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October 17, 1984

I am enclosing the final summary of the Twenty-Fifth North Carolina Layer Production and Management Test which you have requested. We believe that the information contained herein is a useful guide in evaluating egg production stocks and management systems. Additional useful data on some of these stocks under other management systems are published in reports of laying tests in New Hampshire, USA, and Ontario, CANADA. Please circulate this report among your associates in order that maximum use of it may be made. If additional copies are needed, they may be obtained from the address below.

This is the second flock for which the high-rise laying house was vacant due to budget limitations. The sample size for the entries was kept constant by increasing replication in the remaining layer houses. Budget restoration has premitted return to the 3-layer-house design with the 26th flock which is now in production.

Pullets housed in the light-and-air-controlled (LAC) house were grown in a LAC house and pullets housed in the curtain-side (CS) house were grown in a CS house. Approximately two-thirds of the facility was utilized for pullet and layer management and stress physiology research. Data from these trials will be reported elsewhere. We express our gratitude to Pilch, Inc., H & N Inc., DeKalb AgResearch, Inc., their distributors and other helpful individuals for providing hatching eggs for the research flock.

Enough errors were detected in data in the progress report to 399 days to necessitate production of the ERRATA tables on page 20. Please note these corrections on your copy.

Requests for reports from this test should be sent to Mr. T. R. Burleson, Jr., PIEDMONT RESEARCH STATION, ROUTE 6, BOX 420, SALISBURY, NC 28144. Dr. John B. Carey is Co-Project Leader and has initiated data management procedures that will reduce the delay in publication of future reports. We believe that you will find both the test and research reports from these flocks useful.

Very truly yours,

Grady A. Martin,
Extension Poultry Specialist

FINAL SUMMARY REPORT
TWENTY-FIFTH NORTH CAROLINA LAYER PRODUCTION AND MANAGEMENT TEST
March 30, 1983 through August 7, 1984

The North Carolina Layer Production and Management Tests are conducted under the auspices of the Agricultural Extension Service of North Carolina State University and the North Carolina Department of Agriculture. Mr. T. R. Burleson, Jr. is Resident Manager of the tests and Drs. G. A. Martin and J. B. Carey are Co-Project Leaders. Mr. B. N. Ayscue is Superintendent of the Piedmont Research Station near Salisbury, North

Carolina, where the flock is maintained. The purpose of the tests is to assist poultrymen in evaluating stocks of commercial layers and management systems for them. A committee representing various poultry interests in the state advises the Steering Committee in establishing policies and practices which best serve this purpose.

FLOCK AND MANAGEMENT INFORMATION

The flock was composed of 5 white-egg and 3 brown-egg strains of commercial layers. Samples of 1260 fresh hatching eggs from selected supply flocks of cooperating breeders or distributors were shipped to the test site where all eggs were incubated in randomly assigned trays. Four hundred eighty sexed pullet chicks (when available) from each entry were banded and divided equally between LAC and CS growing houses. All pullets were grown in cages at 48 sq. in. per bird (32.3 birds/M²). All birds were vaccinated at day-old for Marek's with cell associated live turkey herpes virus vaccine. We express our appreciation to Keenum, Inc., P. O. Box 1706, Anniston, AL for providing this vaccine for the flock and to Mr. Mike Williams in the Department of Poultry Science at NCSU for supervising the storage and administration of the vaccine.

Beaks of all pullets were precision trimmed at 1-week of age, with touch up at 13-weeks of age if needed. All pullets were vaccinated for Newcastle (B1) at ten days, (La Sota) at four weeks and (La Sota) at 18 weeks and for bronchitis at 10 days and 18 weeks via water; vaccinated for pox via wing web at 11 weeks; and vaccinated for avian encephalomyelitis at 11 weeks of age. The flock was M.g. negative throughout. All mash rations described by sample specifications in Table 25-F were purchased on contract from a commercial feed manufacturer and fed ad lib. Approximately 2.5 lbs. per bird of starter was followed by bi-weekly assignment of grower or developer, depending upon adherence to the breeder's growth charts. At 18 1/2 weeks of age all pullets were fed the pre-lay ration ad lib until they reached 3 to 5% production when feeding of layer rations began. Feed consumption and egg production rates were determined bi-weekly by house and strain and feed assignment from the layer rations in Table 25-F was made to provide a minimum TSAA of 0.70g. for brown-egg and 0.65g. for white-egg strains daily to 40 weeks or less than 88% production, 0.65g. and 0.60g. to 75% production, and 0.60g. and 0.58g. below 75% production in general with exceptions as bird condition warranted.

Lighting was scheduled at 23 hours per day for 3 days. In the LAC house, lighting was scheduled at 9 1/2 hours per day from 3 days to 19 weeks and stepped up to reach 15 1/2 hours at 21 weeks of age. In the CS house, lighting was held constant at day length of June 21 from 3 days to June 21 and natural day length from then to 20 weeks of age. Day length was stepped up to 15 hours at 20 weeks and to 15 1/2 hours at 21 weeks of age. A malfunction of the timer in the LAC house during the 13th week exposed the pullets to an estimated 54 hours of continuous light, when they were returned to 9 1/2 hours per day lighting. One rep of Entry #1 laid 2 eggs at 15 weeks and 1 day of age. One rep each of entries #2 and #4 began production before reaching 16 weeks of age. During the 17th week, 2 more reps of Entry #1, 2 reps of Entry #5 and 1 rep of Entry #6 began production. By the end of the 18th week when the first eggs were produced in the CS house, all reps of Entry #1, 2/3 of the reps of Entries #3, #4 and #5, and 1/3 of the reps of Entries #2, #6 and #8 in the LAC house had begun production.

At 21 weeks of age, 210 pullets of each entry were placed in each of the LAC and the flush-waste CS laying houses. They were equally divided between houses, between shallow and deep cages, and between 54 and 72 sq. in. per bird cage space (28.7 and 21.5 per M²). Performance data were recorded until disposition of the flock at 71 weeks of age.

All entries were Category I (having extensive distribution in the Southeast) stocks. Complete identification and entry information is recorded on another page.

DATA TABLES

We express our appreciation to Mr. Eugene Pickler and the personnel at Springdale Farms, New London, N. C. for providing a grading service by entries and making Part V of the table possible; to the staff of the NCDA Diagnostic Lab at Monroe for providing necropsy reports which made Part IV of the tables possible; to Mr. Edgar Ingram of the NCDA Egg Inspection Service for providing official candled egg quality data; and to members of the Piedmont Station and Poultry Department staffs who worked diligently under adverse conditions to keep this project viable.

Performance data are reported in tables which have a 3-part designation system. The first part (25) is the test number. The second part indicates the quarter of the laying year through which data is accumulated and the layer housing type of the birds reported--A = LAC house, C = CSF house, D = average of both houses, and F = feed specifications. The third part has Roman numerals to indicate data items included (e.g. III is egg quality data) and letters to designate the type of comparison in the table--C = cage type, S = cage space allowance, G = growing data, and letter absent compares entry averages only. These data are for one flock at one location. Comparison of some of the stocks may be available at Durham, New Hampshire, USA and Ottawa, Ontario, Canada.

RESULTS Part I of Tables

Entry No. is assigned at random to the particular entry, with 0 = average of entries.

Cage Code: S = shallow (18" wide X 12" deep), D = deep (12" wide X 18" deep), 3 = three birds per cage, 4 = four birds per cage, and 0 = average across treatments.

Breeder is the name used to distinguish entries. Full information about the stock and source is listed elsewhere in this report.

Average Body Weight is reported in pounds at housing and at end of test. (.454 X value reported = kg/bird).

Egg Size, Distribution (%) was obtained by crediting the weekly total up to 33 weeks and the bi-weekly thereafter to size classes proportional to those observed on the total production of one day. These weekly and bi-weekly values were totaled and converted to percentages. Individual eggs weighing 24 but less than 27 ounces per dozen (between 56.75 and 63.8g) are classified as large; other sizes are scaled up or down from large in blocks of 3 oz. per doz. (7.05g).

