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SERVICE

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TWENTY-SEVENTH

NORTH CAROLINA LAYER PERFORMANCE

AND MANAGEMENT TEST

Final Report

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May 1988

The North Carolina Layer Performance and Management Test is conducted under the auspices of the Agricultural Extension Service at North Carolina State University and the North Carolina Department of Agriculture. The flock is maintained at the Piedmont Research Station, Salisbury, North Carolina. Mr. Billy Ayscue is Piedmont Research Station Superintendent; Mr. Joe Hampton, is Resident Manager of the flock; and Dr. J. B. Carey is Project Leader. The purpose of this program is to assist poultrymen in evaluation of stocks of commercial layers and management systems.

The contents of this report summarize performance over the first, second, and both laying cycles.

Tables 1-16	**Performance Days 140-434**	62 42
Tables 17-32	**Performance Days 435-728**	
Tables 33-48	**Performance Days 140-728**	104

Description of the tabular headings and data are included immediately preceding the tables. The data presented represent only the strain differences and the two-way strain x management interactions, strain x cage type, strain x birds per cage, strain x house type. There are many more combinations of treatments within the data set generated by the flock. This information will be available in a supplementary booklet of approximately 100 pages. Performance is summarized in the booklet by the three-way interactions with strain, strain x cage x house type, strain x birds per cage x house type, etc. This publication is available for $8.00 to addresses inside the United States and $10.00 outside the United States. If you would like to receive a copy, please send your check or money order (US funds) made payable to the Poultry Science Department, NCSU, to the address listed below. The publication will be available in August 1988 and will be shipped as soon as possible.

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PROTOCOL FOR 27th NORTH CAROLINA LAYER PERFORMANCE AND MANAGEMENT TEST

Entries:

Ten entries were accepted in accordance with the rules and regulations of the test. Seven white egg and 3 brown egg strains were tested.

Incubation and Hatching:

A minimum of 105 dozen hatching eggs per entry were set November 26, 1985 and hatched December 17, 1985. For details of pullet performance of this flock, refer to Twenty-Seventh North Carolina Layer Performance and Management Test Growing Report (Vol. 1, No. 1), August 1987.

Layer Housing and Feeding:

Those hens laying in the light and air controlled house were reared in a light and air controlled facility. Those to lay in the curtain-sided houses were reared in a curtain-sided facility. Within each laying house each entry was housed in four replicates of ten cages, deep cages (12" x 18") and shallow cages (18" x 12") crossed with 3 and 4 birds per cage. Resulting in 140 hens per entry per laying house or a total of 420 hens per entry in the test. This report includes production data from 20-104 weeks of age (May 6, 1986 - December 14, 1987) summarized in three sections: (20-62 weeks, 63-104 weeks, and 20-104 weeks).

Layer Feeding:

All hens were fed ad libitum from a series of eight diets (to provide minimum daily nutrient intakes as outlined below.

EGG PRODUCTION RATE

	> 87% and pre peak	87-80%	80-70%	< 70%
White Egg Layers				
Protein (g/day)	19	18	17	16
Calcium (g/day)	3.8	3.8	4.0	4.0
Lysine (mg/day)	820	780	730	690
TSAA (mg/day)	700	670	630	590
Brown Egg Layers				
Protein (g/day)	20	19	18	17
Calcium (g/day)	3.8	3.8	3.8	4.0
Lysine (mg/day)	830	820	780	730
TSAA (mg/day)	710	700	670	630

DESCRIPTION OF DATA TABLE STATISTICS

Breeder (Strain):

Short identification of the breeder and strain of the stock. See more complete information following data tables.

Cage Type:

"S" denotes performance in shallow (18" x 12") cages. "D" denotes performance in deep (12" x 18") cages.

Birds per Cage:

"3" or "4" denotes performance with 3 or 4 birds housed per cage, respectively.

Housing Type:

"FL" denotes performance in a curtain-sided flush waste facility. "HR" denotes performance in a curtain-sided high rise facility. "LC" denotes performance in a light and air controlled facility.

Eggs per Bird Housed:

The total number of eggs produced divided by the number of birds housed at 140 days.

Egg Production:

Hen Housed - The average daily number of eggs produced per 100 hens housed at 140 days. Hen Day - The average daily number of eggs produced per 100 hen days.

Egg Mass:

Hen Housed - The average daily production of egg mass in grams per bird housed at 140 days. Hen Day - The average daily production of egg mass in grams per hen day.

Mortality:

The percentage of birds housed at 140 days which have died prior to 434 days of age (Tables 1-16); from 435 to 728 days (Tables 17-32); from 140 to 728 days (Tables 33-48).

Feed Consumption:

The pounds of feed consumed daily per 100 hens.

Egg Weight:

The average egg weight of biweekly samples in grams per egg.

Egg Income:

The calculated income per hen housed at 140 days from egg production, using three year regional average egg prices as follows:

Grade	Size	Cents/Dozen 20-62 Weeks	Cents/Dozen 63-104 Weeks
A	Extra Large	60.98	55.61
A	Large	60.98	55.61
A	Medium	50.23	44.13
A	Small	37.59	31.95
A	Pee Wee	41.04	40.39
B	All	41.04	40.39
Cracks	All	35.03	36.71

Feed Cost:

The calculated feed cost per hen housed at 140 days, using three year regional average prices, weighted average price of $136.83 per ton at 20-62 weeks and $111.16 per ton at 63-104 weeks.

Grade Information:

The average grade of eggs according to USDA grading standards.

Blood Spots:

The percentage of blood spots in excess of 1/8 inch diameter, detected in broken out eggs.

Meat Spots:

The percentage of meat spots in excess of 1/8 inch diameter, detected in broken out eggs.

Egg Size Distribution:

The proportion of the eggs falling into the following size categories:

Size Category	Ounces/Dozen
Pee Wee	< 18
Small	18 - 21
Medium	21 - 24
Large	24 - 27
Extra Large	> 27

TABLE 1. AVERAGE PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day	Mortality >140 d Of Age (%)
White Egg Layers						
Hisex (White)	221.3	75.2	77.5	44.5	45.9	6.3
Colonial (365-S)	198.7	68.5	73.4	37.3	40.3	16.0
ISA-Babcock (B300)	230.7	78.1	79.0	45.4	46.0	2.6
Hyline (W-36)	222.9	75.4	77.8	43.5	44.9	6.9
Shaver (288-A)	223.8	76.0	79.8	45.0	47.3	7.5
Dekalb (XL-Link)	226.7	77.2	80.6	44.9	47.0	9.1
H & N (Nick Chick)	222.4	76.1	80.5	44.6	47.4	10.4
White Egg Average	220.9	75.2	78.4	43.6	45.6	8.4
Brown Egg Layers						
Hubbard (Golden Comet)	212.0	72.0	74.1	45.0	46.3	6.4
Dekalb (Sex-Sal-Link-G)	210.0	71.2	73.9	45.6	47.2	6.6
Hisex (Brown)	216.5	73.6	75.8	47.7	49.2	6.5
Brown Egg Average	212.8	72.2	74.6	46.1	47.6	6.5

TABLE 2. AVERAGE PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Specific Gravity Score	Egg Income	Feed Cost
White Egg Layers					
Hisex (White)	24.5	54.3	3.1	10.11	4.82
Colonial (365-S)	22.3	51.0	2.8	8.40	4.37
ISA-Babcock (B300)	24.4	53.6	3.1	10.47	4.90
Hyline (W-36)	23.4	52.8	2.8	9.93	4.67
Shaver (288-A)	23.9	54.1	2.9	10.43	4.72
Dekalb (XL-Link)	24.5	53.6	2.9	10.34	4.85
H & N (Nick Chick)	25.3	54.3	3.0	10.13	4.85
White Egg Average	24.0	53.4	3.0	9.97	4.74
Brown Egg Layers					
Hubbard (Golden Comet)	26.4	57.2	2.8	10.07	5.05
Dekalb (Sex-Sal-Link-G)	27.4	58.3	2.7	10.19	5.23
Hisex (Brown)	26.5	59.6	2.8	10.52	5.08
Brown Egg Average	26.8	58.4	2.8	10.26	5.12

TABLE 3. AVERAGE EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers					
Hisex (White)	2.7	9.3	18.8	40.3	29.0
Colonial (365-S)	4.2	14.6	28.2	39.3	13.7
ISA-Babcock (B300)	2.8	9.6	19.4	44.7	23.5
Hyline (W-36)	3.0	13.0	21.1	42.1	20.8
Shaver (288-A)	1.8	8.4	18.6	44.5	26.6
Dekalb (XL-Link)	2.7	9.5	20.6	45.0	22.2
H & N (Nick Chick)	2.1	9.2	17.0	43.0	28.6
White Egg Average	2.8	10.5	20.5	42.7	23.5
Brown Egg Layers					
Hubbard (Golden Comet)	0.9	6.4	13.0	32.9	46.8
Dekalb (Sex-Sal-Link-G)	1.1	6.1	10.4	30.1	52.3
Hisex (Brown)	0.9	3.9	7.8	26.7	60.8
Brown Egg Average	1.0	5.5	10.4	29.9	53.3

TABLE 4. AVERAGE EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers						
Hisex (White)	94.2	2.2	3.3	0.3	0.2	0.9
Colonial (365-S)	93.1	2.2	4.0	0.7	0.9	0.4
ISA-Babcock (B300)	96.1	0.9	2.7	0.4	0.3	1.7
Hyline (W-36)	95.9	0.8	2.7	0.6	0.4	0.0
Shaver (288-A)	96.5	0.5	2.6	0.4	0.0	0.0
Dekalb (XL-Link)	95.3	0.7	3.4	0.6	0.6	0.0
H & N (Nick Chick)	94.5	1.7	3.0	0.7	1.4	0.6
White Egg Average	95.1	1.3	3.1	0.5	0.5	0.5
Brown Egg Layers						
Hubbard (Golden Comet)	96.2	0.6	2.4	0.8	4.7	15.9
Dekalb (Sex-Sal-Link-G)	94.3	0.8	4.1	0.8	0.9	16.0
Hisex (Brown)	95.8	0.8	2.7	0.8	1.8	14.3
Brown Egg Average	95.4	0.7	3.1	0.8	2.5	15.4

TABLE 5. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Birds/ Cage	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day	Mortality >140 d Of Age (%)
White Egg Layers							
Hisex (White)	3	225.0	76.1	78.2	45.3	46.3	4.4
	4	217.6	74.4	76.9	43.8	45.5	8.2
Colonial (365-S)	3	207.7	71.4	75.8	38.7	41.4	13.0
	4	189.7	65.6	71.0	35.8	39.1	18.9
ISA-Babcock (B300)	3	235.4	79.4	80.5	46.7	47.2	2.8
	4	225.9	76.8	77.5	44.1	44.8	2.5
Hyline (W-36)	3	224.9	76.4	78.9	44.0	45.6	8.3
	4	220.8	74.5	76.7	43.1	44.2	5.4
Shaver (288-A)	3	233.2	78.9	82.1	47.1	49.0	5.0
	4	214.4	73.0	77.6	42.9	45.7	10.0
Dekalb (XL-Link)	3	234.5	79.9	82.0	46.7	48.0	6.1
	4	218.9	74.5	79.2	43.1	46.1	12.0
H & N (Nick Chick)	3	228.7	77.8	81.4	46.0	48.1	6.9
	4	216.1	74.3	79.6	43.2	46.8	13.9
White Egg Average	3	227.1	77.1	79.8	44.9	46.5	6.7
	4	214.8	73.3	76.9	42.3	44.6	10.1
Brown Egg Layers							
Hubbard (Golden Comet)	3	218.3	73.8	74.6	46.7	47.1	3.0
	4	205.7	70.1	73.6	43.3	45.5	9.9
Dekalb (Sex-Sal-Link-G)	3	222.4	75.3	77.0	48.4	49.5	5.0
	4	197.5	67.1	70.8	42.7	45.0	8.2
Hisex (Brown)	3	225.6	76.7	78.6	50.0	51.1	5.6
	4	207.4	70.6	73.0	45.5	47.2	7.4
Brown Egg Average	3	222.1	75.2	76.7	48.4	49.2	4.5
	4	203.5	69.2	72.5	43.8	45.9	8.5

