

## FINAL REPORT

### SECOND 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 1960-61 laying test and covers performance from February 12, 1960, through June 25, 1961, 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. Medium energy allmash starting, growing, and laying rations were mixed by test personnel according to formulae provided by North Carolina State College. Starting ration was fed during the first 56 days, growing ration was fed from the 57th through 150th days, and laying ration was fed from the 151st through 500th days.

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 29-days-old, fowl pox vaccination at 87-days-old, and Newcastle-Bronchitis dust at 113-days-old. One additional procedure this year was a coccidiosis challenge of extra birds at 8-weeks-old. Immunity was incomplete and re-vaccination was given at 88-days-old. 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 on the last page of 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 later in this report by categories in which appreciable death loss was encountered.

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

% Loss from Large Spots is the percentage of eggs that were found to contain blood or colored meat spots larger than 1/8" diameter among the eggs from one day's production each 30 days. This percentage was counted as loss and given no market value.

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.

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 price for that week and size class as reported by the North Carolina Department of Agriculture. At the close of the test, this value was discounted by the percentage of loss eggs from large spots before reporting. Small spots were not discounted.

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.

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.

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 was the total number of eggs produced divided by the number of pullets housed.

TABLE III

Albumen Quality in Haugh Units was measured on 35 eggs per pen in September and February, 30 in December, and 32 in May. 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 October, January, March, and June. Since this factor undergoes seasonal changes, the quarterly averages and the annual average are given.

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. Egg value discounting is discussed above.

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.

TABLE IV

Causes of Mortality as determined by autopsy are given in Table IV.

Two Year Summary - TABLE V

Selected items have been averaged over the two years of testing for the 19 breeders who have had stock in both tests. 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. Harco Orchards and Poultry Farms entered RIR X BPR in the second 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 44-79-1 and 44-90.

TABLE I

NUMBERS, MORTALITY, FEED CONSUMPTION, AND INCOME

Entry No.	Breeder	Net Pullets at 1 week housed	% Mortality 8-150 days	Feed Consumed 1-150 days (bird-day basis)	% loss from large spots	Chick price \$	Cost and Income per Pullet Housed		Value of eggs	Value of Meat	Duncan Multiple range test of IOFCC \$	
							Feed Cost 1-150 days	Total feed & Chick cost				
3	Hy-line	119	0	17.8	88.5	.590	.846	4.242	5.678	8.266	.343	2.932
20	Dekalb	112	0	18.2	82.6	.573	.865	4.013	5.451	7.529	.364	2.442
10	Heisdorf-Nelson	116	2.4	17.8	88.1	.457	.851	4.303	5.624	7.592	.387	2.355
8	A. A. Mt. Hope	119	1.5	18.0	89.4	.437	.856	4.263	5.562	7.453	.361	2.252
15	Beamsdale	115	0.9	17.8	89.8	.380	.851	4.202	5.436	7.267	.317	2.148
4	Honegger	120	3.8	17.5	85.1	.453	.832	4.023	5.436	7.078	.356	2.107
11	Cashman	100	1.6	18.4	94.8	.443	.882	4.443	5.776	7.438	.394	2.056
13	Ghostley	113	1.6	18.5	92.0	.423	.880	4.320	5.631	7.319	.348	2.036
2	Kimber	100	1.7	17.7	87.4	.463	.844	4.102	5.418	7.080	.361	2.024
19	Fletcher	117	3.0	17.6	86.2	.390	.837	3.995	5.236	6.768	.335	1.852
9	Rapp	119	10.6	17.1	86.0	.407	.855	4.022	5.332	6.819	.325	1.813
12	Colonial	113	6.2	18.0	87.5	.440	.877	3.999	5.345	6.675	.366	1.666
16	Babcock	116	3.3	18.7	93.5	.459	.898	4.056	5.429	6.726	.349	1.645
18	Breder	111	0.8	17.9	87.2	.447	.853	3.988	5.292	6.496	.339	1.543
17	Harco	100	3.7	22.5	98.8	.410	1.092	4.442	5.960	6.387	.332	1.312
1	Cornell	113	1.7	18.1	87.4	.420	.862	3.986	5.276	6.211	.332	1.267
7	Parmenter	108	3.6	21.2	91.0	.310	1.013	4.238	5.570	5.804	.731	.966
55	Ames Incross	116	0	20.8	92.1	.523	.985	4.272	5.780	5.859	.862	.941
14	Warren	100	0.9	20.3	88.2	.415	.974	3.956	5.348	5.657	.524	.833
6	Hubbard	119	4.1	21.5	93.9	.385	1.044	4.200	5.477	5.477	.660	.491
	Average	115	2.6	18.8	89.5	.441	.900	4.140	5.506	6.795	.446	1.734

