FINAL REPORT

THIRD NORTH CAROLINA RANDOM SAMPLE EGG LAYING TEST

The official North Carolina Random Sample Poultry Tests are conducted under the auspices of the North Carolina Department of Agriculture and the School of Agriculture of North Carolina State College. Mr. S. J. Childs is Resident Manager of the tests at the Piedmont Research Station, Route 6, Salisbury, North Carolina, and Dr. G. A. Martin, Poultry Department, North Carolina State College, Raleigh, North Carolina, is Project Leader.

This is the final report of the 1961-62 laying test and covers performance from February 10, 1961, through June 24, 1962, when the birds reached 500 days of age.

Chicks for each entry were hatched at the test site from a case of eggs selected by random procedure from at least 10 cases of eggs at the participating hatchery. Chicks were sexed and 120 pullets were wingbanded (when available) for growing in replicated pens of 60 pullets. Allmash feeds are mixed by the test personnel. The starting ration is 20% protein with 870 cal. productive energy per pound and is fed during the first 56 days. The growing ration, with 16% protein and 860 calories, is fed from the 57th through 150th days and the laying ration, with 16% protein and 840 calories, is fed from the 151st through 500th days. During hot weather the laying mash formula is altered to provide an 820 calorie ration.

The disease control program during the growing period was intra-ocular Newcastle-Bronchitis vaccination at 1-day-old, coccidiosis vaccination at 5-days-old with subsequent feeding of a coccidiostat, Newcastle dust at 4-weeks-old, fowl pox vaccination at 13-weeks-old, and Newcastle-Bronchitis dust at 17-weeks-old. One additional procedure this year was a coccidiosis challenge of extra birds at 8-weeks-old. Immunity was considered to be satisfactorily established at that time. All birds were debeaked to control cannibalism. Birds were confined to the houses throughout the test and general management was in accord with good commercial practices in North Carolina

Information Concerning Data Reported

TABLE I

Entry No. is the pen number assigned at random to the particular entry in the first replication of pens.

Breeder is the name used to distinguish entries. Complete stock identification, breeder's address, and address of the sample source are given elsewhere in the report.

Net Pullets are the number of pullets at 1 week and at housing with sexing errors, first week mortality, challenge sample, and accidental deaths excluded.

% Mortality is the percentage of the net pullets that died during the specified periods. A veterinarian was retained to perform autopsies upon all birds (except as noted) that died after the first week. The cause of death was noted and these findings are summarized in TABLE III by categories in which appreciable death loss was encountered.

Feed Consumed was calculated in such a manner as to make it independant of mortality and to reflect feed consumption per bird for a 150 day growing period and a 350 day laying period.

% Loss (Candled) is the percentage by which total egg value was reduced below Grade A egg value due to downgrades from candling. We express our appreciation to Mr. Carl Tower of the N. C. Department of Agriculture and his co-workers for providing candling service on one day of production each month. Market value of all eggs is calculated on the basis of the candling reports.

Chick Price is the 3-year average price per sexed pullet in lots of 1,000 as calculated from published price lists.

Feed Cost 1-150 days and 151-500 days was calculated by charging the feed per pullet housed each month at the 3-year average of monthly feed prices reported by the North Carolina Department of Agriculture. These are tabulated elsewhere in this report.

Total Feed and Chick Cost charges the net pullets at one week against the survivors at 150 days at the reported chick price. This figure was added to the two feed cost figures for the total.

Value of Eggs was calculated by crediting the weekly egg production at the 3-year weekly average Grade A price for that week and size class as reported by the North Carolina Department of Agriculture. At the close of each quarter, this value was discounted by the percentage reduction below Grade A value due to downgrades (except dirties) from candling of three days of production during the quarter.

Value of Meat was calculated by applying the 3-year average price of that class of fowl during the last week of June to the total weight of marketable survivors for the pen and dividing by the number of pullets housed. Average prices were $.125 for entries that averaged from 5 1/2 to 7 lbs. and $.076 for entries below 5 1/2 lbs.