TABLE 6. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Birds/ Cage	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Specific Gravity Score	Egg Income	Feed Cost
White Egg Layers						
Hisex (White)	3	25.1	54.2	3.1	10.36	4.97
	4	23.9	54.4	3.1	9.86	4.66
Colonial (365-S)	3	23.3	50.6	2.7	8.77	4.59
	4	21.3	51.4	2.8	8.03	4.15
ISA-Babcock (B300)	3	25.2	53.8	3.1	10.72	5.02
	4	23.6	53.4	3.2	10.22	4.77
Hyline (W-36)	3	24.2	52.8	2.9	10.04	4.79
	4	22.6	52.7	2.8	9.83	4.54
Shaver (288-A)	3	24.2	54.4	3.0	10.91	4.91
	4	23.5	53.9	2.9	9.95	4.52
Dekalb (XL-Link)	3	24.7	53.9	2.9	10.65	5.04
	4	24.3	53.2	2.9	10.03	4.66
H & N (Nick Chick)	3	25.9	54.5	3.0	10.41	5.06
	4	24.8	54.1	3.0	9.85	4.63
White Egg Average	3	24.7	53.5	3.0	10.26	4.91
	4	23.4	53.3	3.0	9.68	4.56
Brown Egg Layers						
Hubbard (Golden Comet)	3	27.3	57.6	2.8	10.51	5.33
	4	25.4	56.8	2.8	9.62	4.78
Dekalb (Sex-Sal-Link-G)	3	28.2	58.5	2.8	10.81	5.49
	4	26.6	58.2	2.6	9.57	4.97
Hisex (Brown)	3	27.5	59.8	2.9	11.02	5.33
	4	25.5	59.3	2.8	10.02	4.83
Brown Egg Average	3	27.7	58.6	2.8	10.78	5.38
	4	25.8	58.1	2.7	9.74	4.86

TABLE 7. EFFECTS OF NUMBER OF BIRDS PER CAGE ON EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Birds/ Cage	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	3	3.1	8.9	19.2	40.8	28.0
	4	2.3	9.7	18.4	39.7	29.9
Colonial (365-S)	3	4.5	15.4	28.3	39.4	12.5
	4	3.9	13.8	28.0	39.3	15.0
ISA-Babcock (B300)	3	2.7	9.0	19.3	44.2	24.8
	4	2.9	10.2	19.6	45.1	22.2
Hyline (W-36)	3	3.0	12.8	20.9	42.2	21.2
	4	2.9	13.3	21.3	42.0	20.4
Shaver (288-A)	3	1.8	8.0	17.6	44.3	28.3
	4	1.8	8.8	19.7	44.7	25.0
Dekalb (XL-Link)	3	2.5	9.8	21.0	44.5	22.3
	4	2.9	9.2	20.1	45.6	22.1
H & N (Nick Chick)	3	2.0	8.8	16.5	43.4	29.3
	4	2.3	9.6	17.6	42.7	27.9
White Egg Average	3	2.8	10.4	20.4	42.7	23.8
	4	2.7	10.6	20.7	42.7	23.2
Brown Egg Layers						
Hubbard (Golden Comet)	3	0.7	6.8	11.8	31.4	49.4
	4	1.2	6.0	14.2	34.4	44.3
Dekalb (Sex-Sal-Link-G)	3	0.9	5.7	10.6	29.7	53.1
	4	1.3	6.5	10.1	30.6	51.5
Hisex (Brown)	3	1.0	3.5	6.7	25.4	63.3
	4	0.8	4.3	8.8	27.9	58.2
Brown Egg Average	3	0.9	5.3	9.7	28.8	55.3
	4	1.1	5.6	11.0	31.0	51.3

TABLE 8. EFFECTS OF NUMBER OF BIRDS PER CAGE ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Birds/ Cage	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	3	96.2	1.0	2.5	0.2	0.0	0.0
	4	92.3	3.3	4.0	0.4	0.4	1.7
Colonial (365-S)	3	93.5	2.1	3.6	0.8	0.0	0.0
	4	92.8	2.2	4.5	0.5	1.9	0.8
ISA-Babcock (B300)	3	96.9	0.6	1.8	0.7	0.6	1.7
	4	95.2	1.1	3.5	0.2	0.0	1.7
Hyline (W-36)	3	96.5	0.8	1.9	0.7	0.0	0.0
	4	95.2	0.8	3.5	0.5	0.9	0.0
Shaver (288-A)	3	96.9	0.5	2.2	0.5	0.0	0.0
	4	96.1	0.4	3.1	0.3	0.0	0.0
Dekalb (XL-Link)	3	95.3	0.2	3.7	0.8	0.7	0.0
	4	95.3	1.3	3.2	0.3	0.5	0.0
H & N (Nick Chick)	3	94.5	1.5	2.9	1.1	2.2	0.0
	4	94.6	1.9	3.1	0.4	0.6	1.3
White Egg Average	3	95.7	1.0	2.7	0.7	0.5	0.2
	4	94.5	1.6	3.6	0.4	0.6	0.8
Brown Egg Layers							
Hubbard (Golden Comet)	3	97.0	0.6	2.0	0.3	2.8	17.9
	4	95.4	0.6	2.7	1.3	6.6	13.8
Dekalb (Sex-Sal-Link-G)	3	95.4	0.7	3.3	0.6	0.7	17.1
	4	93.1	1.0	4.9	1.0	1.2	15.0
Hisex (Brown)	3	96.5	0.2	2.3	1.1	3.0	15.0
	4	95.0	1.3	3.2	0.5	0.6	13.7
Brown Egg Average	3	96.3	0.5	2.5	0.7	2.2	16.7
	4	94.5	1.0	3.6	0.9	2.8	14.1

TABLE 9. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Cage Type	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day	Mortality >140 d Of Age (%)
White Egg Layers							
Hisex	S	225.5	77.0	79.6	45.8	47.6	8.1
(White)	D	217.1	73.5	75.5	43.2	44.3	4.6
Colonial	S	204.1	70.1	74.9	38.0	41.0	16.2
(365-S)	D	193.3	66.9	71.9	36.5	39.5	15.7
ISA-Babcock	S	234.3	79.2	79.7	46.1	46.6	2.4
(B300)	D	227.0	77.0	78.3	44.6	45.3	2.9
Hyline	S	222.4	75.5	78.6	43.7	45.6	9.2
(W-36)	D	223.3	75.4	76.9	43.4	44.3	4.6
Shaver	S	229.1	77.7	81.5	46.1	48.3	6.5
(288-A)	D	218.6	74.2	78.1	43.9	46.4	8.5
Dekalb	S	235.2	80.1	82.5	46.4	47.9	7.2
(XL-Link)	D	218.2	74.4	78.7	43.4	46.2	10.9
H & N	S	226.6	77.9	82.0	45.4	48.1	10.0
(Nick Chick)	D	218.2	74.2	79.0	43.8	46.8	10.8
White Egg	S	225.3	76.8	79.8	44.5	46.4	8.5
Average	D	216.5	73.7	76.9	42.7	44.7	8.3
Brown Egg Layers							
Hubbard	S	216.8	73.5	75.1	46.6	47.5	5.8
(Golden Comet)	D	207.2	70.4	73.1	43.4	45.2	7.1
Dekalb	S	214.4	72.6	75.6	46.6	48.4	6.3
(Sex-Sal-Link-G)	D	205.6	69.7	72.2	44.5	46.0	6.8
Hisex	S	219.1	74.4	77.1	48.1	50.0	8.6
(Brown)	D	213.9	72.8	74.4	47.3	48.3	4.3
Brown Egg	S	216.8	73.5	75.9	47.1	48.6	6.9
Average	D	208.9	71.0	73.2	45.1	46.5	6.1

TABLE 10. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Cage Type	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Specific Gravity Score	Egg Income	Feed Cost
White Egg Layers						
Hisex	S	24.9	54.9	3.1	10.40	4.90
(White)	D	24.0	53.7	3.1	9.82	4.74
Colonial	S	22.8	50.6	2.7	8.60	4.46
(365-S)	D	21.8	51.4	2.8	8.19	4.28
ISA-Babcock	S	24.4	53.8	3.2	10.67	4.94
(B300)	D	24.3	53.3	3.1	10.28	4.85
Hyline	S	23.9	52.9	2.8	9.98	4.72
(W-36)	D	22.9	52.6	2.8	9.89	4.61
Shaver	S	24.1	54.2	2.9	10.69	4.80
(288-A)	D	23.6	54.1	3.0	10.16	4.63
Dekalb	S	24.9	53.2	2.9	10.76	4.98
(XL-Link)	D	24.1	53.9	2.9	9.91	4.72
H & N	S	25.3	54.1	3.0	10.31	4.85
(Nick Chick)	D	25.4	54.5	3.0	9.96	4.84
White Egg	S	24.3	53.4	3.0	10.20	4.81
Average	D	23.7	53.4	3.0	9.74	4.67
Brown Egg Layers						
Hubbard	S	26.9	57.9	2.7	10.38	5.19
(Golden Comet)	D	25.9	56.5	2.8	9.75	4.92
Dekalb	S	27.9	58.0	2.7	10.34	5.30
(Sex-Sal-Link-G)	D	26.9	58.7	2.8	10.04	5.16
Hisex	S	27.0	59.5	2.8	10.65	5.12
(Brown)	D	26.0	59.7	2.9	10.39	5.04
Brown Egg	S	27.3	58.5	2.7	10.46	5.20
Average	D	26.2	58.3	2.8	10.06	5.04

TABLE 11. EFFECTS OF CAGE TYPE ON EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Cage Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	S	2.0	8.9	16.6	41.1	31.5
	D	3.3	9.7	21.0	39.5	26.5
Colonial (365-S)	S	4.1	14.7	30.5	39.1	11.6
	D	4.2	14.5	25.9	39.5	15.9
ISA-Babcock (B300)	S	2.8	9.4	18.3	45.0	24.5
	D	2.8	9.8	20.5	44.4	22.5
Hyline (W-36)	S	2.6	13.0	20.7	43.7	20.0
	D	3.3	13.1	21.5	40.5	21.5
Shaver (288-A)	S	2.2	7.8	17.3	45.5	27.3
	D	1.5	9.0	20.0	43.6	25.9
Dekalb (XL-Link)	S	2.5	9.6	19.9	46.0	22.0
	D	2.9	9.3	21.3	44.1	22.4
H & N (Nick Chick)	S	2.1	8.9	17.7	43.4	28.0
	D	2.2	9.5	16.3	42.7	29.2
White Egg Average	S	2.6	10.3	20.1	43.4	23.6
	D	2.9	10.7	20.9	42.0	23.4
Brown Egg Layers						
Hubbard (Golden Comet)	S	1.1	5.9	11.4	31.4	50.2
	D	0.8	6.9	14.5	34.3	43.4
Dekalb (Sex-Sal-Link-G)	S	1.1	6.8	10.3	29.4	52.4
	D	1.1	5.4	10.4	30.9	52.2
Hisex (Brown)	S	1.1	3.7	7.6	27.0	60.7
	D	0.7	4.1	8.0	26.3	60.8
Brown Egg Average	S	1.1	5.5	9.8	29.3	54.4
	D	0.9	5.5	11.0	30.5	52.2

TABLE 12. EFFECTS OF CAGE TYPE ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	Cage Type	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	S	94.6	1.9	3.1	0.4	0.4	0.0
	D	93.8	2.5	3.4	0.2	0.0	1.7
Colonial (365-S)	S	93.7	1.4	4.3	0.7	0.0	0.0
	D	92.6	3.0	3.8	0.7	1.9	0.8
ISA-Babcock (B300)	S	95.7	0.7	3.0	0.5	0.6	0.6
	D	96.4	1.1	2.3	0.3	0.0	2.8
Hyline (W-36)	S	97.0	0.4	2.0	0.6	0.4	0.0
	D	94.7	1.2	3.4	0.7	0.4	0.0
Shaver (288-A)	S	96.0	0.5	2.9	0.5	0.0	0.0
	D	97.0	0.4	2.4	0.2	0.0	0.0
Dekalb (XL-Link)	S	95.2	0.8	3.4	0.6	1.2	0.0
	D	95.4	0.6	3.5	0.5	0.0	0.0
H & N (Nick Chick)	S	94.2	1.2	3.8	0.8	1.0	0.6
	D	94.9	2.1	2.3	0.7	1.7	0.7
White Egg Average	S	95.2	1.0	3.2	0.6	0.5	0.2
	D	95.0	1.6	3.0	0.5	0.6	0.9
Brown Egg Layers							
Hubbard (Golden Comet)	S	96.2	0.3	2.9	0.7	4.1	15.5
	D	96.3	0.9	1.9	0.9	5.3	16.2
Dekalb (Sex-Sal-Link-G)	S	93.7	0.7	4.6	0.9	1.2	12.1
	D	94.8	0.9	3.5	0.7	0.6	20.0
Hisex (Brown)	S	96.3	0.4	2.4	0.9	0.6	17.4
	D	95.2	1.1	3.1	0.6	3.0	11.3
Brown Egg Average	S	95.4	0.5	3.3	0.8	2.0	15.0
	D	95.5	1.0	2.8	0.7	3.0	15.8