TABLE II

MATURITY, EGG AND BODY SIZE, AND PRODUCTION

Entry No.	Breed	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 per pullet housed			
		Ex. Large	Large	Medium and over		150 days	500 days	151-240 days	241-330 days	331-420 days	421-500 days	471-500 days					
3	Hy-Line	37.0	38.8	20.5	3.5	.2	25.4	3.2	4.3	73.1	86.5	81.1	76.4	74.6	82.4	271.6	
10	Heisdorf-Nelson	27.4	44.2	23.9	4.2	.3	24.9	3.2	4.7	70.5	80.1	70.9	67.5	65.1	74.9	253.6	
20	Dekalb	26.5	41.2	25.0	6.6	.7	24.7	3.4	4.5	71.1	77.8	70.6	71.7	71.2	74.9	253.2	
11	Cashman	42.2	38.3	16.7	2.5	.2	25.7	3.4	5.2	64.8	81.6	76.0	72.6	72.4	77.7	246.6	
8	A.A. Mt. Hope	44.1	37.3	16.7	1.7	.1	25.9	3.3	4.6	64.5	83.5	69.3	67.1	65.2	73.7	242.7	
13	Ghostley	48.5	33.1	15.8	2.4	.2	26.1	3.3	4.8	64.9	80.7	70.0	68.7	67.6	74.9	236.8	
15	Beamsdale	42.5	37.0	18.2	2.1	.2	25.8	3.3	4.3	63.6	81.0	69.6	68.2	66.7	74.4	234.7	
2	Kimber	47.9	33.9	15.5	2.5	.2	26.0	3.3	4.7	63.6	78.4	67.6	66.4	66.7	72.0	232.8	
4	Honegger	32.2	41.6	22.2	3.9	.2	25.2	3.1	4.6	59.7	79.5	69.2	68.3	69.2	73.7	231.7	
17	Harco	57.8	29.2	11.7	1.3	.1	27.0	4.8	6.7	71.2	76.5	69.6	67.3	64.8	73.1	229.7	
9	Rapp	33.9	43.1	19.9	3.0	.1	25.3	3.1	4.4	59.8	77.9	68.8	67.4	65.8	73.0	227.2	
12	Colonial	36.8	37.8	20.9	4.1	.4	25.3	3.3	4.6	63.9	79.1	65.9	68.0	60.0	72.5	226.3	
19	Fletcher	43.9	36.8	16.6	2.6	.2	26.0	3.3	4.6	62.8	76.7	62.8	64.4	66.0	70.5	220.5	
16	Babcock	35.9	41.2	19.4	3.3	.3	25.5	3.5	4.8	63.5	76.1	66.3	64.2	63.1	70.6	219.6	
1	Cornell	25.6	40.6	27.8	5.6	.3	24.5	3.3	4.8	59.5	75.7	68.8	63.8	62.9	71.5	215.8	
5	Ames Incross	47.2	34.6	15.4	2.5	.3	26.3	4.4	6.5	57.3	71.9	64.0	59.4	55.8	66.8	210.1	
18	Brender	45.9	37.2	14.6	2.0	.2	26.2	3.3	4.7	58.6	74.8	60.7	59.8	59.7	67.6	207.7	
7	Parmenter	40.5	38.8	17.2	3.3	.2	25.8	4.4	6.2	61.6	70.1	58.5	56.3	53.0	64.6	205.2	
14	Warren	44.8	35.0	17.5	2.6	.1	26.1	4.2	5.6	56.4	74.2	62.8	60.7	59.2	67.3	203.4	
6	Hubbard	37.4	39.7	19.7	2.9	.2	25.7	4.7	6.3	63.3	73.3	58.2	54.4	50.8	65.8	197.9	
	Average	39.9	38.0	18.8	3.1	.2	25.7	3.6	5.0	63.7	77.8	67.5	65.6	64.0	72.1	228.4	