I.O.F.C.C. is Income over Feed and Chick Cost per pullet housed. This does not represent profit since costs of brooding, vaccines, medicants, oyster shells, grit, depreciation on equipment, insurance, interest on investment, labor, etc. are not deducted from income. Three-year average prices by months are tabulated later. This figure is applicable only to the cost, price, and environment combination of this test.

Duncan Multiple Range Test of I.O.F.C.C. This may have little meaning to those who have not used statistical procedures. Basically this test indicates that differences greater than those spanned by any one of the vertical lines would not be expected to occur more than five times out of 100 tests if all birds had the same ability to produce. Few of us can insure 19 to 1 odds in our favor on the daily business transactions in which we are involved. It is, therefore, better to observe the performance of a stock in more than one test or in the same test for more than a single year to ascertain its value relative to other stocks.

TABLE II

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

Egg Size Distribution was obtained by crediting the weekly total egg production to size classes proportional to those observed on the total production of one day. The sums of these weekly totals were converted to percentages at the end of the test.

Average Egg Weight in ounces per dozen was obtained by mass-weighing of one day's eggs each week and calculating an average from the sum of all weights and the sum of all eggs weighed.

Average Body Weight was the average of individual weights of all birds in the pens on 150th and 500th days.

Hen-Day Production Percentages represent the daily average number of eggs produced per 100 hens of the entry during the specified period.

Eggs per Pullet Housed is the total number of eggs produced divided by the number of pullets housed. The Duncan test is explained at the end of TABLE I.

TABLE III

Pounds of Feed - Per Dozen Eggs and - Per Pound of Eggs were calculated by dividing the total feed consumed in the last 350 days by the total dozens and pounds of eggs laid. Feed per 24 ounces of eggs is 1.5 times feed per pound of eggs. The Duncan test is explained at the end of TABLE I.

Cause of Mortality as determined by autopsy is reported as percentages of net pullets at one week for the growing period and of net pullets housed for the laying period. 57% of the total mortality during the laying period was due to leukosis.

TABLE IV

Candled Grade (%) is new with this report. Official graders, who check egg quality for the enforcement of the North Carolina egg law, candle the production of one day each month. The percentages reported are a summary of their findings.

Albumen Quality in Haugh Units was measured on an equal number of eggs from each pen and approximately one day's production per quarter. Since this factor undergoes seasonal change, the quarterly averages and the annual average are given.

Shell Quality was secured by using salt solutions to determine the specific gravity of eggs. The eggs with specific gravity below 1.068 were given a value of 0, those between 1.068 and 1.072 a value of 1, etc., with those exceeding a specific gravity of 1.100 receiving a value of 9. One day's production from each pen was classified in September, December, March, and June. Since this factor undergoes seasonal changes, the quarterly averages and the annual average are given.

Colored Inclusions (Breakout): Blood Spots and Meat Spots were observed by breaking one day's production from each pen at about 30 day intervals throughout the year. Spots exceeding 1/8 inch were classified as large and those of lesser size as small. Breakout data was not used for egg value calculations.

Two Year Summary - TABLE V

Selected items have been averaged over the two years of testing. The entries are arranged in descending order of eggs per pullet housed. These are averages of the stocks as entered and in some cases are not the same breeding combination; e.g. Hubbard Farms entered XB 496 in the second test and XB Comet in the third test. Nevertheless, these averages should be better indicators of future performance in this test than a single-year summary would be. For an excellent presentation of average performance in all tests, the reader is referred to the USDA Agricultural Research Service publications 44-79-2, December 1961.

FEED PRICE-EGG VALUE TABLE

Three-year average monthly feed prices and three-year average egg prices for weeks beginning in the indicated months for this report are listed below. Brown egg prices were the same as white egg prices except as indicated.