TABLE 13. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES IN 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	House Type	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >140 d Of Age (%)
White Egg Layers							
Hisex (White)	HR	225.3	76.1	78.1	45.9	47.0	6.0
	FL	213.0	72.5	74.7	43.9	45.2	5.0
	LC	225.6	77.1	79.8	43.8	45.6	8.0
Colonial (365-S)	HR	202.4	70.3	75.1	38.0	41.0	19.1
	FL	196.9	67.7	74.4	37.1	41.2	20.4
	LC	196.8	67.5	70.6	36.7	38.5	8.4
ISA-Babcock (B300)	HR	228.1	77.0	78.1	44.8	45.9	2.9
	FL	228.8	77.6	78.7	45.6	46.2	2.9
	LC	235.1	79.7	80.3	45.7	45.9	2.1
Hyline (W-36)	HR	218.0	73.4	77.0	43.0	45.0	9.4
	FL	220.4	75.0	76.7	43.7	44.7	4.8
	LC	230.2	77.9	79.7	44.0	45.1	6.5
Shaver (288-A)	HR	225.9	76.4	79.2	46.3	47.9	6.0
	FL	210.5	71.6	78.1	42.3	46.5	11.5
	LC	235.1	79.8	82.2	46.3	47.7	5.0
Dekalb (XL-Link)	HR	219.7	75.2	78.4	44.5	46.5	8.0
	FL	228.2	77.6	80.6	45.5	47.4	8.5
	LC	232.2	78.9	82.9	44.7	47.1	10.6
H & N (Nick Chick)	HR	215.2	73.9	80.3	43.2	47.4	14.1
	FL	221.5	75.3	77.3	44.9	46.1	5.3
	LC	230.5	78.9	83.8	45.7	48.9	11.8
White Egg Average	HR	219.2	74.6	78.0	43.7	45.8	9.4
	FL	217.0	73.9	77.2	43.3	45.3	8.3
	LC	226.5	77.1	79.9	43.9	45.5	7.5
Brown Egg Layers							
Hubbard (Golden Comet)	HR	213.3	72.2	74.4	45.5	46.8	6.2
	FL	207.3	70.6	73.6	44.3	46.3	7.4
	LC	215.6	73.1	74.3	45.2	45.9	5.7
Dekalb (Sex-Sal-Link-G)	HR	203.4	68.7	70.6	45.3	46.2	4.0
	FL	199.7	67.7	71.6	43.4	46.1	9.3
	LC	226.8	77.1	79.5	47.9	49.4	6.5
Hisex (Brown)	HR	211.8	72.2	75.3	47.0	49.4	10.4
	FL	216.5	73.2	74.9	48.1	48.9	3.7
	LC	221.2	75.5	77.1	48.1	49.2	5.2
Brown Egg Average	HR	209.5	71.0	73.4	45.9	47.5	6.9
	FL	207.8	70.5	73.4	45.3	47.1	6.8
	LC	221.2	75.2	77.0	47.1	48.2	5.8

TABLE 14. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES IN 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	House Type	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Specific Gravity Score	Egg Income	Feed Cost
White Egg Layers						
Hisex (White)	HR	24.8	54.8	3.1	10.37	4.93
	FL	23.7	55.4	3.2	9.94	4.69
	LC	24.9	52.7	3.1	10.02	4.83
Colonial (365-S)	HR	22.4	50.9	2.7	8.49	4.40
	FL	22.6	51.2	2.9	8.44	4.30
	LC	22.0	50.9	2.7	8.25	4.41
ISA-Babcock (B300)	HR	24.5	53.9	3.2	10.37	4.91
	FL	24.1	54.0	3.1	10.55	4.81
	LC	24.6	52.8	3.1	10.50	4.98
Hyline (W-36)	HR	23.2	53.2	2.9	9.71	4.58
	FL	22.5	53.5	2.8	10.00	4.56
	LC	24.4	51.6	2.8	10.10	4.85
Shaver (288-A)	HR	23.6	55.0	2.9	10.65	4.74
	FL	23.5	54.1	3.0	9.92	4.50
	LC	24.5	53.3	2.9	10.72	4.90
Dekalb (XL-Link)	HR	24.6	54.9	2.9	10.02	4.84
	FL	24.4	53.7	3.0	10.55	4.89
	LC	24.5	52.0	2.8	10.45	4.82
H & N (Nick Chick)	HR	25.1	54.3	3.0	9.75	4.70
	FL	24.8	54.8	3.1	10.25	4.83
	LC	26.1	53.7	3.0	10.40	5.01
White Egg Average	HR	24.0	53.9	2.9	9.91	4.73
	FL	23.7	53.8	3.0	9.95	4.65
	LC	24.4	52.4	2.9	10.06	4.83
Brown Egg Layers						
Hubbard (Golden Comet)	HR	26.2	57.4	2.7	10.19	5.01
	FL	26.3	57.7	2.9	9.92	4.96
	LC	26.6	56.5	2.8	10.09	5.19
Dekalb (Sex-Sal-Link-G)	HR	27.1	59.7	2.8	9.93	5.23
	FL	26.6	58.4	2.8	9.83	5.08
	LC	28.4	56.9	2.6	10.80	5.38
Hisex (Brown)	HR	26.6	59.9	2.8	10.29	5.03
	FL	26.0	60.1	2.8	10.59	5.06
	LC	26.9	58.8	2.8	10.69	5.14
Brown Egg Average	HR	26.6	59.0	2.8	10.14	5.09
	FL	26.3	58.7	2.8	10.11	5.03
	LC	27.3	57.4	2.7	10.53	5.24

TABLE 15. EFFECTS OF HOUSING ON EGG SIZE OF ENTRIES
27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	House Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	HR	2.2	8.9	18.4	39.9	30.6
	FL	2.4	7.8	15.2	38.2	36.4
	LC	3.5	11.1	22.7	42.7	19.9
Colonial (365-S)	HR	3.8	17.2	29.3	37.7	11.9
	FL	3.7	13.5	27.3	41.3	14.1
	LC	5.0	13.1	27.8	38.9	15.2
ISA-Babcock (B300)	HR	2.7	9.1	20.1	43.5	24.6
	FL	2.3	9.1	17.6	45.6	25.4
	LC	3.4	10.5	20.6	45.0	20.5
Hyline (W-36)	HR	3.3	12.7	21.5	42.3	20.1
	FL	2.4	12.2	17.5	42.1	25.8
	LC	3.1	14.2	24.3	41.8	16.5
Shaver (288-A)	HR	1.9	8.1	16.3	45.1	28.6
	FL	1.7	8.2	17.0	45.1	28.0
	LC	1.9	8.9	22.6	43.3	23.2
Dekalb (XL-Link)	HR	2.2	9.5	20.6	43.4	24.3
	FL	2.9	8.0	17.4	45.0	26.6
	LC	3.0	11.0	23.8	46.7	15.6
H & N (Nick Chick)	HR	1.9	10.2	17.9	43.8	26.2
	FL	2.2	8.2	14.2	41.5	33.8
	LC	2.3	9.1	19.0	43.9	25.8
White Egg Average	HR	2.6	10.8	20.6	42.3	23.8
	FL	2.5	9.6	18.0	42.7	27.2
	LC	3.2	11.1	23.0	43.2	19.5
Brown Egg Layers						
Hubbard (Golden Comet)	HR	0.4	6.8	13.3	33.6	45.8
	FL	1.5	5.4	12.4	28.6	52.2
	LC	0.9	7.0	13.2	36.5	42.5
Dekalb (Sex-Sal-Link-G)	HR	0.6	5.5	9.8	28.4	55.7
	FL	1.0	5.8	10.7	28.6	53.9
	LC	1.6	7.0	10.6	33.3	47.4
Hisex (Brown)	HR	0.4	3.7	7.8	28.3	59.8
	FL	0.7	2.6	6.8	24.7	65.3
	LC	1.6	5.4	8.8	27.0	57.2
Brown Egg Average	HR	0.5	5.4	10.3	30.1	53.8
	FL	1.1	4.6	9.9	27.3	57.1
	LC	1.4	6.5	10.9	32.3	49.0

TABLE 16. EFFECTS OF HOUSING ON EGG QUALITY OF ENTRIES IN 27TH NCLPMT (140-434 DAYS)

Breeder (Strain)	House Type	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	HR	94.2	2.0	3.3	0.5	0.0	1.8
	FL	93.0	2.8	3.7	0.5	0.0	0.8
	LC	95.6	1.7	2.7	0.0	0.7	0.0
Colonial (365-S)	HR	92.9	3.3	3.7	0.1	1.1	0.0
	FL	93.7	1.7	4.1	0.6	0.0	1.3
	LC	92.8	1.5	4.3	1.3	1.7	0.0
ISA-Babcock (B300)	HR	95.9	0.5	3.0	0.6	0.0	0.8
	FL	96.6	0.7	2.6	0.1	0.0	4.2
	LC	95.7	1.5	2.3	0.6	0.9	0.0
Hyline (W-36)	HR	97.0	0.7	1.8	0.5	0.0	0.0
	FL	95.0	0.6	3.8	0.6	0.0	0.0
	LC	95.6	1.2	2.5	0.8	1.3	0.0
Shaver (288-A)	HR	96.3	0.6	2.7	0.4	0.0	0.0
	FL	97.1	0.5	2.1	0.3	0.0	0.0
	LC	96.1	0.3	3.1	0.4	0.0	0.0
Dekalb (XL-Link)	HR	94.7	0.8	3.6	0.9	0.0	0.0
	FL	95.0	0.7	3.9	0.4	1.0	0.0
	LC	96.3	0.6	2.7	0.4	0.7	0.0
H & N (Nick Chick)	HR	94.0	1.9	3.3	0.8	1.7	0.0
	FL	94.8	2.1	2.5	0.6	1.6	1.0
	LC	94.8	1.1	3.3	0.8	0.9	0.9
White Egg Average	HR	95.0	1.4	3.1	0.5	0.4	0.4
	FL	95.0	1.3	3.2	0.4	0.4	1.0
	LC	95.3	1.1	3.0	0.6	0.9	0.1
Brown Egg Layers							
Hubbard (Golden Comet)	HR	96.1	0.8	2.7	0.4	7.9	10.1
	FL	96.8	0.4	2.4	0.3	0.0	27.4
	LC	95.7	0.6	2.0	1.6	6.2	10.1
Dekalb (Sex-Sal-Link-G)	HR	93.6	0.6	4.7	1.2	1.9	14.3
	FL	95.5	0.9	3.2	0.5	0.0	20.5
	LC	93.8	1.0	4.4	0.8	0.9	13.2
Hisex (Brown)	HR	95.1	0.5	3.2	1.2	1.3	11.1
	FL	96.0	0.2	3.2	0.6	2.0	21.6
	LC	96.2	1.5	1.8	0.5	2.1	10.3
Brown Egg Average	HR	94.9	0.6	3.5	0.9	3.7	11.8
	FL	96.1	0.5	2.9	0.5	0.7	23.2
	LC	95.2	1.0	2.7	1.0	3.1	11.2