TABLE III

EGG QUALITY AND FEED CONVERSION

Entry No.	Breeder	Albumen Quality in Haugh Units												Shell Quality (Specific Gravity)		Blood Spots (%)		Colored Mant Spots (%)		lbs. of Feed Per egg		Duncan multiple range test of feed per lb. of eggs
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Small	Large	Small	Large	doz. eggs	lb. of eggs	
		74.2	75.5	76.8	75.2	3.79	3.46	3.16	2.81	3.30	1.2	1.4	0.2	0.3	3.82	2.41						
3	Hy-Line	84.5	74.2	75.5	76.8	75.2	3.79	3.46	3.16	2.81	3.30	1.2	1.4	0.2	0.3	3.82	2.41					
20	Dekalb	88.1	78.5	79.3	71.4	79.3	3.76	3.86	3.05	2.50	3.29	0.9	2.5	0	0.4	3.89	2.52					
8	A.A. Mt. Hope	89.7	80.0	81.5	73.8	81.2	4.01	3.54	2.87	2.62	3.26	2.7	2.6	0.5	1.4	4.31	2.66					
2	Kimber	90.0	79.1	80.0	73.8	80.7	4.60	4.64	3.85	2.90	4.00	3.4	2.1	0.5	0.9	4.34	2.67					
10	Heisdorf-Nelson	89.3	81.9	81.6	74.8	81.9	3.49	3.90	2.94	2.24	3.14	2.1	2.4	0.1	0.5	4.18	2.68					
4	Honegger	88.1	79.1	78.5	71.4	79.3	4.09	4.22	3.22	2.92	3.61	0.9	2.1	0	1.0	4.23	2.69					
15	Beamsdale	88.4	78.0	77.6	70.8	78.7	4.27	3.66	3.30	2.81	3.51	1.8	2.2	0.2	0.7	4.36	2.70					
13	Ghostley	89.2	78.5	79.6	71.3	79.7	4.22	3.75	2.96	2.44	3.34	2.2	2.9	0.2	0.5	4.43	2.72					
9	Rapp	87.4	75.8	76.6	70.3	77.6	4.54	3.95	3.30	2.84	3.66	3.2	3.1	0.5	0.4	4.31	2.72					
19	Fletcher	88.0	79.4	78.5	71.5	79.4	4.25	4.01	3.53	3.26	3.76	2.9	2.3	0.1	0.6	4.43	2.73					
12	Colonial	88.1	79.4	79.0	72.6	79.8	3.42	3.49	3.11	2.44	3.12	4.1	5.8	0.5	0.8	4.33	2.74					
11	Cashman	87.0	79.9	80.4	69.6	79.2	3.84	3.47	2.74	2.08	3.03	3.7	3.8	0.2	0.8	4.41	2.74					
17	Harco	88.0	76.8	78.0	67.8	77.7	2.50	2.99	2.02	1.76	2.22	2.0	3.0	12.4	26.8	4.75	2.81					
16	Babcock	88.8	77.6	79.4	73.2	79.8	3.99	4.15	3.62	2.73	3.62	3.6	3.9	0.1	0.5	4.49	2.82					
18	Brender	87.1	75.1	77.3	70.7	77.5	3.96	3.94	3.08	2.94	3.48	2.0	3.7	0.4	0.1	4.71	2.89					
14	Warren	88.3	77.9	77.6	71.5	78.8	3.05	2.61	2.22	1.60	2.37	0.7	1.3	11.7	26.4	4.76	2.92					
1	Cornell	86.3	76.6	76.9	69.3	77.3	3.76	3.69	3.07	2.54	3.27	4.0	3.3	0.9	1.3	4.48	2.92					
5	Ames Incross	88.4	77.0	76.9	69.5	77.9	3.86	3.64	2.95	2.51	3.19	1.0	2.0	11.1	40.6	4.99	3.04					
7	Parmenter	88.3	75.0	78.9	70.8	78.2	2.98	3.01	2.71	2.16	2.72	0.9	2.7	9.9	29.4	5.04	3.12					
6	Hubbard	87.7	74.0	77.1	71.0	77.5	2.90	2.47	2.06	1.54	2.24	1.4	2.1	11.8	30.8	5.13	3.20					
Average		88.0	77.7	78.5	71.1	78.8	3.76	3.60	2.99	2.48	3.21	2.2	2.8	3.1	8.2	4.47	2.78					