Average Egg Weight was obtained by crediting all eggs for each time period as above at the average size observed on one day by mass weight (g/eggs = 2.36 X value reported).

Age at 50% Production was the age of pullets on the first day of the first two consecutive days on which production reached or exceeded 50%.

Egg Production Rate (%) represents the daily average number of eggs produced per 100 hen-days of the entry during the specified periods.

Eggs Per Pullet Housed is the total number of eggs produced divided by the number of pullets housed.

Part II of Tables

Entry No. and Cage Code are the same as above.

No. of Birds are the net pullets or hens retained at the specified times except that "at 1 week" is rounded to number needed to produce birds housed. Sexing errors, first week mortality and accidental deaths are excluded.

Mortality is the percentage of birds that died during growing and laying periods and the average days per bird housed that were lost to mortality during the laying period.

Feed Consumed is average pounds of feed consumed for the 147 days in the growing period, per 100 birds per day in laying period, per pound of eggs produced in laying period and per dozen eggs laid.

Values Per Pullet Housed. Chick cost charges the average of prices quoted for all stocks in the test in March, 1983 for each pullet at 1 week and divides the total among survivors at housing. Feed costs are developed from 3-year average of monthly feed prices reported by the NCDA for laying ration with quarterly adjustment for difference in ingredient prices for the particular formula being fed. Egg values are the 3-year average of Eastern cartoned values from ECI adjusted to at-farm equivalent of grades determined by candling one day of production each month. Fowl price is the 3-year average of southeast fowl prices for the week birds were sold.

IOFCC is income over laying feed cost and growing chick and feed cost per pullet housed. This does not represent net return since many other costs are involved in egg production.

Part III of Tables

Entry No. and Cage Code are the same as above.

% Loss (Downgrades) was the percentage by which total egg value was reduced below Grade A value due to downgrades detected by candling. We express our appreciation to the personnel of the North Carolina Department of Agriculture who provided candling service on one day of production each month. Market values of all eggs were calculated on the basis of these candling reports, with no discount for stained or dirty eggs, since the eggs were graded unwashed.

% Inclusion (Break-Out): Blood spots and colored meat spots were observed by breaking two days' production from each lot each quarter of the year. Spots exceeding 1/8 inch were classified as large and those of lesser size as small. Break-out data were not used for egg value calculations.

Candled Quality Percentages: Official egg graders from the North Carolina Department of Agriculture candled the production of one day each month. The percentages reported are a summary of their findings and were used to determine egg value.

Haugh Units were measured on 30 eggs from each rep each quarter of the year. Since this factor undergoes seasonal change, the quarterly values and the annual average are given.

Shell Score (Specific Gravity) was secured by using salt solutions to determine the specific gravity of eggs. The eggs with specific gravity below 1.068 were given a score of 0; those between 1.068 and 1.072, a score of 1; etc., with those exceeding 1.100 receiving a score of 9. One day's production from each group of birds was classified at bird ages indicated.

Part IV of Tables

Entry No. and Cage Code are the same as above.

Causes of Mortality were assigned from autopsy findings. Birds were held in a freezer as mortality occurred and examined at a North Carolina Department of Agriculture Diagnostic Laboratory once each week. We express our appreciation to the staff at the Monroe, N. C. Lab for providing this service to the test. The 12-point classification system was used on autopsy reports. Some categories which accounted for little mortality were combined under "Other" in the interest of saving space.

Part V of Tables

Entry No. and Cage Code are the same as above.

Commercial Egg Gradeout was made by stocks during the weeks indicated at Springdale Farms, New London, N. C. Percent Grade A or Better - jumbo and extra large, large, medium, and small and pee wee are consumer grades. % Breaker combines C quality, B quality, small inclusions, and stains which constitute breaker stock with sound shells and crax which are non-leakers with unsound shells removed for breaker stock. % Farm Loss is the percentage of unsound eggs removed before shipping and % Other Loss includes all other eggs shipped (large spots, addled eggs, leakers, lost in machines, etc.). Seasonal data are not combined.

Part VI of Tables

This section of tables is presented only for the average performance of the entries in all types of housing and for only the four characteristics listed.

The Range column indicates those entries which are in the most desirable half of the range above the mean by 1, those between this point and the mean by 2, those in the least desirable half of the range below the mean by 4, and those between this point and the mean by 3.

Entry No. indicates which stock from earlier listing in the tables attained the average performance value shown.

Entries spanned by the same vertical line in the Duncan Test column have a greater than 5% probability that the indicated difference is due to sampling variation.

TABLE 25-4A-CI. Body Weight, Egg Size, Maturity, and Egg Production

Entry No.	Cage No.	Breeder	Average Body Weight			% Egg Size, Distribution			Age at 50% Production	Egg Production Rate - %	Production Per Housed Piggies
			497 Days	147 Days	Peewee	Small	Medium	Large			
1 S	Euribrid (Hisex White)	2.80	3.95	2.1	20.9	14.7	41.1	21.1	24.0	152.0	87.4
2 S	Euribrid (Hisex Brown)	3.58	5.15	0.3	9.6	4.8	32.9	52.4	26.3	158.0	81.2
3 S	Hy-Line (W-36)	2.94	4.07	1.9	21.7	13.7	38.9	23.8	24.0	156.7	86.0
4 S	Shaver (Starcross 288A)	3.00	4.33	0.9	21.9	17.0	40.6	19.6	24.0	156.0	78.2
5 S	H & N (Nick Chick-2)	2.84	4.26	1.1	19.9	13.8	40.9	24.3	20.4	23.9	156.3
6 S	Dekalb (XL Link)	2.88	4.09	1.4	22.5	15.3	40.4	23.9	159.3	80.0	91.2
7 S	Dekalb (Sex-Sal-Link G)	3.72	5.56	0.1	7.8	4.8	30.8	56.4	26.5	162.7	71.6
8 S	Hubbard (Golden Comet)	3.69	5.16	1.4	14.6	6.7	33.4	44.0	25.4	155.3	81.1
0 S	Average	3.18	4.57	1.2	17.4	11.3	37.4	32.7	24.8	157.0	79.1
1 D	Euribrid (Hisex White)	2.88	3.94	1.8	16.1	11.1	41.4	29.7	24.6	152.3	84.7
2 D	Euribrid (Hisex Brown)	3.59	5.04	0.5	8.4	5.9	29.9	55.3	26.4	158.0	76.1
3 D	Hy-Line (W-36)	2.99	3.91	1.6	25.2	14.6	35.7	22.8	23.9	157.7	81.9
4 D	Shaver (Starcross 288A)	3.00	4.19	1.0	20.7	15.1	41.3	21.9	24.0	159.0	77.7
5 D	H & N (Nick Chick-2)	2.79	4.09	1.4	23.6	15.7	38.7	20.6	24.1	157.0	78.9
6 D	Dekalb (XL Link)	2.95	4.01	0.9	21.1	15.1	39.4	23.5	24.2	156.3	80.4
7 D	Dekalb (Sex-Sal-Link G)	3.70	5.15	0.3	7.5	5.2	32.9	54.2	26.4	164.7	71.5
8 D	Hubbard (Golden Comet)	3.68	4.95	0.9	15.6	8.5	33.5	41.4	25.2	155.0	81.4
0 D	Average	3.20	4.41	1.0	17.3	11.4	36.6	33.7	24.8	157.5	79.1
TABLE 25-4C-CI. Body Weight, Egg Size, Maturity, and Egg Production											
1 S	Euribrid (Hisex White)	3.22	4.29	0.6	7.2	4.9	38.4	49.0	25.9	154.3	81.4
2 S	Euribrid (Hisex Brown)	4.03	5.46	0.1	3.0	3.1	19.3	74.6	27.9	161.0	71.3
3 S	Hy-Line (W-36)	2.98	4.05	0.4	11.0	8.2	38.5	41.9	25.4	165.7	73.6
4 S	Shaver (Starcross 288A)	2.97	4.47	0.4	8.3	11.6	50.6	29.1	25.0	165.0	74.6
5 S	H & N (Nick Chick-2)	3.06	4.30	0.6	8.8	8.3	43.0	39.3	25.4	159.0	79.9
6 S	Dekalb (XL Link)	3.10	4.29	0.5	8.8	8.6	44.4	37.7	25.3	161.3	75.0
7 S	Dekalb (Sex-Sal-Link G)	4.01	5.48	0.0	1.8	1.5	17.0	79.7	28.2	176.7	59.0
8 S	Hubbard (Golden Comet)	4.05	5.30	0.2	4.8	3.2	27.4	64.3	26.9	161.3	73.2
0 S	Average	3.43	4.70	0.4	6.7	6.2	34.8	51.9	26.2	163.0	73.5