TABLE 17. AVERAGE PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >434 d Of Age (%)
White Egg Layers						
Hisex (White)	160.4	54.6	63.1	37.7	42.0	8.9
Colonial (365-S)	113.8	38.7	50.5	25.0	30.9	9.3
ISA-Babcock (B300)	173.8	59.1	63.2	39.6	40.3	1.9
Hyline (W-36)	164.0	55.8	62.5	37.5	41.2	6.2
Shaver (288-A)	159.6	54.3	60.7	36.9	39.5	5.4
Dekalb (XL-Link)	157.9	53.7	63.5	35.8	40.4	6.7
H & N (Nick Chick)	155.2	52.8	62.0	36.0	40.2	4.4
White Egg Average	154.9	52.7	60.8	35.5	39.2	6.1
Brown Egg Layers						
Hubbard (Golden Comet)	148.1	50.4	60.4	36.0	41.4	10.8
Dekalb (Sex-Sal-Link-G)	152.0	51.7	62.0	37.0	43.0	13.5
Hisex (Brown)	143.1	48.7	56.7	35.9	40.8	7.9
Brown Egg Average	147.7	50.3	59.7	36.3	41.7	10.7

TABLE 18. AVERAGE PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers				
Hisex (White)	25.9	65.6	6.98	4.17
Colonial (365-S)	22.4	62.9	4.81	3.33
ISA-Babcock (B300)	25.0	64.3	7.69	4.15
Hyline (W-36)	24.1	64.2	7.24	3.83
Shaver (288-A)	24.5	64.6	7.05	3.99
Dekalb (XL-Link)	24.6	63.7	6.87	4.01
H & N (Nick Chick)	26.3	65.4	6.72	4.21
White Egg Average	24.7	64.4	6.77	3.96
Brown Egg Layers				
Hubbard (Golden Comet)	28.4	67.9	6.61	4.73
Dekalb (Sex-Sal-Link-G)	28.9	68.2	6.74	4.83
Hisex (Brown)	28.4	70.2	6.33	4.61
Brown Egg Average	28.6	68.7	6.56	4.73

TABLE 19. AVERAGE EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers					
Hisex (White)	0.3	0.5	3.9	25.3	70.1
Colonial (365-S)	0.1	1.1	13.4	37.8	47.6
ISA-Babcock (B300)	0.0	0.1	3.7	33.7	62.6
Hyline (W-36)	0.0	0.1	5.1	32.2	62.5
Shaver (288-A)	0.0	0.1	4.7	29.0	66.2
Dekalb (XL-Link)	0.1	0.3	6.2	33.1	60.4
H & N (Nick Chick)	0.5	0.2	4.7	26.9	67.7
White Egg Average	0.1	0.3	6.0	31.1	62.4
Brown Egg Layers					
Hubbard (Golden Comet)	0.0	0.0	1.4	16.1	82.6
Dekalb (Sex-Sal-Link-G)	0.0	0.1	2.0	13.6	84.3
Hisex (Brown)	0.0	0.0	0.8	9.5	89.7
Brown Egg Average	0.0	0.1	1.4	13.1	85.5

TABLE 20. AVERAGE EGG QUALITY OF ENTRIES
27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers						
Hisex (White)	89.3	4.6	5.0	1.1	0.3	0.0
Colonial (365-S)	90.1	3.2	4.2	2.5	3.9	0.6
ISA-Babcock (B300)	93.4	1.5	4.0	1.1	1.8	0.2
Hyline (W-36)	94.3	1.2	4.0	0.6	0.8	0.8
Shaver (288-A)	94.2	2.1	2.7	1.0	0.2	0.0
Dekalb (XL-Link)	90.6	2.2	6.3	0.9	0.7	0.8
H & N (Nick Chick)	89.2	2.2	7.3	1.3	2.6	0.0
White Egg Average	91.6	2.4	4.8	1.2	1.5	0.3
Brown Egg Layers						
Hubbard (Golden Comet)	94.8	0.9	3.2	1.0	6.0	18.7
Dekalb (Sex-Sal-Link-G)	93.7	0.9	4.5	0.9	4.3	17.3
Hisex (Brown)	93.0	1.4	4.3	1.3	3.5	15.0
Brown Egg Average	93.8	1.1	4.0	1.1	4.6	17.0

TABLE 21. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Birds/ Cage	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day	Mortality > 434d Of Age (%)
White Egg Layers							
Hisex (White)	3	165.6	56.3	64.6	38.9	43.1	11.8
	4	155.2	52.8	61.6	36.5	40.9	6.0
Colonial (365-S)	3	122.9	41.8	52.9	27.2	32.6	10.7
	4	104.7	35.6	48.0	22.8	29.2	7.9
ISA-Babcock (B300)	3	175.4	59.6	64.1	40.3	41.2	1.3
	4	172.1	58.6	62.3	38.8	39.4	2.5
Hyline (W-36)	3	164.4	55.9	63.1	37.5	41.9	6.6
	4	163.5	55.7	62.0	37.4	40.6	5.8
Shaver (288-A)	3	166.3	56.6	60.8	38.8	40.0	2.0
	4	152.9	52.0	60.7	35.0	39.0	8.8
Dekalb (XL-Link)	3	167.6	57.0	64.0	38.0	40.8	7.1
	4	148.2	50.4	63.0	33.5	40.1	6.4
H & N (Nick Chick)	3	165.4	56.3	63.1	38.5	40.9	2.0
	4	145.0	49.3	60.9	33.5	39.4	6.8
White Egg Average	3	161.1	54.8	61.8	37.0	40.1	5.9
	4	148.8	50.6	59.8	33.9	38.4	6.3
Brown Egg Layers							
Hubbard (Golden Comet)	3	161.5	54.9	62.1	39.3	42.5	9.9
	4	134.7	45.8	58.7	32.6	40.3	11.7
Dekalb (Sex-Sal-Link-G)	3	167.5	57.0	63.6	40.9	44.1	6.3
	4	136.5	46.5	60.3	33.0	41.9	20.6
Hisex (Brown)	3	154.2	52.4	58.0	39.0	41.8	8.0
	4	132.1	44.9	55.4	32.8	39.8	7.9
Brown Egg Average	3	161.1	54.8	61.2	39.7	42.8	8.1
	4	134.4	45.7	58.1	32.8	40.7	13.4

TABLE 22. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Birds/ Cage	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers					
Hisex (White)	3	27.6	65.6	7.27	4.10
	4	24.3	65.7	6.68	4.25
Colonial (365-S)	3	24.0	63.4	5.19	3.35
	4	20.9	62.4	4.43	3.32
ISA-Babcock (B300)	3	25.6	64.5	7.83	3.98
	4	24.3	64.0	7.55	4.33
Hyline (W-36)	3	24.9	64.4	7.29	3.63
	4	23.2	64.0	7.18	4.03
Shaver (288-A)	3	25.0	65.0	7.39	3.76
	4	24.0	64.3	6.72	4.22
Dekalb (XL-Link)	3	25.0	63.8	7.31	3.79
	4	24.2	63.7	6.44	4.23
H & N (Nick Chick)	3	27.0	65.7	7.17	4.18
	4	25.6	65.0	6.28	4.24
White Egg Average	3	25.6	64.6	7.06	3.83
	4	23.8	64.2	6.47	4.09
Brown Egg Layers					
Hubbard (Golden Comet)	3	28.8	68.0	7.21	4.66
	4	28.0	67.8	6.00	4.80
Dekalb (Sex-Sal-Link-G)	3	29.8	68.1	7.46	4.80
	4	28.1	68.2	6.02	4.87
Hisex (Brown)	3	28.7	70.6	6.81	4.46
	4	28.1	69.8	5.84	4.76
Brown Egg Average	3	29.1	68.9	7.16	4.64
	4	28.1	68.6	5.96	4.81

TABLE 23. EFFECTS OF NUMBER OF BIRDS PER CAGE ON EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Birds/ Cage	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	3	0.1	0.4	3.3	26.4	69.8
	4	0.5	0.5	4.5	24.1	70.4
Colonial (365-S)	3	0.3	1.7	15.2	39.7	43.2
	4	0.0	0.5	11.7	35.8	51.9
ISA-Babcock (B300)	3	0.0	0.0	2.2	32.2	65.6
	4	0.0	0.1	5.2	35.2	59.5
Hyline (W-36)	3	0.1	0.2	4.9	29.9	64.9
	4	0.0	0.1	5.3	34.4	60.1
Shaver (288-A)	3	0.0	0.1	3.9	25.2	70.8
	4	0.0	0.1	5.5	32.8	61.6
Dekalb (XL-Link)	3	0.0	0.3	5.6	32.8	61.3
	4	0.1	0.4	6.7	33.4	59.4
H & N (Nick Chick)	3	0.9	0.2	3.8	26.1	69.0
	4	0.0	0.2	5.6	27.8	66.4
White Egg Average	3	0.2	0.4	5.6	30.3	63.5
	4	0.1	0.3	6.4	31.9	61.4
Brown Egg Layers						
Hubbard (Golden Comet)	3	0.0	0.0	1.8	15.7	82.5
	4	0.0	0.0	0.9	16.5	82.6
Dekalb (Sex-Sal-Link-G)	3	0.0	0.0	1.8	13.6	84.6
	4	0.0	0.3	2.1	13.5	84.1
Hisex (Brown)	3	0.0	0.0	0.8	8.0	91.3
	4	0.1	0.0	0.8	11.1	88.1
Brown Egg Average	3	0.0	0.0	1.5	12.4	86.1
	4	0.0	0.1	1.3	13.7	84.9

TABLE 24. EFFECTS OF NUMBER OF BIRDS PER CAGE ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Birds/ Cage	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	3	91.4	3.7	3.9	1.0	0.3	0.0
	4	87.3	5.5	6.0	1.2	0.3	0.0
Colonial (365-S)	3	90.4	4.0	4.0	1.6	3.6	0.0
	4	89.8	2.4	4.4	3.3	4.1	1.2
ISA-Babcock (B300)	3	95.0	0.6	3.5	0.9	1.2	0.5
	4	91.8	2.4	4.5	1.3	2.3	0.0
Hyline (W-36)	3	95.4	1.3	2.8	0.5	0.5	0.5
	4	93.2	1.1	5.1	0.7	1.0	1.0
Shaver (288-A)	3	95.0	2.5	1.7	0.8	0.3	0.0
	4	93.4	1.8	3.6	1.2	0.0	0.0
Dekalb (XL-Link)	3	91.4	1.5	6.2	0.9	0.3	0.8
	4	89.8	3.0	6.3	0.9	1.1	0.8
H & N (Nick Chick)	3	89.2	2.3	6.9	1.6	3.0	0.0
	4	89.2	2.0	7.8	1.0	2.3	0.0
White Egg Average	3	92.6	2.3	4.2	1.0	1.3	0.3
	4	90.6	2.6	5.4	1.4	1.6	0.4
Brown Egg Layers							
Hubbard (Golden Comet)	3	95.2	0.6	3.2	1.1	7.4	18.4
	4	94.5	1.3	3.3	1.0	4.6	19.0
Dekalb (Sex-Sal-Link-G)	3	94.8	0.1	4.2	0.9	5.0	14.5
	4	92.6	1.7	4.7	1.0	3.6	20.2
Hisex (Brown)	3	93.2	2.1	2.9	1.8	3.1	15.5
	4	92.7	0.7	5.6	0.9	3.9	14.5
Brown Egg Average	3	94.4	0.9	3.4	1.2	5.2	16.1
	4	93.3	1.2	4.6	0.9	4.0	17.9