TABLE IV

CAUSE OF MORTALITY AS PERCENTAGES

Entry No.	Breeder	Coccidiosis		Leucosis		Respiratory Disorders		Hemorrhages		Reproductive Disorders		Canine ballism		Peritonitis		Miscellaneous		Unknown		Mo	
		8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days	8-150 days	151-500 days
1	Cornell			7.06		.82	1.02	2.02						2.02			.88	2.00	2.00		
2	Kimber			4.00				2.00						2.00			.84	2.00	.84		
3	Hy-Line			7.00																	
4	Honegger			6.00																	
5	Ames Incross			16.00		.84		4.00						2.00			2.26		.75		.76
6	Hubbard			6.10				1.00											1.70		
7	Parmenter			2.04						1.02											
8	A.A. Mt. Hope			5.00		2.56															
9	Rapp		.76			.84															
10	Heisdorf-Nelson					.77															
11	Cashman			8.00																	
12	Colonial		.86																		
13	Ghostley			5.00		.78	1.00	1.00													
14	Warren			12.00		.86															
15	Beamsdale			4.00																	
16	Babeck		.74																		
17	Harco			5.02																	
18	Brender		.84			.92															
19	Fletcher			8.00			1.00														
20	Dekalb			4.00																	
	Average		.16	.10	.09	.42	.20	.12	1.25	.35	.22		1.26	.41	.75	.46	.35	.64	.45		

TABLE V

## TWO YEAR SUMMARY

Breeder	Stock Designation 1959-60 1960-61	Age at 50% Prod.	% Mortality		Av. Body Wt.		% Prod. after 50%	% Loss eggs from large spots	Albumen Shell Quality (H.U.)	Av. EGG Weight (oz/doz)	Lbs. of Feed Per doz. lb. of eggs	10FCC	Eggs per Fullet housed	
			8-150 days	151-500 days	150 days	500 days								
Dekalb	#131	167.2	2.5	4.5	3.6	4.6	75.2	2.9	30.3	24.7	3.96	2.57	2,283	250.6
Heisdorf-Nelson	Nick-Chick #131	167.5	4.2	3.0	3.4	4.6	74.2	2.4	83.0	24.8	4.15	2.68	2,346	248.0
Cashman	Hi-Cash	173.0	1.2	8.0	3.6	5.2	76.4	5.4	78.1	25.5	4.42	2.77	1,964	244.2
Kimber	K-137	170.0	0.8	4.5	3.4	4.6	72.2	3.7	80.9	25.8	4.27	2.65	2,292	242.9
Hy-Line	934-C	169.5	0	16.0	3.3	4.3	80.0	2.0	75.4	25.4	3.92	2.48	2,310	237.2
Ghostley	Pearl	174.8	0.8	11.5	3.4	4.6	74.4	2.8	79.9	25.8	4.38	2.72	2,122	235.6
Honegger	Layers	177.0	2.8	9.0	3.2	4.6	74.5	2.6	79.5	25.2	4.16	2.66	2,124	232.1
Ames Incross	#505	168.5	3.4	6.5	4.6	6.5	69.7	15.5	77.0	25.6	4.74	2.96	1,048	228.0
Harco	RIR (pure str.)	171.5	6.6	9.0	4.8	6.6	71.2	14.9	78.8	26.5	4.82	2.91	1,206	227.2
A. A. Mt. Hope	Queen	177.5	1.6	12.6	3.4	4.6	72.2	3.8	30.6	25.7	4.36	2.72	1,953	225.2
Rapp	Linecross	178.0	5.3	12.5	3.3	4.5	73.3	4.2	77.9	25.2	4.32	2.74	1,822	223.8
Colonial	True-Line #365	170.0	4.4	14.0	3.4	4.6	71.8	5.4	79.8	25.2	4.38	2.78	1,608	222.9
Fletcher	F-X-100	175.0	2.0	10.5	3.4	4.6	69.8	3.6	79.7	26.0	4.48	2.76	1,916	220.8
Babcock	Bessies	173.0	2.9	14.6	3.6	4.7	70.8	4.1	79.6	25.5	4.45	2.79	1,697	215.6
Beamsdale	#66	176.8	1.3	20.6	3.4	4.4	72.8	3.8	80.4	25.2	4.38	2.79	1,714	215.2
Warren	Sex-Sal-Link Sex-Sal-Link	176.2	5.4	13.0	4.4	5.6	67.4	15.4	79.4	26.0	4.70	2.90	.958	207.7
Hubbard	#496	173.5	4.6	20.0	4.8	6.4	67.2	15.5	79.5	25.7	5.02	3.14	.598	205.2
Corneil	Random-Bred	176.8	1.7	15.6	3.5	4.8	67.8	5.3	78.2	24.6	4.63	3.02	1,090	204.6
Parmenter	RIR (certified) RIR (certified) P/M	176.2	4.8	14.2	4.4	6.1	64.8	15.4	79.7	25.4	4.96	3.12	.732	200.6
Average		173.3	3.0	11.6	3.7	5.0	71.9	6.8	79.4	25.5	4.45	2.80	1,673	225.6

