49.41	
58	945.9	0.15	18.89	76.6	422.	90.9	6.8	52.7	222.73	23.0	1522.	7.50	114.13	3.6	8851.18	6815.47	2035.71	50.89	
59	944.5	0.15	18.86	76.1	419.	90.9	6.9	52.7	220.76	23.0	1520.	7.50	113.96	3.6	9071.92	6929.43	2142.48	52.26	
60	943.1	0.15	18.83	75.6	415.	90.7	7.1	52.7	218.76	23.0	1517.	7.50	113.79	3.7	9290.65	7043.23	2247.42	53.51	
61	941.7	0.15	18.81	75.1	412.	90.7	7.3	52.6	216.80	23.0	1515.	7.50	113.63	3.7	9507.42	7156.85	2350.56	54.66	
62	940.3	0.15	18.78	74.5	409.	90.5	7.4	52.6	214.81	23.0	1513.	7.50	113.46	3.7	9722.20	7270.31	2451.89	55.72	
63	938.9	0.15	18.75	74.0	405.	90.4	7.5	52.5	212.83	23.0	1511.	7.50	113.29	3.7	9935.01	7383.60	2551.41	56.70	
64	937.5	0.15	18.72	73.5	402.	90.3	7.7	52.5	210.90	23.0	1508.	7.50	113.12	3.8	10145.87	7496.72	2649.16	57.59	
65	936.1	0.15	18.69	73.0	398.	90.2	7.9	52.5	208.93	23.0	1506.	7.50	112.95	3.8	10354.78	7609.67	2745.11	58.41	
FORCE MDLT 1.										0.0	0.	0.00	0.00	0.0	10459.95	7609.67	2850.29	59.38	
66	934.7	0.50	18.60	36.5	199.	92.1	5.9	53.0	105.27	15.0	976.	6.00	58.53	999.9	10459.91	7668.20	2791.72	56.97	
67	930.0	0.20	18.56	0.0	0.	0.0	0.0	0.0	0.00	15.0	974.	6.00	58.41	999.9	10459.88	7726.61	2733.27	54.67	