TABLE 25. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Cage Type	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality > 434 d Of Age (%)
White Egg Layers							
Hisex (White)	S	165.2	56.2	65.1	39.4	43.8	7.1
	D	155.6	52.9	61.2	36.0	40.2	10.7
Colonial (365-S)	S	112.9	38.4	51.9	24.6	31.6	12.0
	D	114.6	39.0	49.1	25.4	30.3	6.6
ISA-Babcock (B300)	S	180.2	61.3	64.5	41.4	41.2	1.5
	D	167.3	56.9	61.8	37.7	39.5	2.3
Hyline (W-36)	S	161.5	55.0	63.0	37.3	41.6	5.7
	D	166.4	56.6	62.0	37.6	40.9	6.6
Shaver (288-A)	S	163.0	55.4	61.1	37.8	39.8	4.1
	D	156.2	53.1	60.4	36.0	39.2	6.7
Dekalb (XL-Link)	S	165.6	56.3	64.4	37.5	40.9	6.1
	D	150.2	51.1	62.6	34.0	40.0	7.4
H & N (Nick Chick)	S	157.9	53.7	63.8	36.5	41.1	6.9
	D	152.5	51.9	60.1	35.5	39.3	2.0
White Egg Average	S	158.1	53.8	62.0	36.4	40.0	6.2
	D	151.8	51.6	59.6	34.6	38.5	6.1
Brown Egg Layers							
Hubbard (Golden Comet)	S	156.4	53.2	61.6	38.3	42.5	8.1
	D	139.8	47.6	59.2	33.6	40.3	13.6
Dekalb (Sex-Sal-Link-G)	S	157.4	53.6	61.7	38.3	42.4	7.7
	D	146.6	49.9	62.2	35.7	43.6	19.3
Hisex (Brown)	S	141.7	48.2	56.4	35.4	40.3	5.6
	D	144.5	49.2	57.0	36.4	41.3	10.2
Brown Egg Average	S	151.8	51.7	59.9	37.3	41.7	7.1
	D	143.6	48.9	59.5	35.2	41.7	14.3

TABLE 26. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Cage Type	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers					
Hisex	S	26.1	66.7	7.24	4.21
(White)	D	25.8	64.6	6.72	4.14
Colonial	S	23.7	62.5	4.76	3.42
(365-S)	D	21.2	63.3	4.86	3.24
ISA-Babcock	S	25.3	64.6	7.95	4.21
(B300)	D	24.6	63.9	7.43	4.09
Hyline	S	24.8	64.3	7.18	3.94
(W-36)	D	23.4	64.1	7.30	3.72
Shaver	S	24.8	64.8	7.23	4.02
(288-A)	D	24.2	64.5	6.88	3.97
Dekalb	S	25.2	63.8	7.19	4.11
(XL-Link)	D	24.1	63.7	6.55	3.91
H & N	S	26.1	65.7	6.85	4.09
(Nick Chick)	D	26.5	65.1	6.60	4.33
White Egg	S	25.1	64.6	6.91	4.00
Average	D	24.2	64.2	6.62	3.92
Brown Egg Layers					
Hubbard	S	28.3	68.5	6.99	4.69
(Golden Comet)	D	28.6	67.3	6.23	4.77
Dekalb	S	28.3	68.1	6.97	4.83
(Sex-Sal-Link-G)	D	29.5	68.2	6.52	4.84
Hisex	S	28.1	69.9	6.30	4.51
(Brown)	D	28.8	70.5	6.35	4.71
Brown Egg	S	28.2	68.8	6.75	4.68
Average	D	29.0	68.6	6.36	4.77

TABLE 27. EFFECTS OF CAGE TYPE ON EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Cage Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	S	0.1	0.2	2.2	20.6	76.9
	D	0.5	0.7	5.6	29.9	63.3
Colonial (365-S)	S	0.3	1.6	16.0	38.5	43.6
	D	0.0	0.5	10.9	37.1	51.5
ISA-Babcock (B300)	S	0.0	0.1	3.3	31.6	65.0
	D	0.0	0.0	4.1	35.8	60.1
Hyline (W-36)	S	0.0	0.1	4.9	31.2	63.9
	D	0.1	0.2	5.4	33.2	61.0
Shaver (288-A)	S	0.0	0.0	4.8	26.2	68.9
	D	0.0	0.1	4.6	31.8	63.5
Dekalb (XL-Link)	S	0.0	0.3	6.3	32.8	60.6
	D	0.1	0.4	6.0	33.3	60.2
H & N (Nick Chick)	S	0.0	0.2	4.9	26.2	68.7
	D	0.9	0.2	4.5	27.7	66.7
White Egg Average	S	0.0	0.4	6.0	29.6	64.0
	D	0.2	0.3	5.9	32.7	60.9
Brown Egg Layers						
Hubbard (Golden Comet)	S	0.0	0.0	0.8	13.2	85.9
	D	0.0	0.0	1.9	18.9	79.2
Dekalb (Sex-Sal-Link-G)	S	0.0	0.3	1.8	14.6	83.3
	D	0.0	0.0	2.2	12.5	85.3
Hisex (Brown)	S	0.0	0.0	0.8	9.5	89.7
	D	0.1	0.0	0.7	9.6	89.7
Brown Egg Average	S	0.0	0.1	1.1	12.5	86.3
	D	0.0	0.0	1.6	13.7	84.7

TABLE 28. EFFECTS OF CAGE TYPE ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	Cage Type	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	S	90.2	3.0	5.5	1.3	0.3	0.0
	D	88.5	6.1	4.5	0.9	0.3	0.0
Colonial (365-S)	S	91.7	2.0	4.1	2.2	5.9	1.2
	D	88.5	4.5	4.3	2.7	1.9	0.0
ISA-Babcock (B300)	S	92.4	1.7	4.6	1.3	1.8	0.5
	D	94.4	1.3	3.3	1.0	1.7	0.0
Hyline (W-36)	S	95.7	0.9	3.1	0.3	1.6	1.2
	D	92.9	1.5	4.8	0.8	0.0	0.4
Shaver (288-A)	S	94.8	2.2	2.3	0.7	0.3	0.0
	D	93.6	2.0	3.1	1.2	0.0	0.0
Dekalb (XL-Link)	S	89.5	3.1	6.4	1.0	0.0	1.1
	D	91.8	1.3	6.2	0.7	1.4	0.6
H & N (Nick Chick)	S	89.1	2.4	7.3	1.2	3.1	0.0
	D	89.3	1.9	7.3	1.5	2.2	0.0
White Egg Average	S	91.9	2.2	4.8	1.2	1.8	0.6
	D	91.3	2.7	4.8	1.3	1.1	0.1
Brown Egg Layers							
Hubbard (Golden Comet)	S	94.3	0.9	3.9	1.0	4.9	21.0
	D	95.4	1.0	2.6	1.1	7.1	16.3
Dekalb (Sex-Sal-Link-G)	S	92.7	1.2	5.4	0.8	1.4	16.1
	D	94.7	0.6	3.6	1.1	7.1	18.5
Hisex (Brown)	S	94.2	1.1	3.2	1.4	4.9	18.2
	D	91.8	1.7	5.3	1.2	2.1	11.8
Brown Egg Average	S	93.7	1.1	4.2	1.1	3.7	18.5
	D	94.0	1.1	3.8	1.1	5.4	15.5

TABLE 29. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES IN 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	House Type	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >484 d Of Age (%)
White Egg Layers							
Hisex (White)	HR	153.7	52.3	63.9	36.1	43.0	14.4
	FL	173.0	58.8	64.2	41.4	43.0	5.8
	LC	154.5	52.6	61.3	35.6	40.1	6.6
Colonial (365-S)	HR	109.1	37.1	50.7	23.3	30.5	6.4
	FL	105.9	36.0	51.1	23.4	31.4	14.7
	LC	126.4	43.0	49.6	28.3	30.8	6.8
ISA-Babcock (B300)	HR	169.9	57.8	64.5	38.9	41.3	1.4
	FL	177.8	60.5	64.2	40.7	41.8	2.4
	LC	173.5	59.0	60.8	39.0	37.8	1.8
Hyline (W-36)	HR	160.7	54.7	62.2	36.7	41.1	3.6
	FL	171.2	58.3	63.7	39.6	42.2	5.5
	LC	160.0	54.4	61.8	36.1	40.4	9.5
Shaver (288-A)	HR	164.0	55.8	61.3	37.9	39.5	5.2
	FL	151.4	51.5	60.4	35.1	39.5	5.8
	LC	163.4	55.6	60.5	37.6	39.6	5.2
Dekalb (XL-Link)	HR	156.6	53.3	61.9	35.9	39.9	9.2
	FL	158.0	53.7	62.9	35.9	40.2	3.4
	LC	159.0	54.1	65.6	35.5	41.3	7.7
H & N (Nick Chick)	HR	144.0	49.0	61.5	33.2	39.8	4.2
	FL	164.4	55.9	62.1	38.4	40.4	5.1
	LC	157.1	53.4	62.3	36.4	40.4	3.9
White Egg Average	HR	151.2	51.4	60.8	34.6	39.3	6.3
	FL	157.4	53.5	61.2	36.3	39.8	6.1
	LC	156.3	53.2	60.3	35.5	38.6	5.9
Brown Egg Layers							
Hubbard (Golden Comet)	HR	157.3	53.5	61.6	38.3	42.6	10.3
	FL	143.4	48.8	59.1	34.6	40.4	10.8
	LC	143.6	48.8	60.5	35.0	41.3	11.4
Dekalb (Sex-Sal-Link-G)	HR	150.1	51.1	63.0	37.3	44.9	23.1
	FL	147.2	50.1	62.6	35.2	42.8	11.4
	LC	158.7	54.0	60.3	38.5	41.2	6.0
Hisex (Brown)	HR	140.1	47.7	56.3	34.8	40.5	8.0
	FL	152.0	51.7	56.2	38.2	40.7	9.2
	LC	137.3	46.7	57.6	34.7	41.1	6.6
Brown Egg Average	HR	149.2	50.8	60.3	36.8	42.7	13.8
	FL	147.5	50.2	59.3	36.0	41.3	10.4
	LC	146.5	49.9	59.5	36.1	41.2	8.0

TABLE 30. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES IN 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	House Type	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers					
Hisex (White)	HR	26.6	65.4	6.64	4.18
	FL	25.1	67.1	7.58	4.15
	LC	26.1	64.4	6.72	4.19
Colonial (365-S)	HR	23.2	61.5	4.56	3.35
	FL	21.6	63.5	4.49	3.02
	LC	22.6	63.7	5.37	3.63
ISA-Babcock (B300)	HR	25.4	64.4	7.47	4.16
	FL	25.2	64.4	7.98	4.07
	LC	24.3	64.0	7.62	4.23
Hyline (W-36)	HR	24.0	64.2	7.12	3.62
	FL	23.1	64.8	7.59	3.74
	LC	25.2	63.5	7.00	4.14
Shaver (288-A)	HR	24.6	64.8	7.28	4.00
	FL	24.0	64.6	6.69	3.85
	LC	25.0	64.5	7.18	4.12
Dekalb (XL-Link)	HR	24.2	64.3	6.83	3.91
	FL	24.3	63.7	6.97	3.85
	LC	25.4	63.2	6.81	4.27
H & N (Nick Chick)	HR	26.4	65.3	6.17	4.05
	FL	25.8	65.8	7.29	4.23
	LC	26.7	65.0	6.72	4.36
White Egg Average	HR	24.9	64.3	6.58	3.90
	FL	24.1	64.9	6.94	3.85
	LC	25.0	64.0	6.78	4.13
Brown Egg Layers					
Hubbard (Golden Comet)	HR	26.7	67.9	7.06	4.51
	FL	27.7	67.2	6.41	4.45
	LC	30.9	68.5	6.35	5.22
Dekalb (Sex-Sal-Link-G)	HR	29.2	69.5	6.68	4.91
	FL	28.6	67.2	6.50	4.48
	LC	29.0	67.7	7.04	5.11
Hisex (Brown)	HR	27.3	69.8	6.21	4.46
	FL	27.9	70.3	6.65	4.40
	LC	30.1	70.6	6.11	4.98
Brown Egg Average	HR	27.7	69.1	6.65	4.63
	FL	28.0	68.2	6.52	4.45
	LC	30.0	68.9	6.50	5.10