TABLE 25-4C-CI. Body Weight, Egg Size, Maturity, and Egg Production

	Breeder	Average Body Weight		% Egg Size, Distribution						Age at 50% Production	Wt. Oz./Doz.	Egg Production Rate - %		After 50% Production	Eggs Per Pullet Housed	Entry No.	Cage Code
		147 Days	497 Days	Pee	Wee	Small	Medium	Large	Extra Large and Over			148-231 Days	232-315 Days	316-399 Days	400-497 Days	456-497 Days	
1	D Euribrid (Hisex White)	2.99	3.89	0.6	10.0	6.9	36.0	46.6	25.6	155.3	76.4	82.9	74.7	67.6	63.2	76.1	247.9
2	D Euribrid (Hisex Brown)	4.09	5.43	0.2	4.0	2.2	20.0	73.7	27.5	160.3	71.0	83.0	74.0	65.2	61.5	74.9	248.4
3	D Hy-Line (W-36)	3.00	4.02	0.4	11.3	8.8	38.5	41.0	25.5	167.3	71.2	83.6	77.0	66.2	64.1	77.5	254.4
4	D Shaver (Starcross 288A)	3.04	4.27	0.6	9.8	10.2	45.6	33.8	25.0	160.7	74.3	85.5	77.5	66.8	63.3	77.8	242.2
5	D H & N (Nick Chick-2)	3.04	4.16	0.6	10.6	9.7	43.3	35.8	25.2	161.0	76.9	86.3	78.2	69.9	67.8	79.7	262.8
6	D Dekalb (XL Link)	3.11	4.15	0.5	9.0	10.1	43.7	36.7	25.2	161.0	74.4	88.8	80.2	69.3	65.0	80.0	268.4
7	D Dekalb (Sex-Sal-Link G)	3.90	5.49	0.2	1.2	1.6	14.1	83.1	28.4	183.3	50.1	80.7	74.2	66.3	64.1	73.5	230.0
8	D Hubbard (Golden Comet)	4.08	4.66	0.2	5.4	3.4	24.9	66.1	26.9	162.3	72.7	82.3	73.9	65.6	62.6	75.2	250.6
0	D Average	3.41	4.51	0.4	7.7	6.6	33.2	52.1	26.2	163.9	70.9	84.1	76.2	67.1	64.0	76.8	250.6
1	3 Euribrid (Hisex White)	2.82	3.91	1.7	16.6	11.7	40.5	29.4	24.5	153.0	82.5	84.4	77.1	67.0	64.2	78.1	256.1
2	3 Euribrid (Hisex Brown)	3.59	5.13	0.4	8.7	4.5	29.8	56.6	26.5	157.7	77.3	82.6	73.9	63.1	59.9	75.7	252.1
3	3 Hy-Line (W-36)	2.96	4.00	1.7	24.6	15.6	37.2	21.0	23.8	158.3	82.0	85.8	76.9	65.7	63.5	78.6	258.1
4	3 Shaver (Starcross 288A)	3.00	4.40	1.0	21.7	14.4	42.3	20.6	24.1	158.7	77.8	87.6	78.3	63.1	57.6	77.8	258.6
5	3 H & N (Nick Chick-2)	2.82	4.21	1.3	21.7	15.1	40.1	21.8	24.1	156.7	80.7	88.1	77.2	65.9	62.0	79.1	263.6
6	3 Dekalb (XL Link)	2.88	4.03	1.2	23.2	16.0	39.0	20.6	23.9	159.7	80.1	89.4	82.2	70.7	66.1	82.2	275.3
7	3 Dekalb (Sex-Sal-Link G)	3.71	5.52	0.2	6.8	5.0	30.6	57.5	26.6	162.0	71.9	86.8	79.6	67.8	64.5	78.9	255.1
8	3 Hubbard (Golden Comet)	3.74	5.23	1.4	15.4	7.5	32.2	43.4	25.2	154.3	83.2	85.3	77.0	66.4	64.0	78.9	255.7
0	3 Average	3.19	4.55	1.1	17.3	11.2	36.5	33.8	24.8	157.5	79.5	86.2	77.8	66.2	62.7	78.7	259.3
1	4 Euribrid (Hisex White)	2.86	3.98	2.2	20.4	14.1	42.0	21.4	24.0	151.3	86.8	87.3	79.6	69.2	66.3	80.8	266.2
2	4 Euribrid (Hisex Brown)	3.58	5.06	0.4	9.3	6.2	33.0	51.2	26.1	158.3	74.6	81.9	73.0	61.2	58.2	74.4	237.6
3	4 Hy-Line (W-36)	2.96	3.97	1.9	22.4	12.7	37.4	25.7	24.2	156.0	81.7	85.8	78.6	66.8	62.6	78.8	256.6
4	4 Shaver (Starcross 288A)	3.01	4.11	0.9	20.9	17.7	39.6	20.9	24.0	156.3	78.1	89.6	82.0	69.7	66.0	80.9	268.4
5	4 H & N (Nick Chick-2)	2.82	4.14	1.2	21.8	14.4	39.5	23.1	24.3	156.7	78.1	86.5	77.4	67.7	65.7	78.7	262.2
6	4 Dekalb (XL Link)	2.95	4.07	1.1	20.4	14.3	40.8	23.3	24.2	156.0	80.2	93.2	86.3	74.1	70.1	84.7	275.1
7	4 Dekalb (Sex-Sal-Link G)	3.72	5.19	0.2	8.5	5.0	33.1	53.2	26.2	165.3	71.3	83.2	74.4	59.6	57.1	74.5	243.1
8	4 Hubbard (Golden Comet)	3.63	4.88	0.8	14.8	7.7	34.7	42.0	25.4	156.0	79.3	83.9	73.8	64.5	63.9	76.4	253.1
0	4 Average	3.19	4.43	1.1	17.3	11.5	37.5	32.6	24.8	157.0	78.8	86.4	78.1	66.6	63.7	78.7	257.8

