AGRICULTURAL EXTENSION SERVICE

NORTH CAROLINA STATE UNIVERSITY

SCHOOL OF AGRICULTURE AND LIFE SCIENCES

October 4, 1972

OFFICE OF EXTENSION POULTRY SCIENCE
SCOTT HALL
BOX 5307 ZIP 27607

Enclosed is the report of the growing period for the Fourteenth North Carolina Random Sample Laying Test which you have requested. Please circulate it among your associates in order that maximum use of it may be made. If additional copies are needed, the request should be sent to Mr. T. R. Burleson, Jr., Piedmont Research Station, Route #6, Box 420, Salisbury, N. C., 28144.

Very truly yours,

Grady A. Martin

Grady A. Martin
Extension Poultry Specialist

FOURTEENTH NORTH CAROLINA RANDOM SAMPLE LAYING TEST
Growing Report
March 24, 1972, through August 20, 1972

The North Carolina Random Sample Laying 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 Dr. G. A. Martin is Project Leader. The purpose of the tests is to assist poultrymen in evaluating stocks of commercial layers and management systems.

Two cage management systems are compared to a combination half-litter and half-slat management system.

Samples of 1,080 freshly gathered eggs were taken at randomly selected supply flocks, or by random sampling from egg rooms when nest sampling was not feasible. Public employees in agriculture selected the samples, sealed the cases and sent them to the test site where all eggs were incubated; 360 sexed pullets (when available) were placed for each entry. Two pens of 60 birds each were placed on pine shavings litter-hardwood slat floors at 1.4 sq. ft. per bird for 150 days. Four groups of 60 each were placed in 24"x20" wire cages. Floor space was 24 sq. in. for the first five weeks and 56 sq. in. from five weeks to 150 days. At 150 days, the litter-slat grown birds were randomly reduced to 50 birds and kept in the same pens at 1.67 sq. ft. per bird for the laying period (Table L). At the same time, two groups of the cage grown birds (Table K1) were randomly reduced to 50 birds each and housed in 24"x20" cages at seven birds per cage. The other two groups were randomly reduced to 52 birds each and housed in two blocks of 10"x18" cages at two birds per cage (Table K3).

Inadequate supplemental heat when a severe weather change occurred during the first night the chicks were in cages caused much heavier first-week mortality in groups K1 and K3 than was experienced in group L. Surplus pullets from group L were added to groups K1 and K3 at housing as needed to avoid severe imbalance of number of pullets per lot. Consequently, 96.03% of full capacity was housed. This compares to 98.63% last year and provides adequate numbers in all replicates.

Commercial all-mash rations were purchased on contract. Starting mash (20% protein) was fed for six weeks and growing mash (16% protein) was fed until housing at 150 days. Commercial laying mash is being fed during the laying period.

All birds were vaccinated at day-old for Marek's; Maag and Easterbrooks, Inc., Raleigh, N. C., provided the herpes virus of turkeys grown in duck cells. We express our appreciation to this organization and its personnel. Marek's mortality during the growing period was found in only one pullet of the 6221 started. Two other pullets died at 21 weeks with visceral lesions indicating either Marek's or lymphoid leukosis.

All birds were debeaked at seven days; vaccinated for Newcastle and bronchitis by occular method at one day (LaSota) and with LaSota Newcastle at five weeks; vaccinated for Pox via wing-web at 12 weeks; and vaccinated for Avian encephalomyelitis at 14 weeks. Birds exposed to litter were given six-species coccidiosis vaccine at five days.

Beginning with this test, North Carolina has established four entry categories. Category I is stocks experiencing major distribution in N. C., and adjacent states. This category is subdivided into: A. those stocks supported by the breeder or distributor; B. those stocks acquired with approval of the breeder or distributor but without financial participation; and C. those stocks acquired without approval of the breeder or distributor. Category II is commercial stocks whose distributors requested entry. Category III is experimental stocks whose developers requested entry. Category IV is control or test stocks secured by the management. The category of each entry is shown on the stock list and the cooperator column indicates if the breeder entered the stock and provided financial support (Yes), if the distributor made the entry (Dist.) or if the stock was acquired by the test management without a breeder or distributor request (No).

The tables list the combined data for the entry (Table 14G-C), the data for the litter-slat housing (Table 14G-L), cage growing for two-bird laying cages (Table 14G-K3), and cage growing for seven-bird laying cages (Table 14G-K1). The entry number was drawn at random. The breeder is fully identified later, with stock identification, entry category, cooperator indication, and source of sample listed. Net pullets at 1 wk. excludes first week mortality, sexing errors, and accidental deaths. Mortality 8 through 150 days is average of group data. Average feed per pullet for 150 days is based on bird-days and does not charge against survivors the feed consumed by birds that died. Average body weight at 150 days is average weight of survivors. Feed and chick cost per pullet housed distributes the total cost of the net pullets at one week and the feed which they consumed equally among survivors and, therefore, includes the cost of mortality. Feed costs are based upon three-year averages of monthly price quotations from the N. C. Dept. of Agriculture. Chick prices are the three-year average price per 10,000 quoted by distributors. Average eggs per pullet at 150 days indicates general maturity level of the entry at housing.