TABLE 31. EFFECTS OF HOUSING ON EGG SIZE OF ENTRIES
27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	House Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	HR	0.7	0.8	3.4	27.3	67.8
	FL	0.1	0.4	3.2	19.8	76.5
	LC	0.0	0.2	5.1	28.7	66.0
Colonial (365-S)	HR	0.0	1.6	15.5	37.0	45.8
	FL	0.4	1.1	10.9	40.4	47.2
	LC	0.0	0.5	13.9	35.9	49.7
ISA-Babcock (B300)	HR	0.0	0.1	3.6	34.0	62.4
	FL	0.0	0.1	3.3	32.8	63.9
	LC	0.0	0.1	4.3	34.2	61.4
Hyline (W-36)	HR	0.0	0.1	4.4	33.3	62.2
	FL	0.0	0.1	4.5	29.2	66.2
	LC	0.1	0.3	6.5	34.0	59.0
Shaver (288-A)	HR	0.0	0.0	4.7	28.8	66.5
	FL	0.0	0.1	4.1	29.1	66.7
	LC	0.0	0.1	5.3	29.2	65.4
Dekalb (XL-Link)	HR	0.0	0.3	4.7	32.0	63.0
	FL	0.0	0.2	5.6	33.2	61.0
	LC	0.2	0.4	8.2	34.1	57.2
H & N (Nick Chick)	HR	0.0	0.3	6.6	27.6	65.4
	FL	0.0	0.0	2.4	25.0	72.6
	LC	1.4	0.1	5.1	28.3	65.1
White Egg Average	HR	0.1	0.5	6.1	31.4	61.9
	FL	0.1	0.3	4.8	29.9	64.9
	LC	0.2	0.3	6.9	32.0	60.6
Brown Egg Layers						
Hubbard (Golden Comet)	HR	0.0	0.0	1.3	14.1	84.6
	FL	0.0	0.0	1.3	17.0	81.7
	LC	0.0	0.0	1.6	17.1	81.3
Dekalb (Sex-Sal-Link-G)	HR	0.0	0.1	1.1	10.8	88.0
	FL	0.0	0.3	2.6	15.2	81.9
	LC	0.0	0.0	2.2	14.8	83.0
Hisex (Brown)	HR	0.1	0.0	0.5	9.8	89.6
	FL	0.0	0.1	1.1	10.0	88.8
	LC	0.0	0.0	0.6	8.8	90.6
Brown Egg Average	HR	0.0	0.0	1.0	11.6	87.4
	FL	0.0	0.1	1.7	14.1	84.1
	LC	0.0	0.0	1.5	13.5	85.0

TABLE 32. EFFECTS OF HOUSING ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (435-728 DAYS)

Breeder (Strain)	House Type	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	HR	88.4	4.0	6.6	0.9	0.0	0.0
	FL	89.6	3.9	5.5	1.1	0.5	0.0
	LC	90.0	5.8	2.8	1.3	0.5	0.0
Colonial (365-S)	HR	90.3	2.7	4.6	2.4	3.4	0.0
	FL	89.9	2.6	5.0	2.5	6.2	1.8
	LC	90.2	4.4	3.0	2.4	2.1	0.0
ISA-Babcock (B300)	HR	92.7	0.4	5.6	1.3	2.4	0.0
	FL	95.7	1.3	2.9	0.2	0.0	0.7
	LC	91.8	2.8	3.5	1.8	2.9	0.0
Hyline (W-36)	HR	95.2	0.3	3.9	0.5	0.0	0.5
	FL	94.8	0.5	4.0	0.7	1.2	1.3
	LC	92.9	2.6	4.0	0.5	1.1	0.4
Shaver (288-A)	HR	94.3	1.9	3.0	0.7	0.0	0.0
	FL	95.9	1.3	1.6	1.3	0.0	0.0
	LC	92.4	3.2	3.5	0.9	0.5	0.0
Dekalb (XL-Link)	HR	91.9	1.6	5.5	1.0	1.7	0.8
	FL	92.9	1.9	4.4	0.8	0.0	0.6
	LC	87.1	3.1	8.9	0.9	0.5	1.0
H & N (Nick Chick)	HR	88.1	1.5	9.1	1.3	4.1	0.0
	FL	91.6	2.6	5.2	0.6	0.0	0.0
	LC	87.9	2.4	7.7	2.0	3.8	0.0
White Egg Average	HR	91.5	1.8	5.5	1.2	1.7	0.2
	FL	92.9	2.0	4.1	1.0	1.1	0.6
	LC	90.3	3.5	4.8	1.4	1.6	0.2
Brown Egg Layers							
Hubbard (Golden Comet)	HR	96.3	0.7	2.0	1.0	3.1	21.3
	FL	95.1	0.6	3.5	0.8	7.3	11.3
	LC	93.1	1.4	4.2	1.3	7.6	23.4
Dekalb (Sex-Sal-Link-G)	HR	93.9	0.7	4.5	0.8	0.0	21.1
	FL	93.5	0.9	4.8	0.9	10.1	10.4
	LC	93.7	1.1	4.2	1.0	2.7	20.5
Hisex (Brown)	HR	92.5	1.5	5.1	0.9	1.8	20.3
	FL	92.3	1.4	4.5	1.8	6.9	12.1
	LC	94.2	1.3	3.2	1.3	1.8	12.5
Brown Egg Average	HR	94.3	1.0	3.9	0.9	1.7	20.9
	FL	93.6	1.0	4.3	1.1	8.1	11.3
	LC	93.7	1.3	3.8	1.2	4.0	18.8

TABLE 33. AVERAGE PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >140 d of Age (%)
White Egg Layers						
Hisex (White)	381.7	64.9	70.3	41.3	44.1	15.2
Colonial (365-S)	312.5	53.1	61.6	31.4	35.8	25.3
ISA-Babcock (B300)	404.4	68.8	71.2	42.6	43.3	4.5
Hyline (W-36)	386.8	65.8	70.3	40.7	43.2	13.1
Shaver (288-A)	383.4	65.2	70.4	41.1	43.6	12.9
Dekalb (XL-Link)	384.6	65.4	72.0	40.6	43.9	15.8
H & N (Nick Chick)	377.6	64.3	71.2	40.5	44.0	14.8
White Egg Average	375.9	63.9	69.6	39.7	42.6	14.5
Brown Egg Layers						
Hubbard (Golden Comet)	360.0	61.2	67.3	40.7	44.0	17.3
Dekalb (Sex-Sal-Link-G)	362.0	61.6	68.0	41.5	45.2	20.1
Hisex (Brown)	359.6	61.2	66.2	42.1	45.2	14.4
Brown Egg Average	360.5	61.3	67.2	41.4	44.8	17.2

TABLE 34. AVERAGE PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers				
Hisex (White)	25.1	59.6	17.09	8.99
Colonial (365-S)	22.4	56.5	13.21	7.70
ISA-Babcock (B300)	24.6	58.5	18.16	9.05
Hyline (W-36)	23.7	58.0	17.17	8.50
Shaver (288-A)	24.2	59.0	17.48	8.71
Dekalb (XL-Link)	24.6	58.3	17.21	8.86
H & N (Nick Chick)	25.8	59.4	16.86	9.06
White Egg Average	24.3	58.5	16.74	8.70
Brown Egg Layers				
Hubbard (Golden Comet)	27.3	62.1	16.67	9.78
Dekalb (Sex-Sal-Link-G)	28.1	62.9	16.93	10.06
Hisex (Brown)	27.4	64.5	16.85	9.69
Brown Egg Average	27.6	63.2	16.82	9.85

TABLE 35. AVERAGE EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers					
Hisex (White)	1.6	5.2	11.9	33.3	48.0
Colonial (365-S)	2.3	8.4	21.4	38.6	29.3
ISA-Babcock (B300)	1.5	5.2	12.2	39.6	41.5
Hyline (W-36)	1.6	7.2	13.8	37.6	39.8
Shaver (288-A)	1.0	4.6	12.2	37.4	44.9
Dekalb (XL-Link)	1.5	5.3	14.0	39.6	39.7
H & N (Nick Chick)	1.4	5.0	11.3	35.6	46.7
White Egg Average	1.5	5.8	13.8	37.4	41.4
Brown Egg Layers					
Hubbard (Golden Comet)	0.5	3.4	7.6	25.1	63.3
Dekalb (Sex-Sal-Link-G)	0.6	3.3	6.5	22.5	67.1
Hisex (Brown)	0.5	2.1	4.6	18.8	74.0
Brown Egg Average	0.5	3.0	6.2	22.1	68.1

TABLE 36. AVERAGE EGG QUALITY OF ENTRIES
27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers						
Hisex (White)	91.9	3.3	4.1	0.7	0.3	0.3
Colonial (365-S)	91.7	2.7	4.1	1.5	2.9	0.5
ISA-Babcock (B300)	94.8	1.2	3.3	0.7	1.3	0.7
Hyline (W-36)	95.1	1.0	3.3	0.6	0.7	0.5
Shaver (288-A)	95.4	1.2	2.7	0.7	0.1	0.0
Dekalb (XL-Link)	93.2	1.4	4.7	0.7	0.7	0.5
H & N (Nick Chick)	92.0	1.9	5.1	1.0	2.2	0.2
White Egg Average	93.5	1.8	3.9	0.8	1.2	0.4
Brown Egg Layers						
Hubbard (Golden Comet)	95.6	0.7	2.8	0.9	5.6	17.7
Dekalb (Sex-Sal-Link-G)	94.0	0.9	4.3	0.9	3.2	16.9
Hisex (Brown)	94.5	1.1	3.4	1.0	2.9	14.8
Brown Egg Average	94.7	0.9	3.5	0.9	3.9	16.5

TABLE 37. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Birds/ Cage	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >140 d of Age (%)
White Egg Layers							
Hisex (White)	3	390.6	66.4	71.5	42.3	44.8	16.3
	4	372.8	63.4	69.2	40.3	43.3	14.2
Colonial (365-S)	3	330.6	56.2	64.1	33.2	37.2	23.7
	4	294.4	50.1	59.1	29.6	34.4	26.9
ISA-Babcock (B300)	3	410.8	69.9	72.5	43.7	44.3	4.1
	4	398.1	67.7	69.9	41.6	42.3	5.0
Hyline (W-36)	3	389.3	66.2	71.1	40.9	43.8	15.0
	4	384.4	65.4	69.5	40.4	42.5	11.2
Shaver (288-A)	3	399.6	68.0	71.6	43.1	44.7	7.0
	4	367.3	62.5	69.1	39.1	42.5	18.8
Dekalb (XL-Link)	3	402.1	68.4	72.9	42.6	44.6	13.2
	4	367.1	62.4	71.2	38.5	43.2	18.4
H & N (Nick Chick)	3	394.1	67.0	72.2	42.4	44.7	8.9
	4	361.1	61.6	70.2	38.6	43.3	20.7
White Egg Average	3	388.1	66.0	70.8	41.2	43.5	12.6
	4	363.6	61.9	68.3	38.3	41.7	16.4
Brown Egg Layers							
Hubbard (Golden Comet)	3	379.8	64.6	68.5	43.2	44.9	12.9
	4	340.1	57.9	66.1	38.2	43.1	21.7
Dekalb (Sex-Sal-Link-G)	3	390.0	66.3	70.5	44.8	46.9	11.3
	4	334.0	56.8	65.5	38.1	43.5	28.8
Hisex (Brown)	3	379.8	64.6	68.2	44.7	46.7	13.5
	4	339.5	57.7	64.2	39.5	43.7	15.2
Brown Egg Average	3	383.2	65.2	69.0	44.3	46.2	12.6
	4	337.9	57.5	65.3	38.6	43.4	21.9

TABLE 38. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Birds/ Cage	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers					
Hisex	3	26.2	59.5	17.64	9.08
(White)	4	24.0	59.6	16.54	8.91
Colonial	3	23.6	56.5	13.95	7.94
(365-S)	4	21.1	56.5	12.46	7.46
ISA-Babcock	3	25.4	58.7	18.56	9.00
(B300)	4	23.9	58.3	17.77	9.10
Hyline	3	24.5	58.1	17.33	8.43
(W-36)	4	22.9	57.9	17.01	8.57
Shaver	3	24.6	59.3	18.29	8.67
(288-A)	4	23.7	58.7	16.67	8.74
Dekalb	3	24.9	58.5	17.95	8.83
(XL-Link)	4	24.3	58.0	16.47	8.89
H & N	3	26.4	59.7	17.58	9.24
(Nick Chick)	4	25.1	59.1	16.14	8.88
White Egg	3	25.1	58.6	17.33	8.74
Average	4	23.6	58.3	16.15	8.65
Brown Egg Layers					
Hubbard	3	28.0	62.4	17.72	9.98
(Golden Comet)	4	26.6	61.9	15.63	9.58
Dekalb	3	28.9	62.9	18.27	10.29
(Sex-Sal-Link-G)	4	27.3	62.8	15.59	9.84
Hisex	3	28.1	64.8	17.83	9.79
(Brown)	4	26.7	64.2	15.87	9.59
Brown Egg	3	28.3	63.4	17.94	10.02
Average	4	26.8	63.0	15.69	9.67