69	926. 2	0. 20	18. 49	0. 0	0.	0. 0	0. 0	0. 0	0. 0	15. 0	972.	6. 00	58. 29	999. 9	10459. 84	7784. 90	2674. 94	52. 45
70	924. 3	0. 20	18. 45	0. 0	0.	0. 0	0. 0	0. 0	0. 0	18. 0	1163.	7. 50	87. 26	999. 9	10459. 80	7872. 16	2587. 64	49. 76
71	922. 5	0. 20	18. 41	14. 0	75.	92. 2	5. 9	53. 0	39. 91	18. 0	1161.	7. 50	87. 09	15. 4	10499. 68	7959. 25	2540. 43	47. 93
72	920. 7	0. 20	18. 38	33. 6	180.	92. 2	5. 9	53. 0	95. 61	18. 0	1159.	7. 50	86. 92	6. 4	10595. 25	8046. 17	2549. 08	47. 21
73	918. 9	0. 20	18. 34	53. 2	285.	92. 3	5. 9	53. 0	151. 12	18. 0	1157.	7. 50	86. 75	4. 1	10746. 33	8132. 92	2613. 41	47. 52
74	917. 1	0. 15	18. 31	69. 1	369.	92. 3	5. 9	53. 0	195. 86	23. 0	1475.	7. 50	110. 66	4. 0	10942. 16	8243. 58	2698. 59	48. 19
75	915. 7	0. 15	18. 29	77. 5	413.	92. 3	5. 9	53. 0	219. 33	23. 0	1473.	7. 50	110. 49	3. 6	11161. 47	8354. 06	2807. 41	49. 25
76	914. 3	0. 15	18. 26	84. 0	448.	94. 2	4. 0	53. 6	240. 06	23. 0	1471.	7. 50	110. 32	3. 3	11401. 50	8464. 38	2937. 12	50. 64
77	912. 9	0. 15	18. 23	83. 4	444.	94. 0	4. 2	53. 6	237. 85	23. 0	1469.	7. 50	110. 15	3. 3	11639. 32	8574. 53	3064. 79	51. 95
78	911. 5	0. 15	18. 20	82. 9	440.	93. 8	4. 4	53. 5	235. 65	23. 0	1466.	7. 50	109. 98	3. 3	11874. 95	8684. 51	3190. 44	53. 17
79	910. 1	0. 15	18. 17	82. 3	437.	93. 6	4. 6	53. 4	233. 46	23. 0	1464.	7. 50	109. 81	3. 4	12108. 38	8794. 32	3314. 06	54. 33
80	908. 7	0. 15	18. 15	81. 8	433.	93. 4	4. 8	53. 4	231. 28	23. 0	1462.	7. 50	109. 64	3. 4	12339. 63	8903. 96	3435. 67	55. 41
81	907. 3	0. 15	18. 12	81. 2	430.	93. 2	5. 0	53. 3	229. 11	23. 0	1460.	7. 50	109. 47	3. 4	12568. 71	9013. 43	3555. 28	56. 43
82	905. 9	0. 15	18. 09	80. 7	426.	93. 0	5. 2	53. 3	226. 95	23. 0	1457.	7. 50	109. 30	3. 4	12795. 63	9122. 73	3672. 90	57. 39
83	904. 5	0. 15	18. 06	80. 1	423.	92. 8	5. 4	53. 2	224. 79	23. 0	1455.	7. 50	109. 13	3. 4	13020. 39	9231. 87	3788. 52	58. 28
84	903. 1	0. 15	18. 03	79. 6	419.	92. 7	5. 6	53. 2	222. 68	23. 0	1453.	7. 50	108. 96	3. 5	13243. 05	9340. 83	3902. 22	59. 12
85	901. 7	0. 15	18. 01	79. 0	415.	92. 5	5. 8	53. 1	220. 55	23. 0	1451.	7. 50	108. 80	3. 5	13463. 57	9449. 63	4013. 94	59. 91
86	900. 3	0. 15	17. 98	78. 5	412.	92. 3	6. 0	53. 0	218. 42	23. 0	1448.	7. 50	108. 63	3. 5	13681. 96	9558. 25	4123. 71	60. 64
87	898. 9	0. 15	17. 95	77. 9	408.	92. 1	6. 2	53. 0	216. 32	23. 0	1446.	7. 50	108. 46	3. 5	13898. 25	9666. 72	4231. 53	61. 33