	Three-Year Average Feed Prices ($ per ton)			Three-Year Average Egg Price (¢ per doz)							
				A Large		A Medium		A Small		A Pee Wee	
	Starter	Grower	Layer	Wh.	Br.	Wh.	Br.	Wh.	Br.	Wh.	Br.
July		88.00	94.33	38.3		31.3		22.9		16.6	
Aug.			93.67	42.6	42.7	31.2	31.2	20.8	20.8	14.4	14.2
Sept.			93.00	47.5	47.8	34.1	34.3	21.6	22.1	15.1	14.6
Oct.			92.00	43.4	43.8	33.0	33.3	24.5	24.9	17.7	17.9
Nov.			91.33	44.0	44.2	33.8	34.0	28.1	28.4	22.3	22.6
Dec.			91.00	41.0	40.9	33.0	33.2	28.0	28.5	23.0	23.4
Jan.			91.67	36.1	36.4	32.5	32.8	28.4	28.6		
Feb.	97.67		92.00	35.5		32.0		28.6			
Mar.	97.23	88.00	92.33	35.3		31.6		27.0			
Apr.	97.00	87.67	92.67	34.9		31.2		24.1			
May		88.00	93.00	30.4		25.3		20.5			
June		88.00	93.00	31.2		25.0		19.6			

TABLE 1

NUMBERS, MORTALITY, FEED CONSUMPTION, AND INCOME

Entry No.	Breeder	Net Pullets at 1 wk.	Net Pullets housed	% Mortality 8-150 days	% Mortality 151-500 days	Feed Consumed (bird-day basis) 1-150 days	Feed Consumed (bird-day basis) 151-500 days	% loss (candled)	Chick price	Cost and Income per Pullet Housed in Dollars: Feed Cost 1-150 days	Feed Cost 151-500 days	Total feed & chick cost	Value of eggs	Value of meat	IOFCC	Duncan multiple range test of IOFCC
12	Honegger	119	100	0	6.0	19.8	92.8	1.4	.450	.887	4.178	5.515	7.540	.322	2.348	
13	Babcock	120	100	0.8	3.0	20.4	94.0	1.9	.450	.917	4.249	5.619	7.584	.363	2.328	
1	Heisdorf-Nelson	118	100	0	6.0	19.6	90.3	1.3	.453	.876	4.040	5.369	7.267	.328	2.226	
6	Hy-Line	117	99	0.9	8.0	19.7	87.3	1.9	.590	.889	3.861	5.346	7.142	.302	2.098	
17	Kimber	119	100	0	7.0	20.8	96.9	2.4	.450	1.020	4.236	5.706	7.424	.338	2.056	
16	DeKalb	120	100	1.7	13.0	19.7	92.8	1.2	.563	.887	4.072	5.532	7.265	.289	2.021	
10	Beamsdale	117	100	4.2	11.0	19.9	99.7	1.3	.393	.901	4.397	5.708	7.424	.305	2.021	
19	Harco	120	100	2.5	10.0	25.6	105.3	2.8	.320	1.154	4.570	6.011	7.248	.776	1.972	
5	Hubbard	120	100	2.5	16.0	24.5	101.2	1.8	.385	1.097	4.313	5.805	7.118	.652	1.965	
20	Warren	119	100	2.5	16.0	22.6	92.3	2.0	.415	1.034	3.924	5.399	6.720	.584	1.921	
4	Rapp	117	100	1.7	9.0	19.9	97.4	1.8	.390	.898	4.295	5.590	7.100	.323	1.833	
7	Ghostley	119	100	0.8	18.0	20.0	95.3	2.5	.433	.897	3.948	5.283	6.834	.281	1.833	
14	Brender	117	100	0.7	13.0	19.7	91.5	2.1	.443	.905	3.900	5.256	6.677	.294	1.715	
11	Arbor Acres	117	100	0.8	15.0	19.8	102.3	2.3	.412	.894	4.370	5.679	7.054	.284	1.661	
2	Cashman	117	100	0.9	25.0	20.8	92.7	2.1	.447	.933	3.635	5.109	6.374	.285	1.640	
18	Fletcher	120	100	5.8	13.0	19.9	93.0	1.0	.377	.905	3.992	5.297	6.629	.299	1.631	
3	Cornell	119	100	3.3	14.0	20.3	89.6	2.4	.4200	.911	3.897	5.243	6.560	.315	1.628	
8	Ames Incross	119	100	0	14.0	23.1	97.4	2.2	.502	1.023	4.175	5.700	6.621	.701	1.622	
9	Colonial	118	100	4.2	16.0	20.2	93.7	2.3	.437	.923	3.881	5.260	6.480	.293	1.513	
15	Parmenter	119	100	6.7	14.0	23.3	93.5	1.9	.380	1.081	3.885	5.389	6.208	.675	1.512	
Average		119	100	2.1	12.4	21.0	94.9	1.9	.436	.952	4.091	5.488	6.963	.400	1.877	