TABLE 25-4A-SI. Body Weight, Egg Size, Maturity, and Egg Production

TABLE 25-4C-SI. Body Weight, Egg Size, Maturity, and Egg Production

Entry No.	Cage Code	Breeder	Average Body Weight	% Egg Size, Distribution	Egg Production Rate - %				Eggs Per Housed								
			497 Days	147 Days	497 Days	148-231 Days	232-315 Days	316-399 Days									
1 0	Euribrid (Hisex White)	3.11	4.23	0.5	7.0	5.2	37.1	50.2	25.9	156.3	81.2	87.7	78.8	68.7	67.2	79.9	268.1
1 2	Euribrid (Hisex Brown)	4.03	5.57	0.1	3.0	2.3	18.0	76.6	27.7	160.3	71.9	85.1	76.6	67.3	64.0	77.1	256.6
2 0	Hy-Line (W-36)	2.94	4.06	0.3	10.6	8.2	39.4	41.6	25.4	166.3	74.0	86.7	79.3	68.8	66.1	80.2	265.2
3 0	Shaver (Starcross 288A)	3.09	4.63	0.6	8.2	10.6	49.2	31.4	25.0	160.3	78.1	89.4	80.1	70.7	67.2	81.5	261.0
4 0	H & N (Nick Chick-2)	3.03	4.29	0.5	8.5	8.9	42.4	39.7	25.4	159.3	79.6	88.1	80.6	73.4	71.3	82.2	274.1
5 0	DeKalb (XL Link)	3.12	4.30	0.6	8.4	8.6	42.1	40.3	25.4	161.7	74.6	88.0	80.8	70.4	66.7	80.5	267.5
6 0	DeKalb (Sex-Sal-Link G)	3.98	5.70	0.0	2.0	1.8	15.0	81.2	28.1	177.0	58.0	83.9	77.5	66.6	64.4	76.2	239.0
7 0	Hubbard (Golden Comet)	4.08	4.89	0.3	5.6	3.4	26.3	64.3	26.9	161.3	74.7	83.3	74.3	65.5	63.2	76.0	255.5
8 0	Average	3.42	4.71	0.4	6.7	6.1	33.7	53.2	26.2	162.8	74.0	86.5	78.5	68.9	66.3	79.2	260.9
1 0	Euribrid (Hisex White)	3.11	3.94	0.7	10.1	6.5	37.2	45.4	25.6	153.3	76.6	80.7	73.0	66.7	61.4	74.6	244.1
2 0	Euribrid (Hisex Brown)	4.10	5.32	0.1	4.0	3.0	21.2	71.7	27.7	161.0	70.4	80.0	70.7	62.1	60.4	72.4	241.3
3 0	Hy-Line (W-36)	3.05	4.01	0.5	11.7	8.9	37.6	41.3	25.4	166.7	70.8	83.2	76.9	66.9	64.8	77.3	251.1
4 0	Shaver (Starcross 288A)	2.92	4.11	0.5	9.8	11.2	47.0	31.5	25.0	165.3	70.8	85.6	79.3	67.6	63.9	78.4	244.3
5 0	H & N (Nick Chick-2)	3.06	4.17	0.7	11.0	9.1	43.8	35.4	25.1	160.7	77.2	83.5	77.2	69.3	67.3	78.6	250.3
6 0	DeKalb (XL Link)	3.09	4.13	0.5	9.4	10.0	46.0	34.0	25.1	160.7	74.8	89.4	81.1	70.6	65.0	80.8	266.5
7 0	DeKalb (Sex-Sal-Link G)	3.93	5.26	0.0	1.1	1.2	16.1	81.6	28.4	183.0	51.1	81.2	75.2	66.6	64.2	74.3	235.0
8 0	Hubbard (Golden Comet)	4.04	5.07	0.1	4.6	3.2	26.0	66.1	27.0	162.3	71.2	81.7	72.9	67.4	65.2	75.3	240.1
0 4	Average	3.41	4.50	0.4	7.7	6.6	34.4	50.9	26.2	164.1	70.4	83.2	75.8	67.1	64.0	76.4	246.6

TABLE 25-4A-CII. Birds, Mortality, Feed Use, Cost and Income Data

Number of Birds		Mortality		Feed Consumed		\$ Values Per Pullet Housed													

TABLE 25-4C-CII. Birds, Mortality, Feed Use, Cost, and Income Data

Entry No.	Cage Code	At One Week	At 497 Days Housed	% 8-147 Days	Ave. Days Lost/148-497 Days	Hen Housed	Days Lost/Bird	Days Lost/100 Birds	Eggs Per Lb.	Eggs Per Dozen	Chick Cost	Growth Feeding Cost	Laying Feeding Cost	Total Feed Cost	Chick Feed	Value of Eggs	Value of Meat	IOFC	\$ Values Per Pullet Housed		
1 D	111	110	100	1.2	8.6	20.7	18.3	23.4	2.33	3.74	0.41	1.96	7.93	10.30	12.88	0.28	2.862				
2 D	101	100	95	0.8	5.0	9.9	20.6	25.8	2.47	4.24	0.41	2.19	9.06	11.66	13.36	0.41	2.111				
3 D	112	110	95	0.9	8.6	7.6	16.6	22.7	2.30	3.67	0.41	1.77	8.01	10.66	13.26	0.41	3.367				
4 D	112	110	95	1.6	13.6	30.0	17.2	23.5	2.38	3.73	0.41	1.82	7.71	9.94	12.67	0.30	3.023				
5 D	112	110	98	2.0	10.6	11.8	17.5	24.1	2.37	3.73	0.42	1.86	8.40	10.68	13.68	0.30	3.299				
6 D	104	100	97	4.4	3.3	5.2	17.5	24.2	2.36	3.74	0.42	1.91	8.55	10.88	14.00	0.32	3.439				
7 D	104	100	92	3.1	8.1	10.1	20.3	26.1	2.61	4.63	0.42	2.18	9.10	11.70	12.48	0.40	1.196				
8 D	102	100	96	1.7	3.6	8.1	19.7	26.1	2.55	4.29	0.41	2.08	9.18	11.67	13.32	0.36	2.008				
0 D	857	840	774	2.0	7.7	12.9	18.5	24.5	24.2	3.97	0.41	1.97	8.49	10.87	13.21	0.33	2.663				

TABLE 25-4A-SII. Birds, Mortality, Feed Use, Cost, and Income Data

TABLE 25-4C-SII. Birds, Mortality, Feed Use, Cost, and Income Data

		Entry No.						\$ Values Per Pullet Housed										
		Cage Code																
Number of Birds		Mortality		Feed Consumed														
		At One Week Housed		At 497 Days		8-147 Days												
1	0	429	420	372	2.3	11.2	17.3	16.3	2.33	3.66	0.42	1.75	8.08	10.25	13.15	0.29	3.182	
2	0	424	420	382	0.8	8.8	12.0	18.5	25.3	2.46	4.16	0.41	1.97	8.82	11.20	13.18	0.38	2.360
3	0	434	420	381	2.9	9.2	13.6	15.7	23.0	2.34	3.61	0.42	1.69	8.01	10.12	13.09	0.29	3.257
4	0	436	420	377	3.6	10.3	17.8	16.5	23.3	2.35	3.61	0.42	1.78	7.99	10.19	13.22	0.31	3.350
5	0	426	420	372	1.6	11.3	13.1	16.2	23.9	2.38	3.68	0.41	1.73	8.29	10.43	13.36	0.30	3.223
6	0	424	420	391	1.7	6.8	11.4	16.5	24.0	2.33	3.60	0.41	1.78	8.36	10.55	13.76	0.31	3.518
7	0	428	418	384	1.6	8.3	12.0	18.8	25.8	2.52	4.31	0.41	2.01	8.94	11.36	13.02	0.40	2.054
8	0	425	420	376	1.1	10.3	15.4	18.5	25.9	2.54	4.14	0.41	1.97	8.91	11.29	13.16	0.36	2.231
0	4	975	960	865	1.6	9.9	16.2	18.2	24.0	2.39	3.92	0.41	1.94	8.23	10.58	13.00	0.32	2.740