88	897. 6	0. 15	17. 93	77. 4	405.	91. 9	6. 4	52. 9	214. 23	23. 0	1444.	7. 50	108. 31	3. 6	14112. 45	9775. 02	4337. 43	61. 96
89	896. 3	0. 15	17. 90	76. 8	401.	91. 7	6. 6	52. 9	212. 15	23. 0	1442.	7. 50	108. 15	3. 6	14324. 58	9883. 17	4441. 41	62. 56
90	895. 0	0. 15	17. 87	76. 3	398.	91. 5	6. 8	52. 8	210. 09	23. 0	1440.	7. 50	107. 99	3. 6	14534. 64	9991. 17	4543. 48	63. 10
91	893. 7	0. 15	17. 85	75. 7	394.	91. 3	7. 0	52. 7	208. 03	23. 0	1438.	7. 50	107. 84	3. 6	14742. 64	10099. 00	4643. 64	63. 61
92	892. 4	0. 15	17. 82	75. 2	391.	91. 1	7. 2	52. 7	205. 98	23. 0	1436.	7. 50	107. 68	3. 7	14948. 59	10206. 68	4741. 91	64. 08
93	891. 1	0. 15	17. 80	74. 6	388.	90. 9	7. 4	52. 6	203. 93	23. 0	1434.	7. 50	107. 52	3. 7	15152. 50	10314. 20	4838. 30	64. 51
94	889. 8	0. 15	17. 77	74. 1	384.	90. 7	7. 6	52. 6	201. 90	23. 0	1432.	7. 50	107. 36	3. 7	15354. 37	10421. 57	4932. 81	64. 91
95	888. 5	0. 15	17. 74	73. 5	381.	90. 5	7. 8	52. 5	199. 87	23. 0	1429.	7. 50	107. 21	3. 8	15554. 22	10528. 77	5025. 45	65. 27
96	887. 2	0. 15	17. 72	73. 0	377.	90. 3	8. 0	52. 4	197. 86	23. 0	1427.	7. 50	107. 05	3. 8	15752. 05	10635. 83	5116. 23	65. 59
97	885. 9	0. 15	17. 69	72. 4	374.	90. 1	8. 2	52. 4	195. 85	23. 0	1425.	7. 50	106. 89	3. 8	15947. 88	10742. 72	5205. 16	65. 89
98	884. 6	0. 15	17. 67	71. 9	371.	89. 9	8. 4	52. 3	193. 85	23. 0	1423.	7. 50	106. 74	3. 8	16141. 70	10849. 46	5292. 24	66. 15
99	883. 3	0. 15	17. 64	71. 3	367.	89. 7	8. 6	52. 3	191. 86	23. 0	1421.	7. 50	106. 58	3. 9	16333. 53	10956. 04	5377. 49	66. 39
100	882. 0	0. 15	17. 61	70. 8	364.	89. 5	8. 8	52. 2	189. 87	23. 0	1419.	7. 50	106. 42	3. 9	16523. 38	11062. 46	5460. 92	66. 60
101	880. 7	0. 15	17. 59	70. 2	360.	89. 3	9. 0	52. 1	187. 90	23. 0	1417.	7. 50	106. 27	3. 9	16711. 25	11168. 72	5542. 53	66. 78
102	879. 4	0. 15	17. 56	69. 7	357.	89. 1	9. 2	52. 1	185. 93	23. 0	1415.	7. 50	106. 11	4. 0	16897. 16	11274. 83	5622. 33	66. 93
103	878. 1	0. 15	17. 54	69. 1	354.	88. 9	9. 4	52. 0	183. 98	23. 0	1413.	7. 50	105. 95	4. 0	17081. 11	11380. 79	5700. 32	67. 06
104	876. 8	0. 15	17. 51	68. 6	350.	88. 7	9. 6	52. 0	182. 03	23. 0	1411.	7. 50	105. 80	4. 0	17263. 11	11486. 58	5776. 53	67. 17
105	875. 5	0. 15	17. 48	68. 0	347.	88. 5	9. 8	51. 9	180. 09	23. 0	1409.	7. 50	105. 64	4. 1	17443. 17	11592. 22	5850. 95	67. 25