TABLE II

MATURITY, EGG AND BODY SIZE, AND PRODUCTION

Entry No.	Breeder	Age at 50% Prod.	Egg Size Distribution (%)					Av. egg weight (oz/doz)	Av. Body Wt.		Hen-Day Production Percentages						Eggs per pullet housed	Duncan multiple range test of eggs / pullet housed
			Ex. Lg. & over	Large	Medium	Small	Pee Wee		150 days	500 days	151-240 days	241-330 days	331-420 days	421-500 days	471-500 days	After 50% Prod.		
13	Babcock	162.0	41.2	33.8	19.7	4.6	0.7	25.0	3.8	5.0	72.7	82.9	76.3	69.7	67.6	77.0	259.3	
12	Honegger	170.0	47.2	30.4	18.6	3.6	0.2	25.4	3.5	4.6	68.9	83.0	75.4	69.2	68.2	76.7	253.4	
1	Heiedorf-Nelson	165.0	31.4	37.9	25.4	5.1	0.3	24.5	3.6	4.6	72.6	81.6	72.3	65.4	64.7	75.2	249.1	
17	Kimber	163.5	49.5	30.3	16.3	3.5	0.4	25.7	3.8	5.0	73.6	81.4	73.8	65.0	61.8	75.3	248.9	
10	Beamsdale	171.5	44.5	33.5	18.0	3.6	0.4	25.4	3.5	4.4	68.0	84.9	75.5	69.2	67.8	77.9	248.9	
6	Hy-Line	167.5	38.5	33.9	22.0	5.1	0.5	24.8	3.5	4.4	71.8	80.8	72.4	66.3	64.0	75.2	245.0	
16	DeKalb	166.5	53.7	29.0	14.6	2.3	0.4	26.0	3.5	4.4	68.3	79.4	70.5	68.0	66.1	73.8	238.8	
5	Hubbard	165.0	48.3	31.9	16.0	3.3	0.5	25.5	4.9	6.2	70.9	82.2	74.4	61.6	54.0	74.4	235.5	
11	Arbor Acres	171.5	53.7	27.5	15.1	3.5	0.2	26.1	3.5	4.4	66.1	83.4	72.4	68.0	65.1	76.1	235.0	
19	Hareo	163.0	64.9	23.1	10.5	1.3	0.2	27.3	5.3	6.9	70.3	79.1	70.6	60.0	57.0	72.3	232.1	
4	Rapp	175.0	60.2	27.1	11.2	1.4	0.1	26.6	3.5	4.8	61.3	79.4	71.6	64.6	61.5	73.1	231.7	
3	Cornell	173.0	32.9	38.5	22.2	5.7	0.7	24.6	3.7	5.0	60.4	76.8	71.3	67.3	66.2	72.0	227.7	
7	Ghostley	172.0	55.7	29.9	12.4	1.8	0.1	26.1	3.5	4.6	58.4	81.9	77.3	71.1	69.0	75.6	225.9	
20	Warren	171.0	49.8	29.5	18.2	2.4	0.2	25.8	4.5	5.6	64.2	79.6	70.1	60.7	55.0	71.9	221.9	
18	Fletcher	172.0	44.2	33.2	18.4	3.7	0.4	25.4	3.6	4.6	60.3	77.4	70.7	62.9	59.7	71.1	220.8	
8	Ames Incross	165.0	45.6	33.3	18.6	2.3	0.2	25.6	4.8	6.6	67.2	76.8	66.4	57.2	51.5	69.2	219.6	
2	Cashman	168.5	33.6	35.7	24.8	5.3	0.8	24.7	3.8	5.1	67.8	80.7	76.8	71.0	67.3	77.3	219.6	
9	Colonial	166.5	52.2	26.8	17.2	3.5	0.3	25.8	3.7	4.8	67.7	77.8	69.2	62.8	60.0	71.6	219.2	
14	Bronder	173.5	58.0	27.5	12.6	1.6	0.2	26.6	3.5	4.6	60.6	78.2	68.9	61.2	57.4	70.4	218.1	
15	Parmenter	172.0	44.9	33.1	19.0	2.8	0.2	25.5	4.7	6.3	60.1	75.1	64.6	56.0	49.1	67.2	206.4	
Average		168.7	47.5	31.3	17.5	3.3	0.4	25.6	3.9	5.1	66.6	80.3	72.0	64.9	61.6	73.7	232.8	