TABLE 25-4D-II. Birds, Mortality, Feed Use, Cost, and Income Data

TABLE 25-4A-C III Egg Quality Data

Entry No.	Cage Code	Loss % (Downgrades)	Inclusions (Breakout)		Candled Quality Percentages		Haugh Units		Shell Score (Specific Gravity)	
			Small Bloods	Large Bloods	Small Meats	Large Meats	Sound Breaker	Cheek Cracks	Loss Eggs	Weeks Old
1 S	2.0	1.9	1.1	0.2	0.0	93.8	2.8	0.0	2.7	0.6
2 S	1.1	4.7	3.6	14.0	13.5	97.2	0.4	0.0	2.0	0.5
3 S	1.4	0.0	0.5	0.2	0.8	96.6	1.0	0.0	1.6	0.8
4 S	1.2	0.5	1.1	0.0	0.0	95.5	1.9	0.0	2.5	0.2
5 S	1.8	1.9	0.8	0.0	0.0	94.8	1.1	0.0	3.4	0.7
6 S	2.2	1.4	1.8	0.7	0.5	93.4	1.9	0.0	4.1	0.7
7 S	1.8	2.2	3.6	9.8	9.7	95.4	0.4	0.0	3.4	0.8
8 S	0.9	4.3	3.9	17.3	11.9	96.7	0.4	0.0	2.8	0.1
0 S	1.6	2.1	2.0	5.3	4.6	95.4	1.2	0.0	2.8	0.5
1 D	2.9	0.7	1.0	0.5	0.3	91.8	2.1	0.0	5.1	1.0
2 D	1.0	2.7	2.9	12.6	12.9	96.4	0.7	0.0	3.0	0.0
3 D	1.1	0.3	0.5	0.2	0.2	96.6	0.6	0.0	2.5	0.3
4 D	1.1	0.3	0.2	0.0	0.0	96.3	1.0	0.0	2.5	0.1
5 D	1.1	0.2	0.8	0.0	0.2	96.3	1.5	0.0	2.0	0.2
6 D	2.1	0.7	1.1	0.2	0.0	93.0	2.9	0.0	3.6	0.5
7 D	1.7	3.6	2.9	13.4	12.0	95.7	0.6	0.0	2.9	0.8
8 D	0.5	2.1	1.9	18.8	17.2	97.7	0.2	0.0	2.1	0.0
0 D	1.4	1.3	1.4	5.7	5.4	95.5	1.2	0.0	3.0	0.4

Entry No.	Cage Code	Loss % (Downgrades)	Inclusions (Breakout)		Candled Quality Percentages		Haugh Units		Shell Score (Specific Gravity)	
			Small Bloods	Large Bloods	Small Meats	Large Meats	Sound Breaker	Cheek Cracks	Loss Eggs	Weeks Old
1 S	1.5	1.2	0.7	0.2	0.2	95.0	1.8	0.0	2.9	0.3
2 S	1.0	2.3	10.7	11.7	97.1	0.0	0.0	2.6	0.3	93.8
3 S	1.0	0.5	1.4	0.2	0.2	96.4	1.1	0.0	2.4	0.1
4 S	1.0	1.2	1.5	0.0	0.0	96.2	1.8	0.0	1.8	0.1
5 S	1.7	0.5	0.7	0.2	0.7	94.4	2.7	0.0	2.3	0.6
6 S	1.6	2.2	0.8	0.0	0.4	95.3	1.4	0.0	2.9	0.5
7 S	1.3	2.7	2.9	9.0	10.4	95.9	0.3	0.0	3.5	0.3
8 S	0.7	4.3	3.7	10.7	10.8	97.5	0.2	0.0	2.2	0.1
0 S	1.2	1.9	1.8	3.9	4.3	96.0	1.2	0.0	2.6	0.3

TABLE 25-4C-CIII. Egg Quality Data

Entry No.	Cage Code	Loss % (Downgrades)	Inclusions (Breakout)		Candled Quality Percentages		Haugh Units		Shell Score (Specific Gravity)	
			Small Bloods	Large Bloods	Small Meats	Large Meats	Sound Breaker	Cheek Cracks	Loss Eggs	Weeks Old
1 S	1.5	1.2	0.7	0.2	0.2	95.0	1.8	0.0	2.9	0.3
2 S	1.0	2.3	10.7	11.7	97.1	0.0	0.0	2.6	0.3	93.8
3 S	1.0	0.5	1.4	0.2	0.2	96.4	1.1	0.0	2.4	0.1
4 S	1.0	1.2	1.5	0.0	0.0	96.2	1.8	0.0	1.8	0.1
5 S	1.7	0.5	0.7	0.2	0.7	94.4	2.7	0.0	2.3	0.6
6 S	1.6	2.2	0.8	0.0	0.4	95.3	1.4	0.0	2.9	0.5
7 S	1.3	2.7	2.9	9.0	10.4	95.9	0.3	0.0	3.5	0.3
8 S	0.7	4.3	3.7	10.7	10.8	97.5	0.2	0.0	2.2	0.1
0 S	1.2	1.9	1.8	3.9	4.3	96.0	1.2	0.0	2.6	0.3

TABLE 25-4C-CIII (continued) Egg Quality Data

Entry No.	Cage Code	% Inclusions (Breakout)		Candled Quality Percentages		Haugh Units		Shell Score (Specific Gravity)													
		Loss % (Downgrades)		Large Bloods	Small Bloods	Large Meats	Small Meats	A or Better	Sound Breaker	Chex and Cracks	Loss Eggs										
1	D	1.5	1.4	1.2	0.2	0.0	94.4	1.6	0.0	3.8	0.2	93.5	84.7	82.5	79.3	85.0	5.40	4.34	1.79	0.46	3.00
2	D	1.1	3.6	2.6	11.0	9.6	96.4	0.4	0.0	3.0	0.2	93.1	88.9	85.5	82.5	87.5	4.37	3.83	1.19	0.58	2.49
3	D	1.4	0.7	0.7	0.5	0.0	95.1	0.1	0.0	4.5	0.2	91.4	84.8	79.9	75.2	82.8	5.24	4.21	1.39	0.18	2.75
4	D	1.0	1.4	1.1	0.0	0.2	96.4	0.8	0.0	2.6	0.2	90.7	87.6	78.9	78.2	83.9	5.31	4.56	1.58	0.62	3.02
5	D	1.3	0.2	0.9	0.0	0.0	94.7	1.6	0.0	3.6	0.1	91.4	88.7	81.5	79.8	85.4	5.69	4.74	1.91	0.51	3.21
6	D	1.7	0.7	1.1	0.0	0.2	94.9	0.5	0.0	4.1	0.5	91.6	84.7	84.8	79.8	85.2	5.29	4.10	1.46	0.89	2.93
7	D	1.9	3.6	2.4	10.2	11.9	93.9	0.5	0.0	5.1	0.5	95.0	88.9	86.8	81.3	88.0	3.47	2.91	0.73	0.15	1.82
8	D	1.6	3.1	3.6	9.6	13.6	94.7	0.0	0.0	5.0	0.2	91.1	86.1	82.4	79.1	84.6	3.87	3.37	0.94	0.25	2.11
0	D	1.5	1.8	1.7	3.9	4.4	95.1	0.7	0.0	4.0	0.3	92.2	86.8	82.8	79.4	85.3	4.83	4.01	1.37	0.45	2.67
1	3	2.4	2.0	1.0	0.3	0.3	93.0	2.6	0.0	3.6	0.9	90.1	89.1	83.0	69.1	82.9	4.60	3.34	1.12	0.64	2.43
2	3	0.8	3.6	3.3	12.8	12.6	96.1	0.5	0.0	1.7	0.3	92.7	89.3	86.2	77.6	86.4	4.10	3.24	1.47	0.83	2.41
3	3	0.7	0.3	0.5	0.0	1.0	97.3	0.6	0.0	2.0	0.1	91.1	88.8	84.7	73.4	84.5	4.51	3.38	1.14	0.27	2.33
4	3	0.9	0.5	0.3	0.0	0.5	94.6	2.0	0.0	1.8	0.1	90.4	86.9	83.6	71.5	83.1	4.72	3.64	1.14	0.44	2.48
5	3	1.3	1.3	0.8	0.0	0.0	96.0	1.5	0.0	2.1	0.4	92.6	88.6	84.4	74.7	85.1	5.40	3.60	2.10	0.99	3.02
6	3	2.1	1.7	1.2	0.7	0.5	94.3	1.8	0.0	3.1	0.8	93.4	89.9	83.8	77.6	86.2	4.05	3.10	1.10	0.50	2.19
7	3	1.5	3.2	3.5	12.0	10.2	96.7	0.6	0.0	1.8	0.8	96.0	92.9	86.0	80.9	88.9	3.53	2.46	0.54	0.42	1.74
8	3	0.8	3.4	3.4	18.3	13.9	96.9	0.3	0.0	2.9	0.0	92.1	87.1	81.7	75.5	84.1	3.34	2.52	0.49	0.28	1.66
0	3	1.3	2.0	1.7	5.5	5.0	96.1	1.1	0.0	2.4	0.4	92.3	89.1	84.2	75.0	85.1	4.26	3.16	1.14	0.55	2.28
1	4	2.5	0.7	1.1	0.4	0.0	92.7	2.4	0.0	4.2	0.8	89.4	88.7	82.8	75.7	84.1	4.34	3.19	1.16	0.47	2.29
2	4	1.2	3.8	3.2	13.9	12.6	96.1	0.5	0.0	3.2	0.2	95.1	91.0	83.4	74.8	86.0	4.11	2.97	1.41	0.64	2.28
3	4	1.7	0.0	0.4	0.4	0.0	95.9	1.0	0.0	2.2	1.0	90.3	87.1	83.1	69.3	82.5	4.66	3.27	1.20	0.34	2.37
4	4	1.5	0.2	1.1	0.0	0.0	94.6	2.0	0.0	3.2	0.2	90.2	88.7	85.0	76.4	85.1	4.83	3.61	1.43	0.36	2.56
5	4	1.7	0.8	0.8	0.0	0.2	95.1	1.1	0.0	3.3	0.6	91.8	89.8	85.9	78.5	86.5	4.97	3.72	1.56	0.61	2.72
6	4	2.2	0.4	1.7	0.2	0.0	92.1	3.0	0.0	4.5	0.4	93.6	90.6	86.4	73.9	86.1	4.60	3.34	1.09	0.35	2.35
7	4	2.0	2.6	3.0	11.2	11.5	94.3	0.4	0.0	4.5	0.8	95.1	92.5	88.8	74.7	87.8	3.12	2.19	0.55	0.29	1.54
8	4	0.7	3.1	2.4	17.9	15.3	97.6	0.3	0.0	2.0	0.1	91.5	85.9	81.1	78.4	84.2	3.38	2.34	0.62	0.29	1.66
0	4	1.5	1.7	5.5	4.9	94.8	1.3	0.0	3.4	0.5	92.1	89.3	84.6	75.2	85.3	4.25	3.08	1.13	0.42	2.22	