EEUXUPLE 4/1/96

CURRENT PROGRAM IS 65 - 40 - 0 , INCOME/YEAR/HEN HOUSED = \$ 3.51

REPLACEMENT PROGRAM OPTIONS

## INCOME/YEAR/HEN HOUSED

CYCLE		AGE AT MOLT FOR CYCLE 1										
2	3	50	55	60	65	70	75	80	85	90	95	100
WEEKS												
0	0	1.82	2.40	2.79	3.05	3.21	3.30	3.34	3.35	3.32	3.27	3.20
25	0	2.88	3.08	3.21	3.29	3.33	3.34	3.32	3.29	3.23	3.16	3.08
25	25	3.13	3.21	3.26	3.28	3.28	3.25	3.21	3.16	3.09	3.01	2.93
30	0	3.10	3.25	3.35	3.40	3.42	3.42	3.38	3.34	3.27	3.19	3.11
30	25	3.22	3.29	3.32	3.33	3.31	3.28	3.23	3.17	3.10	3.02	2.93
30	30	3.30	3.35	3.36	3.36	3.34	3.30	3.25	3.18	3.10	3.02	2.93
35	0	3.26	3.37	3.44	3.47	3.48	3.46	3.41	3.36	3.29	3.20	3.11
35	25	3.29	3.33	3.35	3.35	3.33	3.29	3.23	3.17	3.09	3.01	2.92
35	30	3.34	3.38	3.38	3.37	3.34	3.30	3.24	3.17	3.09	3.00	2.91
35	35	3.37	3.39	3.39	3.37	3.34	3.29	3.23	3.15	3.07	2.98	2.89
40	0	3.35	3.44	3.49	3.51 *	3.50	3.47	3.42	3.36	3.28	3.19	3.10
40	25	3.32	3.35	3.36	3.35	3.32	3.27	3.22	3.15	3.07	2.98	2.89
40	30	3.36	3.38	3.38	3.36	3.33	3.28	3.22	3.14	3.06	2.97	2.88
40	35	3.38	3.39	3.38	3.36	3.32	3.26	3.20	3.12	3.04	2.95	2.85
40	40	3.37	3.38	3.36	3.33	3.29	3.23	3.17	3.09	3.00	2.91	2.82
45	0	3.41	3.47	3.51	3.51 **	3.49	3.46	3.40	3.33	3.25	3.17	3.07
45	25	3.32	3.34	3.34	3.33	3.29	3.25	3.19	3.11	3.03	2.95	2.85
45	30	3.35	3.37	3.36	3.33	3.30	3.24	3.18	3.10	3.02	2.93	2.84
45	35	3.36	3.37	3.35	3.32	3.28	3.22	3.16	3.08	3.00	2.90	2.81
45	40	3.35	3.35	3.33	3.30	3.25	3.19	3.12	3.04	2.96	2.87	2.77
45	45	3.32	3.32	3.29	3.26	3.21	3.14	3.07	3.00	2.91	2.82	2.72
50	0	3.42	3.48	3.50	3.49	3.47	3.43	3.37	3.30	3.22	3.13	3.03
50	25	3.30	3.32	3.31	3.29	3.25	3.20	3.14	3.07	2.99	2.90	2.80
50	30	3.33	3.33	3.32	3.29	3.25	3.20	3.13	3.05	2.97	2.88	2.79
50	35	3.33	3.33	3.31	3.28	3.23	3.17	3.10	3.03	2.94	2.85	2.76
50	40	3.31	3.31	3.28	3.25	3.20	3.14	3.07	2.99	2.90	2.81	2.71
50	45	3.28	3.27	3.24	3.20	3.15	3.09	3.02	2.94	2.85	2.76	2.67
50	50	3.24	3.22	3.19	3.15	3.10	3.03	2.96	2.88	2.80	2.70	2.61

\* HIGHEST INCOME WITHIN TIME SPAN OF CURRENT PROGRAM

\*\* HIGHEST INCOME OVERALL IF NOT WITHIN TIME SPAN OF CURRENT PROGRAM

— SAME TIME SPAN AS CURRENT PROGRAM —

HIGHEST INCOME WITHIN TIME SPAN OF CURRENT PROGRAM IS CURRENT PROGRAM

EXAMPLE 4/1/96

TEN BEST PROGRAMS UNDER CURRENT AND ALTERNATE PRICES

INCOME/YEAR/HEN HOUSED

	CURRENT PROGRAM	PRICES	EGGS PROGRAM	+\$ .05	PROGRAM	EGGS	-\$ .05	PROGRAM	+\$1.00	FEED PROGRAM	-\$1 .00
65-45- 0	3.51	65-40- 0	4.52	65-45- 0	2.51	65-45- 0	2.78	65-45- 0	2.78	65-45- 0	4.24
65-40- 0	3.51	60-45- 0	4.52	70-45- 0	2.50	60-45- 0	2.78	65-40- 0	2.78	65-40- 0	4.24
60-45- 0	3.51	65-45- 0	4.52	65-50- 0	2.50	65-40- 0	2.78	65-40- 0	2.78	60-45- 0	4.24
70-40- 0	3.50	60-40- 0	4.51	65-40- 0	2.50	70-40- 0	2.77	70-40- 0	2.77	70-40- 0	4.23
60-50- 0	3.50	70-40- 0	4.50	70-40- 0	2.50	60-50- 0	2.77	60-50- 0	2.77	60-50- 0	4.23
70-45- 0	3.49	60-50- 0	4.50	60-45- 0	2.50	70-45- 0	2.76	70-45- 0	2.76	70-45- 0	4.22
65-50- 0	3.49	70-45- 0	4.49	60-50- 0	2.49	65-50- 0	2.76	65-50- 0	2.76	65-50- 0	4.22
60-40- 0	3.49	55-45- 0	4.49	70-50- 0	2.48	60-40- 0	2.76	60-40- 0	2.76	60-40- 0	4.22
70-35- 0	3.48	65-35- 0	4.49	75-40- 0	2.48	55-50- 0	2.75	70-35- 0	2.75	70-35- 0	4.21
55-50- 0	3.48	65-50- 0	4.49	60-40- 0	2.47	70-35- 0	2.75	55-50- 0	2.75	55-50- 0	4.20
65-40- 0	3.51	65-40- 0	4.52	65-40- 0	2.50	65-40- 0	2.78	65-40- 0	2.78	65-40- 0	4.24