TABLE III

FEED CONVERSION AND CAUSE OF MORTALITY

Entry No.	Breeder	Lbs of Feed Per doz. eggs	Per lb. of eggs	Duncan test of feed/lb. of eggs	CAUSE OF MORTALITY AS PERCENTAGES													
					Leukosis		Respiratory Disorders		Reproductive Disorders	Hemorrhage		Peritonitis	Miscellaneous		Unknown		No Autopsy	
					8-150 days	151-500 days	8-150 days	151-500 days	151-500 days	8-150 days	151-500 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days
6	Hy-Line	4.10	2.65		0.9	5.0					1.0	1.0		1.0				
12	Honegger	4.29	2.70			3.0						2.0				1.0		
13	Babcock	4.34	2.72			1.0	0.8		1.0			1.0						
16	DeKalb	4.44	2.73			5.0	0.8		5.0			1.0	0.8			2.0		
17	Kimber	4.43	2.75			6.0			1.0									
1	Heisdorf-Nelson	4.22	2.76			4.0		1.0										1.0
7	Ghostley	4.54	2.78			11.0	0.9	1.0	2.0			1.0		1.0	0.8	2.0		
2	Cashman	4.30	2.79			19.0	0.9		1.0		3.0	1.0		1.0				
14	Brender	4.66	2.80			9.0	0.9		1.0	0.9	1.0	2.0						
20	Warren	4.60	2.85		1.7	10.0			5.0			1.0	0.8					
9	Colonial	4.62	2.86		0.8	11.0	0.8		3.0	0.8	1.0	1.0			0.8		0.8	
10	Beamsdale	4.59	2.89		0.8	4.0	1.7		4.0		1.0	1.0	1.7					
3	Cornell	4.46	2.90			2.0			4.0		1.0	1.0		1.0	1.7			5.0
4	Rapp	4.82	2.90			8.0						1.0			0.8		0.8	
18	Fletcher	4.70	2.96			7.0	2.5		4.0		1.0				2.5		0.8	
11	Arbor Acres	4.84	2.96		0.8	5.0		1.0	8.0			1.0						
5	Hubbard	4.77	2.99			9.0	0.8		3.0		3.0	1.0			0.8			
19	Harco	5.14	3.01			6.0			1.0	0.8		1.0				2.0	0.8	
8	Ames Incross	4.95	3.10			7.0			1.0		4.0			2.0				
15	Parmenter	5.00	3.13		2.5	10.0	0.8		1.0	0.8	1.0	1.0	1.7			1.0	0.8	
Average		4.59	2.84		0.3	7.1	0.5	0.2	2.2	0.2	0.8	0.9	0.2	0.3	0.4	0.4	0.2	0.3