TABLE 25-4A-SIII Egg Quality Data

TABLE 25-4C-SIII. Egg Quality Data

Entry No.	Cage Code	Loss % (Downgrades)	Large Bloods	Small Bloods	Large Meats	Small Meats	Or Better	Sound Breaker	Crack and Chex	Loss Eggs	Avege	Haugh Units					Shell Score (Specific Gravity)				
												30 Weeks Old	36 Weeks Old	40 Weeks Old	46 Weeks Old	50 Weeks Old	55 Weeks Old	60 Weeks Old	64 Weeks Old	Average	
1	3	1.5	1.7	1.4	0.5	0.2	94.4	1.5	0.0	2.9	0.2	90.9	89.0	84.0	78.9	85.7	5.85	4.83	1.97	1.27	3.48
2	3	0.8	3.2	2.0	10.0	9.6	97.3	0.0	0.0	2.6	0.1	93.9	89.4	87.5	82.3	88.2	4.21	4.10	1.26	1.00	2.64
3	3	1.1	0.8	1.5	0.3	0.2	96.0	0.5	0.0	3.4	0.1	90.8	87.1	79.9	70.8	82.1	5.71	4.56	1.58	0.94	3.20
4	3	1.0	1.7	0.9	0.0	0.0	96.4	1.8	0.0	1.7	0.1	90.4	90.0	83.6	74.6	84.7	5.34	4.70	1.58	1.01	3.16
5	3	1.5	0.5	0.7	0.2	0.5	95.2	1.9	0.0	2.3	0.6	93.6	90.8	84.3	79.7	87.1	6.15	4.33	1.96	1.05	3.37
6	3	1.8	2.1	0.7	0.0	0.2	95.5	0.3	0.0	3.5	0.7	93.0	86.2	85.5	80.6	86.3	5.57	4.17	1.65	1.34	3.18
7	3	1.5	3.2	3.1	9.9	11.4	95.1	0.5	0.0	4.0	0.4	93.1	88.9	84.9	79.2	86.5	3.46	3.70	0.78	0.34	2.07
8	3	1.5	3.3	4.1	10.9	13.5	94.8	0.0	0.0	4.9	0.2	91.8	87.6	83.2	79.6	85.5	3.49	3.28	0.88	0.70	2.09
0	3	1.3	2.1	1.8	4.0	4.5	95.7	0.9	0.0	3.2	0.3	92.2	88.6	84.1	78.2	85.8	4.97	4.21	1.46	0.96	2.90
1	4	1.6	0.9	0.4	0.0	0.0	94.4	1.5	0.0	3.8	0.3	91.4	85.8	81.2	77.7	84.0	5.40	4.26	1.61	0.43	2.92
2	4	1.3	2.7	2.9	11.7	11.7	96.2	0.4	0.0	3.0	0.4	92.9	90.7	87.2	79.2	87.5	4.86	3.97	1.26	0.60	2.67
3	4	1.3	0.4	0.6	0.4	0.0	95.6	0.7	0.0	3.5	0.2	91.0	84.2	79.4	75.1	82.4	4.63	4.30	1.26	0.67	2.71
4	4	1.1	0.9	1.7	0.0	0.2	96.2	0.8	0.0	2.8	0.2	90.3	88.6	81.2	78.6	84.7	5.40	4.44	1.52	0.64	3.00
5	4	1.5	0.2	0.9	0.0	0.2	93.9	2.4	0.0	3.6	0.1	91.9	88.4	82.9	78.5	85.2	6.04	4.95	2.16	0.68	3.46
6	4	1.5	0.8	1.2	0.0	0.4	94.7	1.5	0.0	3.4	0.3	91.4	88.2	84.5	80.4	86.1	5.13	4.23	1.43	0.50	2.82
7	4	1.7	3.1	2.1	9.3	10.9	94.7	0.3	0.0	4.6	0.4	97.5	92.4	86.9	82.2	89.7	3.83	3.29	0.83	0.29	2.06
8	4	0.7	4.1	3.3	9.4	10.9	97.4	0.2	0.0	2.3	0.1	93.0	90.3	86.6	82.8	88.1	4.23	3.29	0.82	0.61	2.24
0	4	1.3	1.6	1.7	3.9	4.3	95.4	1.0	0.0	3.4	0.3	92.3	88.6	83.7	79.3	86.0	4.94	4.09	1.36	0.55	2.74
TABLE 25-4D-III. Egg Quality Data																					
1	0	2.0	1.3	1.0	0.3	0.1	93.8	2.1	0.0	3.6	0.5	90.5	88.2	82.7	75.4	84.2	5.05	3.91	1.46	0.70	2.78
2	0	1.0	3.3	2.8	12.1	11.9	96.8	0.4	0.0	2.6	0.2	93.7	90.1	86.1	78.5	87.1	4.32	3.57	1.35	0.77	2.50
3	0	1.2	0.4	0.8	0.3	0.3	96.2	0.7	0.0	2.8	0.4	90.8	86.8	81.8	72.1	82.9	4.88	3.89	1.29	0.55	2.65
4	0	1.1	0.8	1.0	0.0	0.2	96.1	1.4	0.0	2.4	0.2	90.3	88.6	83.4	75.3	84.4	5.07	4.10	1.42	0.61	2.80
5	0	1.5	0.7	0.8	0.1	0.2	95.0	1.7	0.0	2.8	0.4	92.3	89.4	84.4	77.9	86.0	5.64	4.15	1.94	0.83	3.14
6	0	1.9	1.2	1.2	0.2	0.3	94.1	1.7	0.0	3.7	0.5	92.8	88.7	85.1	78.1	86.2	4.84	3.71	1.32	0.67	2.64
7	0	1.7	3.0	3.0	10.6	11.0	95.2	0.4	0.0	3.7	0.6	95.4	91.7	86.6	79.3	88.2	3.49	2.91	0.68	0.33	1.85
8	0	0.9	3.5	3.3	14.1	13.4	96.7	0.2	0.0	3.0	0.1	92.1	87.7	83.1	79.0	85.5	3.61	2.86	0.70	0.47	1.91
0	0	1.4	1.8	1.7	4.7	4.7	95.5	1.1	0.0	3.1	0.4	92.2	88.9	84.1	76.9	85.6	4.61	3.63	1.27	0.62	2.53