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

<u>NAME AND ADDRESS</u>	<u>Stock Designation</u>	<u>Source of Sample</u>
Ames In-Cross, Des Moines, Iowa	IBX 505	Suffolk Chick Hatchery Suffolk, Va.
Arbor Acres Farm, Inc., Glastonbury, Conn.	WL Str.X Mt. Hope Queen	Joe K. Davis Hatchery Earl, N. C.
Babcock Poultry Farms, Ithaca, N. Y.	WL 3wX Bessies	Harrolds Hatchery, Inc. Winterville, Ga.
Beamsdale Farm Lawndale, N. C.	WL Str.X 66	Beamsdale Hatchery Lawndale, N. C.
Brender's Leghorns Ferndale, N. Y.	WL 4wX Money Maker 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	Foard's Hatchery Burgaw, N. C.
Cornell University Ithaca, N. Y.	WL Ran. Bred	Cornell University Ithaca, N. Y.
DeKalb Agricultural Assn. Sycamore, Ill.	IBX 131	Raleigh Hatchery Raleigh, N. C.
J. O. Fletcher & Son Concord, N. C.	WL Str.X F-X-100	Fletcher Hatchery Concord, N. C.
Ghostley's Poultry Farm Anoka, Minn.	WL 3wX Pearls	Beamsdale Hatchery Lawndale, N. C.
Harco Orchards & Poultry Farms, Inc., South Easton, Mass.	WB Sex-Links	Harco Orchards & Poultry Farms, Inc., S. Easton, Mass.
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 Garner, N. C.
Hubbard Farms, Inc. Walpole, N. H.	XB H-496	Hubbard Farms, Inc. Statesville, N. C.
HyLine Poultry Farms Des Moines, Iowa	IBX 934-H	Belk Poultry Farm Monroe, N. C.
Kimber Farms, Inc. Niles, Calif.	WL 3wX K-137	Hubbard Farms, Inc. Statesville, N. C.
Parmenter Reds, Inc. Franklin, Mass	RIR Str.X PM }	Belk Poultry Farms Monroe, N. C.
Rapp Leghorn Farm Farmingdale, N. J.	WL Str. X Linecross	Quinn Hatchery Murphy, N. C.
J. J. Warren North Brookfield, Mass.	XB Sex-Sal-Link	J. J. Warren, South, Inc. Greenville, S. C.