TABLE IV

EGG QUALITY

Entry No.	breeder	Candled Grade (%)					Albumen Quality in Haugh Units					Shell Quality (Specific Gravity)					Colored Inclusions (Breakout)			
																	Blood Spots (%)		Meat Spots (%)	
		A & over	B	C	Crax & Chex	Loss	Aug.	Nov.	Jan.	May	Average	Sept.	Dec.	Mar.	June	Average	Large	Small	Large	Small
1	Hoisdorf-Nelson	93.5	4.5	1.0	0.7	0.3	86.9	84.8	78.7	74.2	81.1	4.79	4.02	3.81	3.06	3.92	2.8	4.6	0.1	0.2
2	Cashman	90.8	6.1	1.9	0.7	0.5	84.1	82.0	76.6	70.7	78.3	5.15	3.95	3.33	2.75	3.80	4.4	5.3	0.8	0.7
3	Cornell	90.0	6.9	1.3	0.8	1.0	82.1	80.1	74.8	71.4	77.1	4.90	4.00	3.63	2.89	3.85	3.8	4.8	0.4	1.1
4	Rapp	89.8	7.9	1.5	0.4	0.4	85.0	83.2	77.4	72.8	79.6	4.58	3.97	3.52	2.70	3.70	2.0	3.1	0.2	0.6
5	Hubbard	92.3	4.8	1.6	0.9	0.4	84.5	81.2	74.9	70.8	77.8	3.48	2.58	2.47	1.72	2.56	0.6	1.7	7.6	45.2
6	Hy-Line	90.8	6.7	1.2	0.5	0.8	79.3	76.9	72.6	66.4	73.8	3.80	4.03	3.76	2.99	3.90	2.6	3.7	0.1	0.4
7	Ghostley	87.7	8.9	1.7	0.8	0.9	85.6	83.4	76.4	72.8	79.5	4.97	4.17	3.78	3.36	4.07	2.5	2.8	0.5	0.5
8	Ames Incross	91.0	6.3	1.6	---	1.1	85.1	82.2	75.4	68.4	77.8	4.32	3.57	3.23	3.04	3.54	0.7	3.4	13.1	52.2
9	Colonial	90.2	6.5	1.4	1.2	0.7	85.6	83.4	77.7	71.1	79.5	4.71	3.90	3.46	2.86	3.66	3.8	5.2	0.7	0.5
10	Beamsdale	93.0	5.2	1.3	0.1	0.4	82.9	81.6	76.6	71.5	78.2	5.00	4.15	3.55	2.96	3.92	3.2	5.4	0.1	0
11	Arbor Acres	89.0	8.1	1.0	0.8	1.1	85.9	82.2	75.9	72.0	79.0	4.72	3.94	3.49	2.77	3.73	4.6	4.6	0.1	0.3
12	Honegger	91.6	6.4	1.1	0.7	0.2	82.9	78.7	74.5	69.0	76.3	4.85	4.24	4.07	3.22	4.10	3.2	3.4	0	0.5
13	Babcock	91.2	6.0	1.6	0.6	0.6	80.3	79.7	73.2	69.2	75.6	4.51	4.05	3.69	2.50	3.69	2.5	3.7	0.1	0.4
14	Brender	86.9	10.2	2.2	0.3	0.4	83.4	78.7	75.4	70.0	76.9	5.07	4.21	3.87	2.99	4.03	2.8	4.2	0.1	0.4
15	Parmenter	90.8	6.2	1.7	0.7	0.6	85.2	81.4	76.6	71.3	78.6	3.72	2.87	2.68	2.05	2.83	0.7	1.6	12.4	36.7
16	DeKalb	93.1	5.0	0.5	1.3	0.1	88.2	85.0	81.1	74.5	82.2	4.99	3.92	3.83	3.28	4.00	1.6	1.8	0.4	0.5
17	Kimber	86.3	10.9	1.1	1.0	0.7	85.5	84.1	78.1	73.2	80.2	5.44	4.23	3.70	3.05	4.11	2.7	2.8	0.3	0.4
18	Fletcher	93.7	5.7	---	0.3	0.3	85.2	82.9	76.0	71.9	79.0	4.66	4.16	4.14	2.92	3.97	2.8	4.2	0.4	0.5
19	Harco	88.8	7.1	1.8	1.4	0.9	84.1	82.3	76.3	72.0	78.7	3.64	2.55	2.11	1.41	2.43	2.7	2.3	12.4	40.5
20	Warren	89.1	7.3	2.8	0.5	0.3	87.4	83.4	75.2	70.6	79.1	6.48	2.36	2.10	1.34	2.32	0.3	2.1	11.8	35.2
Average		90.5	6.8	1.4	0.7	0.6	84.5	81.9	76.2	71.2	78.4	4.59	3.74	3.41	2.69	3.61	2.5	3.5	3.1	10.8