TWENTY-FIFTH NORTH CAROLINA LAYER PERFORMANCE AND MANAGEMENT TEST

Breeder	Stock Identification	Entry Category*	Source of Sample
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb XL-Link WL 4w INX	I-A YES	Clay's Hatchery Route 1 Blackstone, VA 23824
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb Sex-Sal-Link G RIR x SYN BX	I-A YES	Pee Dee Hatchery Box 156 Hartsville, SC 29550
Euribrid B. U., Entry By Pilch, Inc., Box 438 Troutman, NC 28677	Hisex White WL 4w INX	I-A YES	Gulf Coast Hatchery P. O. Box 1170 Quincy, FL 32351
Euribrid B. U., Entry By Pilch, Inc., Box 438 Troutman, NC 28677	Hisex Brown RIR x SYN BX	I-A YES	Cleveland Pltry.Fms. Rt. 4 Box 173-A Shelby, NC 28150
H & N, Inc. 15305 N.C. 40th St. Redmond, WA 98052	H & N Chick-2 WL 4w SX	I-A YES	Wheelocks Hatchery 2170 Wayne Road Chambersburg, PA 17201
Hubbard Farms Walpole, NH 03608	Hubbard Golden Comet NH xSYN BX	I-A YES	Bowers Hatchery Route 4 Albemarle, NC 28001
Hy-Line International Johnston, IA 50131	Hy-Line W-36	I-C	Not applicable
Shaver Poultry Breeding Farms, Ltd. Box 400, Cambridge ONTARIO, CANADA NIR 5V9	Starcross 288A WL SX	I-A YES	Silver Lake Hatchery Silver Lake, MN 45328

* I = Extensive distribution in the southeast.

A = Entry requested

C = Entry neither requested nor supported

YES = Supporting and fully cooperating with test.

TABLE 25-4D-S IV. Causes of Mortality, Laying Percentages

Entry	Cage Code	Marek's	Lymphoid Leukosis	Reproductive	Other Causes	No Visible Lesions	No Necropsy Report	Total
	3	--	0.6	2.8	2.2	2.3	1.7	9.5
2	3	--	--	1.7	2.2	2.2	0.6	6.7
3	3	--	1.1	0.6	5.0	0.6	1.7	8.9
4	3	--	2.2	2.8	2.8	1.1	1.7	10.6
5	3	--	--	1.1	4.4	2.8	2.2	10.6
6	3	--	--	1.7	2.8	--	1.7	6.1
7	3	--	1.1	2.3	1.7	2.3	2.2	9.6
8	3	--	--	1.7	4.5	1.7	1.1	8.9
AV	3	0.0	0.6	1.8	3.2	1.6	1.6	8.9
	4	--	--	5.9	2.1	2.9	2.1	13.0
2	4	--	--	2.9	2.1	3.0	2.9	10.9
3	4	--	2.1	1.7	3.3	0.4	2.1	9.6
4	4	0.4	0.4	4.2	2.5	0.4	2.1	.0.0
5	4	--	--	5.4	2.5	2.9	1.2	12.1
6	4	--	--	3.8	1.2	0.8	1.7	7.5
7	4	--	0.4	3.4	0.8	0.8	1.7	7.2
8	4	--	0.4	4.2	3.4	1.2	2.5	11.8
AV	4	0.0	0.4	3.9	2.2	1.6	2.0	10.2

TABLE 25-4D-C IV

1	S	--	--	3.6	2.5	2.8	2.2	11.2
2	S	--	--	2.1	2.9	2.8	0.4	8.3
3	S	--	2.2	0.8	3.2	--	1.0	7.2
4	S	0.4	0.6	2.9	3.1	--	1.8	8.8
5	S	--	--	3.9	4.3	3.1	2.1	13.3
6	S	--	--	3.2	1.5	0.8	1.5	7.1
7	S	--	1.5	2.8	1.6	2.1	1.4	9.5
8	S	--	--	5.0	4.5	1.9	2.4	13.8
AV	S	0.1	0.5	3.0	3.0	1.7	1.6	9.9
1	D	--	0.6	5.0	1.8	2.4	1.5	11.3
2	D	--	--	2.5	1.4	2.4	3.1	9.3
3	D	--	1.0	1.4	5.1	1.0	2.8	11.2
4	D	--	2.1	4.0	2.2	1.5	1.9	11.8
5	D	--	--	2.7	2.6	2.7	1.4	9.4
6	D	--	--	2.2	2.5	--	1.8	6.6
7	D	--	--	2.8	1.0	1.0	2.5	7.3
8	D	--	0.4	0.9	3.4	1.0	1.3	6.9
AV	D	0.0	0.5	2.7	2.5	1.5	2.0	9.2

TABLES 25-4D-IV. Causes of Mortality - Laying Percentages

Entry No.	Cage Code	Marek's	Lymphoid Leukosis	Reproductive Disorders	Other Causes	No Visible Lesions	No Necropsy Report	% Total Mortality
1	0	--	0.3	4.3	2.2	2.6	1.9	11.3
2	0	--	2.3	2.2	2.6	2.6	1.9	8.8
3	0	--	1.6	1.1	4.2	0.5	1.7	9.2
4	0	0.2	1.3	3.5	2.6	0.8	1.9	10.3
5	0	--	--	3.3	3.5	2.9	1.7	11.4
6	0	--	--	2.7	2.0	0.4	1.7	6.8
7	0	--	0.8	2.8	1.3	1.5	2.0	8.4
8	0	--	0.2	2.9	3.9	1.5	1.8	10.4
AV	0	0.0	0.5	2.9	2.7	1.6	1.8	9.6

TABLE 25-G-IV. Causes of Mortality - Growing Percentages

1	LAC	--	--	--	0.5	0.2	0.7	1.4
2	LAC	--	--	--	--	--	--	0.0
3	LAC	0.4	--	--	0.4	0.4	0.4	1.7
4	LAC	--	--	--	1.3	--	1.7	3.0
5	LAC	--	--	--	--	0.3	0.7	1.0
6	LAC	--	--	--	--	--	0.7	0.7
7	LAC	--	--	--	--	--	--	0.0
8	LAC	--	--	--	--	--	--	0.0
AV	LAC	0.1	0.0	0.0	0.3	0.1	0.5	1.0
1	CS	--	--	--	0.7	0.4	1.6	2.7
2	CS	--	--	--	--	--	1.3	1.3
3	CS	--	--	--	0.4	--	1.3	1.7
4	CS	--	--	--	1.7	0.4	0.8	2.9
5	CS	--	--	--	0.6	0.4	0.7	1.7
6	CS	--	--	--	0.2	0.3	1.7	2.3
7	CS	--	--	--	1.3	--	2.1	3.4
8	CS	--	--	--	--	0.4	1.7	2.1
AV	CS	0.0	0.0	0.0	0.6	0.2	1.4	2.2