SUMMARY OF CURRENT AND BEST PROGRAMS

TRAIT	CURRENT PROGRAM	BEST PROGRAM	DIFFERENCE (BEST-CURRENT)
Avg. HENS	936.	932.	- 4.
1 HEN DAYS	556853.	587336.	30483.
Avg. UEEKLY MORTALITY	0.158	0.158	-0.000
% HEN DAY PRODUCTION	72.7	72.3	-0.3
TOTAL EGGS	404650.	424874.	20225.
TOTAL DOZENS	33721.	35406.	1685.
Avg.% LARGE	80.9	81.2	0.3
Avg. % UNDERGRADE	5.4	5.6	0.2
OZ. OF EGGS/HEN DAY	1.573	1.570	-0.003
LBS OF EGGS/HEN HOUSED	54.7	57.6	2.9
TOTAL EGG INCOME (\$)	17425.69	18297.29	871.61
CENTS/AVG. DOZEN	51.7	51.7	0.0
TOTAL FOUL INCOME (\$)	17.48	17.35	-0.13
Avg. LBS. FEED/100 HEN DAYS	21.9	21.9	0.1
TOTAL LBS. FEED	121814.	128825.	7011.
TOTAL FEED COST (\$)	9092.22	9618.05	525.83
Avg. \$/100 LBS. FEED	7.46	7.47	0.00
Avg. LBS. FEED/DOZEN	3.61	3.64	0.03
LBS. FEED/LB. EGGS	2.22	2.24	0.01
FEED COST/DOZEN (CENTS)	27.0	27.2	0.2
PULLET COST/DOZEN (CENTS)	7.4	7.1	-0.4
FEED + PULLET -COST/DOZEN(CENTS)	34.4	34.2	-0.2

## Discussion of Results (pages 4-7)

Pages 4 & 5:

All analyses are based upon 1000 hens housed. These two pages are weekly printouts of the "current" program. A separate two pages shows the "best" program (not included in this newsletter). The last column - "Profit/wk/1000 H.H." - is the objective of this analysis. The higher this number, the better the program. In this example, the very last number (\$67.25) means that for every week of the flock's life (+2 weeks of empty houses), the flock would make \$67.25 per 1000 hens housed over feed and pullet costs. This would translate to an annual figure of \$3.51.

Page 6:

This page lists the "bottom line" figure for each of the 308 program combinations. Results for the current program is shown at the top of the page (\$3.51). Cycle 1 lengths are shown as columns from 50 to 100 weeks. Cycle 2 and 3 are shown as rows including 0 and 25 to 50 weeks.

For example: the single asterisk is shown at the intersection of 65 weeks for cycle 1 and 40 for cycle 2 and 0 for cycle 3. This is the best program for programs within the time frame of the current program. The two asterisks are shown at the intersection of 65-45-0. This represents the overall best program of all possibilities. Note, though, that its bottom line doesn't differ from the current program.

This chart indicates that the best programs for 1,2,& 3 cycles were:

Best 1 cycle program	85 weeks	\$3.35/year
Best 2 cycle program	65-45 weeks	\$3.51
Best 3 cycle program	60-35-35 weeks	\$3.39

Page 7:

This page lists the top 10 programs at 1). current prices 2). 5 cent higher egg prices 3). 5 cent lower egg prices 4). \$1.00/100 pounds higher feed price 5). \$1.00 lower feed price. Note that **similar** programs are listed at all prices and that 1 and 3 cycle programs are excluded. Differences among the top 10 programs are probably insignificant. Change should only be made when differences are **\$.05** or more.

A summary of the current and best programs is shown for comparison.

## Summary

The software described is available for purchase. An analysis of your program will be provided at no cost upon request.