TABLE V

TWO YEAR SUMMARY

Breeder	Stock Designation 1960-61	Stock Designation 1961-62	Age at 50% Prod.	% Mortality 8-150 days	% Mortality 151-500 days	Av. Body Wt. 150 days	Av. Body Wt. 500 days	% Prod. after 50%	% of eggs with lg. colored spots	Albumen Quality (H.U.)	Shell Quality (S.G.)	Av. Egg weight (oz/doz)	Lbs. of Feed Per doz. eggs	Lbs. of Feed Per lb. eggs	10FCC	Eggs per pullet housed
Hy-Line	934-H	934H	167.8	0.4	7.0	3.4	4.4	78.9	2.0	74.5	3.60	24.6	3.96	2.53	2.515	258.3
Heisdorf-Nelson	Nick Chick	Nick Chick	166.5	1.2	3.5	3.4	4.6	75.0	2.6	81.5	3.53	24.7	4.20	2.72	2.290	251.4
DeKalb	#131	#151	166.5	0.8	8.5	3.4	4.4	74.4	1.4	80.8	3.64	25.4	4.16	2.62	2.232	246.0
Honegger	Layers	Layers	174.0	1.9	6.5	3.3	4.6	75.2	2.0	77.8	3.86	25.3	4.26	2.70	2.228	242.6
Beamsdale	#66	#66	173.0	2.6	11.0	3.4	4.4	76.2	2.6	78.4	3.72	25.6	4.48	2.80	2.084	241.7
Kimber	K-137	K-137	167.8	0.8	8.0	3.6	4.8	73.6	3.5	80.4	4.06	26.0	4.38	2.71	2.040	240.8
Arbor Acres	Queen	Queen	174.2	1.6	10.0	3.4	4.6	75.3	4.0	80.1	3.50	26.0	4.58	2.81	1.956	240.1
Babcock	Bessies	Bonnie	167.0	2.0	8.0	3.6	4.9	73.8	3.2	77.7	3.66	25.2	4.38	2.77	1.986	239.4
Cashman	Hi-Cash	Hi-Cash	171.2	1.2	17.5	3.6	5.2	77.7	4.6	78.8	3.42	25.2	4.36	2.76	1.848	233.1
Ghostley	Pearl	Pearl	172.8	1.2	15.5	3.4	4.7	75.2	2.8	79.6	3.70	26.1	4.48	2.50	1.934	231.4
Harco	Sex-Links	Sex-Links	164.5	3.1	12.0	5.0	6.8	72.7	14.5	78.2	2.32	27.2	4.94	2.91	1.642	230.9
Rapp	Linecross	Linecross	177.0	6.2	10.0	3.3	4.6	73.1	3.0	78.6	3.68	26.0	4.56	2.81	1.823	229.4
Colonial	INX 365	INX 365	169.2	5.2	14.5	3.5	4.7	72.0	4.6	79.6	3.39	25.6	4.48	2.80	1.590	222.8
Cornell	Ran-Bred	Ran-Bred	175.8	2.5	15.0	3.5	4.9	72.0	4.6	77.2	3.56	24.6	4.47	2.88	1.448	221.8
Fletcher	F-X-100	F-X-100	173.0	4.4	13.0	3.4	4.6	70.8	3.2	79.2	3.86	25.7	4.56	2.84	1.742	220.6
Hubbard	#496	Comet	169.0	3.3	19.0	4.8	6.2	70.1	10.7	77.6	2.40	25.6	4.95	3.10	1.228	216.7
Ames Incross	#505	#505	171.0	0	11.0	4.6	6.6	68.0	13.0	77.8	3.36	26.0	4.97	3.07	1.282	214.8
Brender	Moneymaker 1	Moneymaker 1	175.0	1.2	13.0	3.4	4.6	69.0	2.7	77.2	3.76	26.4	4.68	2.84	1.629	212.9
Warren	Sex-Sal-Link	Sex-Sal-Link	173.8	1.7	15.5	4.4	5.6	69.0	12.2	79.0	2.34	26.0	4.68	2.88	1.377	212.6
Parmenter	PM 1	PM 1	173.2	5.2	12.6	4.4	6.4	65.9	12.0	78.4	2.78	25.6	5.02	3.12	1.239	205.8
Average			171.1	2.5	11.6	3.7	5.1	73.0	5.5	78.6	3.50	25.6	4.53	2.81	1.806	230.7