TABLE 25-4D-V. Commercial Egg Gradeout

Entry	Treatment	Percent Grade A or Better			% Breaker		% Loss Eggs	
		Ex. Large & Jumbo	Large	Medium	Small & Pee Wee	Sound	Crax.	Farm
<u>November - 33 Weeks</u>								
1	0	7.8	44.5	38.8	0.5	1.9	3.2	0.0
2	0	28.8	49.9	15.0	0.0	0.6	3.9	0.0
3	0	2.3	31.6	54.8	0.9	0.7	4.5	0.4
4	0	2.8	36.9	51.3	0.9	0.9	3.2	1.1
5	0	4.6	40.1	47.1	0.5	1.3	3.2	0.7
6	0	5.9	40.1	46.1	0.3	1.7	3.3	0.5
7	0	36.5	47.8	10.3	0	0.6	2.7	0.1
8	0	14.4	48.8	30.6	0.4	0.6	3.1	0.1
AV	0	12.9	42.5	36.8	0.4	1.0	3.4	0.4
<u>January - 43 Weeks</u>								
1	0	26.8	51.0	6.4	0.1	1.2	5.0	0.5
2	0	57.8	28.2	1.5	0	0.4	3.2	0.2
3	0	19.0	57.0	8.7	0	1.4	5.2	1.0
4	0	14.1	56.6	10.6	0.5	1.5	4.5	0.2
5	0	20.6	54.4	8.7	0.3	1.4	5.6	0.3
6	0	18.7	53.2	10.6	0.3	2.2	5.7	0.4
7	0	60.9	28.8	1.0	0	1.2	4.0	1.0
8	0	47.8	40.9	2.5	0	0.5	4.4	0.3
AV	0	33.2	46.3	6.3	0.1	1.2	4.7	0.5
<u>April - 56 Weeks</u>								
1	0	48.2	36.6	4.1	0	3.0	4.7	0.1
2	0	76.5	11.9	0.6	0	0.3	4.5	1.8
3	0	46.8	39.7	3.6	0	1.6	4.2	0.6
4	0	35.5	46.6	8.7	0	1.6	4.4	0.8
5	0	40.1	42.6	6.1	0.1	2.1	4.4	1.5
6	0	36.4	43.8	7.8	0.1	2.8	5.8	0.1
7	0	77.3	13.8	0.6	0	0.2	4.2	1.8
8	0	72.5	19.6	1.2	0	0.9	3.5	0.1
AV	0	54.2	31.8	4.1	0.0	1.6	4.5	0.9
<u>July - 69 Weeks</u>								
1	0	45.8	33.5	7.7	0.1	1.6	4.8	1.6
2	0	70.9	19.0	1.4	0	1.2	2.2	3.1
3	0	50.9	30.0	4.9	0.7	0.8	4.8	2.6
4	0	45.6	30.9	10.5	0	0.8	4.2	2.0
5	0	42.4	36.8	8.7	0	1.3	5.0	0.9
6	0	37.4	37.6	10.8	0.2	1.5	6.2	2.2
7	0	71.4	18.2	0.7	0	0.3	3.5	3.1
8	0	67.2	23.6	2.0	0	0.4	2.7	0.9
AV	0	55.8	28.7	5.8	0.1	1.0	4.2	2.0

TABLE 25-F
Some Specifications of Feeds Used
Feed Designation

	<u>Starter</u>	<u>Grower</u>	<u>Developer</u>	<u>Pre-Lay</u>	<u>Lay-TR</u>	<u>Lay-TS</u>	<u>Lay-TT</u>	<u>Lay-TU</u>	<u>Lay-TW</u>	<u>Lay-TX</u>
Met. Energy KCal/Lb.	1290	1295	1295	1270	1270	1270	1270	1280	1285	1285
Protein, %	20.0	17.0	14.0	14.0	20.5	19.0	18.0	16.0	15.5	14.7
Lysine, %	1.10	0.83	0.65	0.66	1.05	0.95	0.90	0.75	0.72	0.67
Methionine, %	0.38	0.39	0.40	0.42	0.54	0.45	0.37	0.37	0.35	0.34
TSAA, %	0.70	0.65	0.55	0.58	0.84	0.73	0.64	0.61	0.58	0.56
Avail. Phos., %	0.50	0.45	0.40	0.49	0.55	0.48	0.44	0.40	0.38	0.35
Calcium, %	1.07	0.84	0.78	1.49	3.50	3.55	3.90	3.90	3.90	3.95
Fat, %	3.06	3.16	3.42	3.48	3.44	3.48	3.37	3.51	3.51	3.51
Sodium, %										
Relative Cost 7/84										
	1.08	1.05	1.02	1.07	0.17	0.19	0.17	0.16	0.15	0.15
					1.00	1.00	0.99	0.98	0.98	0.98

TABLE 25-4D-VI. Duncan Range Test and Range Groups

Range	Entry	Pullet Housed	Duncan Test	Range	Entry	50% After	Duncan Test	Range	Entry	Feed lb. of Eggs	Days Lost to Mortality		
											Duncan Test	Duncan Range	Duncan Entry
1	6	271.1	1	6	82.0	I	1	6	2.33	I	1	6	11.4
1	5	262.5	2	5	79.7	I	1	1	2.33	I	1	7	12.0
2	1	258.6	2	4	79.6	I	1	3	2.34	I	1	2	12.0
2	4	258.1	2	3	78.7	I	1	4	2.35	I	2	5	13.1
2	3	257.8	2	1	78.4	I	2	5	2.38	I	2	3	13.6
Mean	8	256.1	Mean	8	78.2	I	2	5	2.41	I	2	3	14.1
3	8	251.1	3	8	76.7	I	2	2	2.46	I	3	8	15.4
4	2	246.9	4	7	76.0	I	2	7	2.52	I	4	1	17.3
4	7	243.0	2	2	74.9	I	4	8	2.54	I	4	4	17.8

ERRATA: Corrections for Tables in Progress Report to 399 Days

Entry No.	Cage Type	Mortality Loss		Pounds of Feed Consumed		
		% to Date	Days Lost Per Bird	Per Doz. Eggs	Per Lb. of Eggs	Per 100 Bird Days

TABLE 25-3A-C

6	S	2.8	4.6	3.41	2.33	26.0
8	S	9.4	11.0	3.83	2.48	27.7
0	S	6.1	6.8	3.59	2.37	25.9
6	D	7.8	7.5	3.25	2.19	24.8
7	D	4.7	4.6	3.88	2.40	26.2
8	D	6.4	4.4	3.70	2.40	26.2
0	D	6.5	6.9	3.54	2.33	25.0

TABLE 25-3C-C

6	S	6.1	6.8	3.62	2.33	26.9
8	S	7.5	8.1	4.20	2.55	28.0
4	D	10.6	17.4	3.59	2.34	24.8

TABLE 25-3A-S

4	3	4.4	5.3	3.50	2.38	24.5
6	3	2.2	2.1	3.37	2.30	25.2
7	3	6.8	8.4	3.94	2.42	27.4
8	3	10.0	9.9	3.81	2.47	27.7
0	3	5.6	6.0	3.63	2.39	25.7
5	4	4.2	4.3	3.41	2.31	24.4
6	4	8.3	10.0	3.28	2.22	25.6
7	4	5.0	5.1	3.91	2.44	26.7
8	4	5.8	5.5	3.72	2.41	26.2

Heading for first Mortality column is "% to Date".

TABLE 25-3C-S

5	3	3.3	2.2	3.67	2.35	27.4
6	3	3.3	3.0	3.75	2.41	27.5
7	3	6.7	6.8	4.47	2.59	29.3
8	3	1.1	2.4	4.17	2.54	27.9
2	4	3.3	3.2	4.13	2.42	26.9
4	4	10.0	15.8	3.54	2.30	24.5
5	4	10.8	10.7	3.60	2.34	25.7
8	4	9.2	10.4	4.15	2.51	28.0
0	4	6.7	8.1	3.79	2.36	25.7

TABLE 25-3D

7	0	5.5	5.5	4.17	2.48	27.6
8	0	6.5	7.1	3.96	2.48	27.4
0	0	5.7	6.5	3.70	2.37	26.0