TABLE 39. EFFECTS OF NUMBER OF BIRDS PER CAGE ON EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Cage Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	3	1.7	5.0	11.9	34.2	47.3
	4	1.5	5.5	12.0	32.5	48.6
Colonial (365-S)	3	2.5	9.1	22.2	39.5	26.7
	4	2.1	7.7	20.5	37.7	32.0
ISA-Babcock (B300)	3	1.5	4.9	11.4	38.7	43.6
	4	1.6	5.6	13.0	40.6	39.3
Hyline (W-36)	3	1.7	7.1	13.6	36.6	41.1
	4	1.6	7.2	14.0	38.5	38.6
Shaver (288-A)	3	1.0	4.4	11.3	35.5	47.9
	4	1.0	4.8	13.1	39.2	41.9
Dekalb (XL-Link)	3	1.3	5.4	13.9	39.1	40.3
	4	1.6	5.2	14.0	40.1	39.1
H & N (Nick Chick)	3	1.5	4.8	10.6	35.4	47.7
	4	1.2	5.2	12.1	35.8	45.7
White Egg Average	3	1.6	5.8	13.6	37.0	42.1
	4	1.5	5.9	14.1	37.8	40.7
Brown Egg Layers						
Hubbard (Golden Comet)	3	0.4	3.6	7.2	24.1	64.7
	4	0.6	3.2	8.1	26.1	62.0
Dekalb (Sex-Sal-Link-G)	3	0.5	3.1	6.5	22.2	67.7
	4	0.7	3.6	6.4	22.7	66.5
Hisex (Brown)	3	0.5	1.9	4.0	17.4	76.2
	4	0.4	2.3	5.1	20.2	71.9
Brown Egg Average	3	0.5	2.9	5.9	21.2	69.5
	4	0.6	3.1	6.5	23.0	66.8

TABLE 40. EFFECTS OF NUMBER OF BIRDS PER CAGE ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Birds/ Cage	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	3	94.0	2.3	3.2	0.6	0.2	0.0
	4	89.9	4.3	4.9	0.8	0.4	0.6
Colonial (365-S)	3	92.1	3.0	3.7	1.2	2.4	0.0
	4	91.4	2.3	4.5	1.8	3.4	1.1
ISA-Babcock (B300)	3	96.0	0.6	2.6	0.8	1.0	0.9
	4	93.6	1.7	4.0	0.7	1.5	0.6
Hyline (W-36)	3	96.0	1.0	2.3	0.6	0.3	0.3
	4	94.2	0.9	4.2	0.6	1.0	0.7
Shaver (288-A)	3	96.0	1.4	2.0	0.6	0.2	0.0
	4	94.8	1.1	3.4	0.7	0.0	0.0
Dekalb (XL-Link)	3	93.5	0.8	4.9	0.9	0.4	0.5
	4	92.9	2.0	4.5	0.6	1.0	0.5
H & N (Nick Chick)	3	92.0	1.9	4.8	1.4	2.7	0.0
	4	92.1	1.9	5.3	0.7	1.7	0.4
White Egg Average	3	94.2	1.6	3.4	0.9	1.0	0.2
	4	92.7	2.0	4.4	0.8	1.3	0.5
Brown Egg Layers							
Hubbard (Golden Comet)	3	96.2	0.6	2.6	0.7	5.9	18.2
	4	95.0	0.9	3.0	1.1	5.3	17.2
Dekalb (Sex-Sal-Link-G)	3	95.1	0.4	3.7	0.7	3.5	15.4
	4	92.9	1.3	4.8	1.0	2.8	18.4
Hisex (Brown)	3	95.0	1.1	2.5	1.4	3.1	15.3
	4	93.9	1.0	4.3	0.7	2.8	14.2
Brown Egg Average	3	95.4	0.7	2.9	0.9	4.2	16.3
	4	93.9	1.1	4.0	0.9	3.6	16.6

TABLE 41. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Cage Type	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >140 d of Age (%)
White Egg Layers							
Hisex	S	390.7	66.5	72.3	42.8	45.8	15.2
(White)	D	372.6	63.4	68.3	39.8	42.3	15.3
Colonial	S	317.0	53.9	63.2	31.7	36.5	28.2
(365-S)	D	307.9	52.4	60.0	31.2	35.1	22.3
ISA-Babcock	S	414.5	70.5	72.2	43.9	44.0	3.8
(B300)	D	394.3	67.1	70.1	41.4	42.6	5.2
Hyline	S	383.9	65.3	70.9	40.6	43.7	14.9
(W-36)	D	389.8	66.3	69.7	40.7	42.7	11.2
Shaver	S	392.1	66.7	71.3	42.1	44.3	10.6
(288-A)	D	374.8	63.7	69.5	40.1	43.0	15.2
Dekalb	S	400.8	68.2	73.4	42.2	44.6	13.3
(XL-Link)	D	368.4	62.6	70.7	39.0	43.2	18.3
H & N	S	384.5	65.6	72.8	41.2	44.8	16.9
(Nick Chick)	D	370.6	63.0	69.6	39.8	43.2	12.7
White Egg	S	383.4	65.2	70.9	40.6	43.4	14.7
Average	D	368.4	62.6	68.3	38.9	41.7	14.3
Brown Egg Layers							
Hubbard	S	373.2	63.5	68.3	42.7	45.1	13.9
(Golden Comet)	D	346.7	59.0	66.2	38.7	42.9	20.7
Dekalb	S	371.8	63.3	68.7	42.7	45.5	14.0
(Sex-Sal-Link-G)	D	352.2	59.9	67.2	40.3	44.9	26.1
Hisex	S	360.8	61.4	66.8	42.1	45.4	14.2
(Brown)	D	358.5	61.0	65.6	42.1	45.0	14.5
Brown Egg	S	368.6	62.7	68.0	42.5	45.4	14.1
Average	D	352.5	60.0	66.3	40.4	44.2	20.4

TABLE 42. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Cage Type	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers					
Hisex (White)	S	25.4	60.4	17.64	9.10
	D	24.8	58.7	16.54	8.88
Colonial (365-S)	S	23.2	56.1	13.36	7.88
	D	21.5	56.9	13.05	7.53
ISA-Babcock (B300)	S	24.8	58.8	18.62	9.16
	D	24.4	58.2	17.71	8.94
Hyline (W-36)	S	24.3	58.2	17.16	8.66
	D	23.1	57.8	17.18	8.34
Shaver (288-A)	S	24.4	59.1	17.92	8.82
	D	23.9	58.9	17.04	8.60
Dekalb (XL-Link)	S	25.0	58.1	17.95	9.09
	D	24.1	58.4	16.47	8.63
H & N (Nick Chick)	S	25.6	59.4	17.15	8.95
	D	25.9	59.4	16.56	9.17
White Egg Average	S	24.7	58.6	17.11	8.81
	D	24.0	58.3	16.36	8.58
Brown Egg Layers					
Hubbard (Golden Comet)	S	27.5	62.8	17.37	9.88
	D	27.1	61.5	15.98	9.69
Dekalb (Sex-Sal-Link-G)	S	28.1	62.7	17.31	10.12
	D	28.1	63.1	16.55	10.01
Hisex (Brown)	S	27.5	64.3	16.95	9.63
	D	27.2	64.6	16.74	9.75
Brown Egg Average	S	27.7	63.2	17.21	9.88
	D	27.5	63.1	16.42	9.81

TABLE 43. EFFECTS OF CAGE TYPE ON EGG SIZE OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Cage Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	S	1.1	4.9	9.9	31.6	52.4
	D	2.0	5.5	13.9	35.1	43.5
Colonial (365-S)	S	2.4	8.7	23.8	38.8	26.4
	D	2.3	8.1	18.9	38.4	32.3
ISA-Babcock (B300)	S	1.5	5.1	11.4	38.8	43.2
	D	1.5	5.3	13.0	40.4	39.8
Hyline (W-36)	S	1.4	7.0	13.4	37.9	40.3
	D	1.8	7.3	14.3	37.2	39.4
Shaver (288-A)	S	1.2	4.2	11.5	36.6	46.5
	D	0.8	4.9	12.9	38.1	43.3
Dekalb (XL-Link)	S	1.4	5.3	13.6	39.9	39.8
	D	1.6	5.2	14.4	39.2	39.5
H & N (Nick Chick)	S	1.1	4.8	11.8	35.4	46.8
	D	1.6	5.2	10.9	35.8	46.6
White Egg Average	S	1.4	5.7	13.6	37.0	42.2
	D	1.7	5.9	14.0	37.7	40.6
Brown Egg Layers						
Hubbard (Golden Comet)	S	0.6	3.2	6.5	23.0	66.7
	D	0.4	3.7	8.7	27.2	59.9
Dekalb (Sex-Sal-Link-G)	S	0.6	3.8	6.4	22.6	66.7
	D	0.6	2.9	6.6	22.4	67.6
Hisex (Brown)	S	0.6	2.0	4.5	18.9	74.0
	D	0.4	2.2	4.6	18.6	74.1
Brown Egg Average	S	0.6	3.0	5.8	21.5	69.1
	D	0.5	3.0	6.7	22.7	67.2

TABLE 44. EFFECTS OF CAGE TYPE ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	Cage Type	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	S	92.6	2.4	4.2	0.8	0.4	0.0
	D	91.3	4.2	3.9	0.6	0.2	0.6
Colonial (365-S)	S	92.8	1.7	4.2	1.4	3.9	0.8
	D	90.7	3.7	4.0	1.6	1.9	0.3
ISA-Babcock (B300)	S	94.2	1.1	3.8	0.9	1.4	0.5
	D	95.4	1.2	2.8	0.6	1.1	0.9
Hyline (W-36)	S	96.4	0.6	2.5	0.5	1.2	0.8
	D	93.9	1.3	4.0	0.7	0.1	0.2
Shaver (288-A)	S	95.4	1.3	2.6	0.6	0.2	0.0
	D	95.4	1.2	2.7	0.7	0.0	0.0
Dekalb (XL-Link)	S	92.5	1.9	4.8	0.8	0.4	0.7
	D	93.8	1.0	4.6	0.6	1.0	0.4
H & N (Nick Chick)	S	91.8	1.8	5.5	1.0	2.4	0.2
	D	92.2	2.0	4.6	1.1	2.0	0.2
White Egg Average	S	93.7	1.5	3.9	0.9	1.4	0.4
	D	93.3	2.1	3.8	0.8	0.9	0.4
Brown Egg Layers							
Hubbard (Golden Comet)	S	95.3	0.6	3.3	0.8	4.7	19.2
	D	95.9	0.9	2.2	1.0	6.5	16.3
Dekalb (Sex-Sal-Link-G)	S	93.2	0.9	5.0	0.8	1.4	14.8
	D	94.8	0.8	3.6	0.9	4.9	19.0
Hisex (Brown)	S	95.3	0.8	2.8	1.2	3.5	17.9
	D	93.6	1.4	4.1	0.9	2.4	11.6
Brown Egg Average	S	94.6	0.8	3.7	0.9	3.2	17.3
	D	94.8	1.0	3.3	0.9	4.6	15.6