LIST OF ENTRIES IN THIRD N. C. RANDOM SAMPLE LAYING TEST

BREEDER AND ADDRESS	STOCK DESIGNATION	SOURCE OF SAMPLE
Ames In-Cross Des Moines, Iowa	IBX 505	Mid-Valley Hatchery, Dayton, Va.
Arbor Acres Farm, Inc. Glastonbury, Conn.	WL Str. X Queens	Arbor Acres Farm, Inc. Concord, N. C.
Babcock Poultry Farms Ithaca, N. Y.	WL 3wX Bonnie	Babcock Poultry Farm Ithaca, N. Y.
Beamsdale Farm Lawndale, N. C.	WL Str. X 66	Beamsdale Hatchery, Lawndale, N. C.
Brender's Leghorns Ferndale, N. Y.	WL 4wX Moneymaker 1	Brender's Leghorns, Ferndale, N. Y.
Cashman Leghorn Farms Webster, Ky.	WL 3wX Hi-Cash	Bowers Bros. Hatchery, Albemarle, N. C.
Colonial Poultry Farms, Inc. Pleasant Hill, Mo.	WL INX 365	Colonial Hatchery, Cullman, Ala.
Cornell University, Ithaca, N. Y.	WL Ran. Bred	Cornell University, Ithaca, N. Y.
DeKalb Agricultural Assn. Sycamore, Ill.	IBX 151	DeKalb Agri. Assn. Hatchery, Illiopolis, Ill.
J. O. Fletcher & Son Concord, N. C.	WL Str. X F-X-100	J. O. Fletcher & Son Hty., Concord, N. C.
Ghostley's Poultry Farm Anoka, Minn.	WL 3wX Pearls	Kelly Poultry Farm Garner, N. C.
Harco Orchards & Poultry Farms, Inc., South Easton, Mass.	XB Sex-Links	Joe K. Davis Hatchery, Earl, N. C.
Heisdorf-Nelson Farms, Inc. Kirkland, Wash.	WL Str. X "Nick Chick"	J. C. Castleberry Hatchery, Apex, N. C.
Honegger Breeder Hatchery Forrest, Ill	WL Str. X Layers	FCX Hatchery, Wallace, N. C.
Hubbard Farms, Walpole, N. H.	XB Comet-Pioneer	Hubbard Farms, Inc. Statesville, N. C.
Hy-Line Poultry Farms, Des Moines, Iowa	INX 934-H	Tar Heel Chicks Hatchery, Monroe, N. C.
Kimber Farms, Inc. Fremont, Calif.	WL 3wX K-137	Hubbard Farms, Inc. Statesville, N. C.
Parmenter Reds, Inc. Franklin, Mass.	RIR Str. X PM 1	Parmenter Reds, Inc. Franklin, Mass.
Rapp Leghorn Farm, Inc. Farmingdale, N. J.	WL Str. X Linecross	Rapp Leghorn Farm, Inc. Farmingdale, N. J.
J. J. Warren, Inc. North Brookfield, Mass.	XB Sex-Sal-Link	J. J. Warren South, Inc. Greenville, S. C.