TABLE 45. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES IN 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	House Type	Eggs Per Bird Housed	Egg Production Hen Housed (%)	Egg Production Hen Day (%)	Egg Mass Hen Housed (g/d)	Egg Mass Hen Day (g/d)	Mortality >140 d of Age (%)
White Egg Layers							
Hisex (White)	HR	379.0	64.5	71.1	41.3	45.1	20.4
	FL	385.9	65.6	69.3	42.7	44.1	10.8
	LC	380.1	64.6	70.5	39.9	43.0	14.5
Colonial (365-S)	HR	311.5	53.0	62.4	31.0	36.0	25.5
	FL	302.8	51.5	62.6	30.6	36.6	35.0
	LC	323.2	55.0	59.8	32.7	34.9	15.3
ISA-Babcock (B300)	HR	398.0	67.7	71.4	42.0	43.7	4.3
	FL	406.7	69.2	71.5	43.3	44.1	5.3
	LC	408.5	69.5	70.6	42.5	42.1	3.9
Hyline (W-36)	HR	378.7	64.4	69.8	40.0	43.2	12.9
	FL	391.5	66.6	70.2	41.7	43.5	10.3
	LC	390.2	66.4	70.9	40.2	42.8	16.0
Shaver (288-A)	HR	389.9	66.3	70.3	42.3	43.9	11.2
	FL	362.0	61.6	69.4	38.9	43.1	17.2
	LC	398.4	67.8	71.4	42.2	43.9	10.2
Dekalb (XL-Link)	HR	376.3	64.0	70.0	40.4	43.4	17.2
	FL	386.2	65.7	71.8	40.9	44.0	11.9
	LC	391.2	66.5	74.3	40.3	44.3	18.3
H & N (Nick Chick)	HR	359.2	61.1	70.7	38.4	43.8	18.3
	FL	385.9	65.6	69.7	41.8	43.4	10.5
	LC	387.6	66.2	73.2	41.3	44.8	15.7
White Egg Average	HR	370.4	63.0	69.4	39.4	42.7	15.7
	FL	374.4	63.7	69.2	40.0	42.7	14.4
	LC	382.8	65.1	70.1	39.9	42.3	13.4
Brown Egg Layers							
Hubbard (Golden Comet)	HR	370.6	63.0	68.1	42.1	44.8	16.5
	FL	350.7	59.6	66.3	39.7	43.5	18.1
	LC	358.7	61.1	67.4	40.3	43.7	17.1
Dekalb (Sex-Sal-Link-G)	HR	353.5	60.1	66.8	41.5	45.6	27.0
	FL	347.0	59.0	67.3	39.5	44.5	20.7
	LC	385.5	65.6	69.9	43.4	45.5	12.5
Hisex (Brown)	HR	351.9	59.9	65.9	41.2	45.2	18.4
	FL	368.5	62.7	65.5	43.4	45.0	12.9
	LC	358.5	61.0	67.2	41.7	45.3	11.8
Brown Egg Average	HR	358.7	61.0	66.9	41.6	45.2	20.7
	FL	355.4	60.4	66.4	40.9	44.3	17.2
	LC	367.6	62.5	68.2	41.8	44.9	13.8

TABLE 46. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES IN 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	House Type	Feed Cons. (lbs/100 hens/d)	Egg Weight (g/egg)	Egg Income	Feed Cost
White Egg Layers					
Hisex (White)	HR	25.6	59.7	17.01	9.11
	FL	24.3	60.8	17.52	8.84
	LC	25.4	58.1	16.74	9.02
Colonial (365-S)	HR	22.7	55.8	13.05	7.74
	FL	22.1	56.9	12.94	7.32
	LC	22.3	56.8	13.63	8.04
ISA-Babcock (B300)	HR	24.9	58.8	17.84	9.07
	FL	24.6	58.8	18.53	8.88
	LC	24.5	58.0	18.12	9.20
Hyline (W-36)	HR	23.6	58.2	16.82	8.20
	FL	22.8	58.7	17.59	8.31
	LC	24.7	57.1	17.10	8.99
Shaver (288-A)	HR	24.0	59.5	17.92	8.74
	FL	23.7	59.0	16.61	8.36
	LC	24.7	58.4	17.91	9.03
Dekalb (XL-Link)	HR	24.4	59.2	16.85	8.74
	FL	24.4	58.3	17.51	8.75
	LC	24.9	57.2	17.26	9.09
H & N (Nick Chick)	HR	25.7	59.4	15.92	8.76
	FL	25.3	59.9	17.53	9.05
	LC	26.4	58.9	17.12	9.36
White Egg Average	HR	24.4	58.7	16.49	8.62
	FL	23.9	58.9	16.89	8.50
	LC	24.7	57.8	16.84	8.96
Brown Egg Layers					
Hubbard (Golden Comet)	HR	26.4	62.2	17.25	9.52
	FL	26.9	62.1	16.33	9.42
	LC	28.5	62.1	16.44	10.41
Dekalb (Sex-Sal-Link-G)	HR	28.1	64.3	16.61	10.14
	FL	27.5	62.5	16.33	9.56
	LC	28.7	61.9	17.85	10.49
Hisex (Brown)	HR	26.9	64.4	16.49	9.48
	FL	26.9	64.7	17.24	9.47
	LC	28.4	64.2	16.80	10.12
Brown Egg Average	HR	27.1	63.6	16.78	9.71
	FL	27.1	63.1	16.64	9.48
	LC	28.5	62.7	17.03	10.34

TABLE 47. EFFECTS OF HOUSING ON EGG SIZE OF ENTRIES
27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	House Type	Pee Wee (%)	Small (%)	Medium (%)	Large (%)	Extra Large (%)
White Egg Layers						
Hisex (White)	HR	1.5	5.2	11.5	34.1	47.8
	FL	1.3	4.4	9.7	29.7	54.9
	LC	1.9	6.1	14.6	36.3	41.2
Colonial (365-S)	HR	2.1	10.0	23.0	37.4	27.6
	FL	2.2	7.8	19.7	40.9	29.4
	LC	2.7	7.3	21.4	37.5	31.1
ISA-Babcock (B300)	HR	1.4	5.0	12.5	39.1	42.0
	FL	1.3	5.0	11.0	39.7	43.1
	LC	1.8	5.7	13.0	40.0	39.4
Hyline (W-36)	HR	1.8	6.9	13.7	38.2	39.2
	FL	1.3	6.6	11.5	36.2	44.3
	LC	1.7	7.9	16.2	38.3	36.0
Shaver (288-A)	HR	1.0	4.4	10.9	37.6	46.1
	FL	0.9	4.5	11.1	37.7	45.9
	LC	1.0	4.9	14.6	36.8	42.7
Dekalb (XL-Link)	HR	1.2	5.3	13.3	38.1	42.2
	FL	1.6	4.5	12.1	39.7	42.1
	LC	1.7	6.1	16.6	40.8	34.8
H & N (Nick Chick)	HR	1.0	5.7	12.7	36.3	44.3
	FL	1.2	4.4	8.8	33.9	51.7
	LC	1.9	4.9	12.5	36.6	44.1
White Egg Average	HR	1.4	6.0	13.9	37.3	41.3
	FL	1.4	5.3	12.0	36.8	44.5
	LC	1.8	6.1	15.6	38.0	38.5
Brown Egg Layers						
Hubbard (Golden Comet)	HR	0.2	3.7	7.8	24.6	63.7
	FL	0.8	2.9	7.3	23.2	65.8
	LC	0.5	3.8	7.8	27.5	60.4
Dekalb (Sex-Sal-Link-G)	HR	0.3	3.0	5.8	20.2	70.7
	FL	0.6	3.3	6.9	22.4	66.8
	LC	0.9	3.8	6.7	24.8	63.9
Hisex (Brown)	HR	0.3	2.0	4.4	19.8	73.5
	FL	0.4	1.4	4.2	18.0	76.1
	LC	0.8	2.9	5.0	18.6	72.6
Brown Egg Average	HR	0.3	2.9	6.0	21.6	69.3
	FL	0.6	2.5	6.1	21.2	69.5
	LC	0.7	3.5	6.5	23.6	65.6

TABLE 48. EFFECTS OF HOUSING ON EGG QUALITY OF ENTRIES IN ALL HOUSING, 27TH NCLPMT (140-728 DAYS)

Breeder (Strain)	House Type	Grade A (%)	Grade B (%)	Cracks (%)	Loss (%)	Blood Spots (%)	Meat Spots (%)
White Egg Layers							
Hisex (White)	HR	91.5	3.0	4.9	0.7	0.0	0.6
	FL	91.4	3.3	4.5	0.8	0.3	0.3
	LC	93.0	3.6	2.8	0.6	0.5	0.0
Colonial (365-S)	HR	91.7	3.0	4.1	1.2	2.7	0.0
	FL	91.9	2.1	4.5	1.5	4.1	1.6
	LC	91.6	2.9	3.7	1.8	1.9	0.0
ISA-Babcock (B300)	HR	94.4	0.4	4.2	0.9	1.6	0.3
	FL	96.2	0.9	2.7	0.2	0.0	1.9
	LC	93.9	2.1	2.9	1.2	2.2	0.0
Hyline (W-36)	HR	96.2	0.5	2.8	0.5	0.0	0.3
	FL	94.9	0.6	3.9	0.7	0.8	0.9
	LC	94.3	1.9	3.2	0.6	1.2	0.3
Shaver (288-A)	HR	95.4	1.2	2.9	0.6	0.0	0.0
	FL	96.5	0.8	1.9	0.8	0.0	0.0
	LC	94.4	1.7	3.3	0.7	0.3	0.0
Dekalb (XL-Link)	HR	93.4	1.2	4.5	1.0	1.1	0.6
	FL	94.0	1.3	4.2	0.5	0.3	0.4
	LC	92.4	1.7	5.3	0.6	0.7	0.6
H & N (Nick Chick)	HR	91.2	1.7	6.0	1.1	3.3	0.0
	FL	93.3	2.3	3.8	0.6	0.5	0.3
	LC	91.5	1.7	5.4	1.4	2.8	0.3
White Egg Average	HR	93.4	1.6	4.2	0.8	1.2	0.3
	FL	94.0	1.6	3.6	0.7	0.9	0.8
	LC	93.0	2.2	3.8	1.0	1.4	0.2
Brown Egg Layers							
Hubbard (Golden Comet)	HR	96.2	0.7	2.3	0.7	4.7	17.6
	FL	96.0	0.5	2.9	0.5	4.9	16.7
	LC	94.5	1.0	3.1	1.5	7.1	19.0
Dekalb (Sex-Sal-Link-G)	HR	93.8	0.7	4.6	1.0	0.6	18.9
	FL	94.5	0.9	3.9	0.7	6.8	13.8
	LC	93.7	1.1	4.3	0.9	2.1	18.1
Hisex (Brown)	HR	93.8	1.0	4.1	1.1	1.7	17.2
	FL	94.3	0.8	3.8	1.2	5.3	15.3
	LC	95.3	1.4	2.4	0.9	1.9	11.8
Brown Egg Average	HR	94.6	0.8	3.7	0.9	2.3	17.9
	FL	94.9	0.7	3.6	0.8	5.6	15.2
	LC	94.5	1.2	3.3	1.1	3.7	16.3

STOCK SUPPLIERS AND CATEGORIES

Breeder	Stock	Category*	Source
Hisex Division Pilch, Inc. Box 438 Troutman, NC 28166	Hisex White	I-A YES	Pilch, Inc. Box 438 Troutman, NC 28166
Colonial Poultry Farms, Inc., Pleasant Hill, MO 64080	Colonial True-Line 365-S	II YES	Colonial Poultry Farms, Inc. Pleasant Hill, MO 64080
ISA-Babcock, Inc. P.O. Box 280 Ithaca, NY 14851	ISA-Babcock B300	I-A YES	Tri-State Hatcheries 229 Main Street N. Brookfield, MA 01535
HyLine International Johnston, IA 50131	HyLine W-36	I-C	Not applicable
Shaver Poultry Breeding Farms, Ltd., Box 400 Ontario, CANADA N1R 5V9	Shaver Starcross 288-A	I-A YES	Merrill Poultry Farms Inc., Route 2, Box 21 Paul, ID 83347
DeKalb AgResearch, Inc. 3100 Sycamore Road DeKalb, IL 60115	DeKalb XL-Link	I-A YES	Clay's Hatchery Route 1 Blackstone, VA 23824
H & N, Inc. 15305 N.E. 40th Street Redmond, WA 98052	H & N "Nick Chick"	I-A YES	Tatum Farms Route 3 Dawsonville, GA 30534
Hubbard Farms Walpole, NH 03608	Hubbard Golden Comet	I-A YES	Bowers Brothers Hatchery Route 4 Albemarle, NC 28001
DeKalb AgResearch, Inc. 3100 Sycamore Road DeKalb, IL 60115	DeKalb Sex-Sal-Link "G"	I-A YES	Pee Dee Hatchery P.O. Box 156 Hartsville, SC 29550
Hisex Division Pilch, Inc. Box 438 Troutman, NC 28166	Hisex Brown	I-A YES	Pilch, Inc. Box 438 Troutman, NC 28166

*I = Extensive distribution in southeast United States.
II = Little or no distribution in southeast United States.
A = Entry requested.
C = Entry neither requested nor supported.
YES = Supporting and fully cooperating with test.