GROWING PERIOD - TABLE 14G-C

Entry No.	Breeder	Net Pullets at One Week	Mortality 8-150 da. %	Av. Lbs Feed/Pullet 150 Days	Av. Body Wt. at 150 da.	Feed & Chick Cost/Pullet Housed	Av. Eggs Per Pull to 150 d
1	H & N (Experimental A)	326	2.9	15.1	3.0	0.99	0.66
2	Welps (971)	308	9.3	16.2	3.1	1.06	0.86
3	H & N ("Nick Chick")	271	4.1	15.0	2.9	0.99	0.43
4	Davis (Combiner)	300	2.7	18.6	4.1	1.15	0.02
5	Shaver (Experimental)	320	0.6	15.6	3.1	1.04	0.04
6	Ideal (236)	313	5.6	16.6	3.4	1.02	0.51
7	Ind.Fm.Bu. (Duchess 60)	327	6.7	15.7	3.1	1.06	0.54
8	Babcock (B-390)	300	2.1	18.9	4.1	1.14	0.10
9	Kimber (K-137)	329	2.0	15.6	3.1	1.01	0.14
10	Hy-Line (W-36)	345	3.2	15.1	3.0	1.00	0.01
11	Tatum (T-111)	321	4.8	18.4	4.1	1.14	0.01
12	Tatum (T-100)	337	0.7	15.7	3.1	1.01	0.47
13	Shaver (288)	323	4.0	16.3	3.2	1.08	0.11
14	Thornber (808)	331	3.1	15.4	3.1	1.05	0.16
15	Parks (Keystone)	215	2.5	17.2	3.3	1.11	0.19
16	DeKalb (171)	309	5.7	16.2	3.2	1.08	0.12
17	Colonial (365-B)	300	1.6	15.7	2.9	0.99	0.51
18	Hubbard (Gld. Comet)	290	2.4	17.9	3.9	1.10	0.35
19	Babcock (B-300)	332	2.5	15.5	3.0	1.00	0.51
20	Anthony (W. Leg.)	314	3.7	16.2	3.0	1.01	0.08
Av.		311	3.5	16.3	3.3	1.05	0.29

GROWING PERIOD - TABLE 14G-K1

1	H & N (Experimental A)	102	6.0	14.8	3.0	1.01	0.39
2	Welps (971)	100	7.1	16.5	3.2	1.05	0.62
3	H & N ("Nick Chick")	72	5.2	14.8	3.0	0.98	0.64
4	Davis (Combiner)	102	4.9	17.9	3.9	1.12	0.06
5	Shaver (Experimental)	96	0	16.3	3.1	1.07	0.08
6	Ideal (236)	85	5.8	17.7	3.7	1.07	0.84
7	Ind.Fm.Bu. (Duchess 60)	111	5.5	15.5	3.1	1.03	0.35
8	Babcock (B-390)	92	3.3	19.5	4.2	1.17	0.12
9	Kimber (K-137)	94	3.3	16.4	3.0	1.05	0.08
10	Hy-Line (W-36)	115	3.5	14.8	3.0	0.98	0.00
11	Tatum (T-111)	99	8.0	18.7	4.1	1.15	0.03
12	Tatum (T-100)	105	2.1	15.8	3.1	1.02	0.43
13	Shaver (288)	107	5.6	16.4	3.1	1.10	0.05
14	Thornber (808)	105	2.9	15.4	3.1	1.05	0.19
15	Parks (Keystone)	68	6.2	17.8	3.4	1.16	0.18
16	DeKalb (171)	91	7.9	16.5	3.2	1.10	0.07
17	Colonial (365-B)	97	4.1	16.1	2.8	1.02	0.67
18	Hubbard (Gld. Comet)	85	6.0	18.0	4.0	1.11	0.35
19	Babcock (B-300)	107	1.0	15.3	3.0	0.98	0.53
20	Anthony (W. Leg.)	99	2.3	15.0	2.9	0.99	0.02
Av.		97	4.5	16.5	3.3	1.06	0.28

GROWING PERIOD - TABLE 14G-L

Entry No.	Breeder	Net Pullets at One Week	Mortality 8-150 da. %	Av. Pounds Feed/Pullet 150 days	Av. Body Wt. at 150 days	Feed & Chick Cost/Pullet Housed	Av. Egg Per Pul to 150
1	H & N (Experimental A)	115	0	15.7	3.2	1.00	1.29
2	Welps (971)	107	5.6	16.2	3.2	1.05	1.29
3	H & N ("Nick Chick")	104	2.9	15.9	3.1	1.02	0.46
4	Davis (Combiner)	116	0	18.2	4.2	1.12	0.00
5	Shaver (Experimental)	119	0.8	15.7	3.2	1.04	0.04
6	Ideal (236)	119	1.7	16.1	3.5	0.98	0.43
7	Ind.Fm.Bu. (Duchess 60)	111	2.7	16.1	3.2	1.05	0.91
8	Babcock (B-390)	107	0	19.1	4.3	1.14	0.17
9	Kimber (K-137)	119	0.8	16.1	3.5	1.03	0.33
10	Hy-Line (W-36)	115	0.9	15.6	3.1	1.00	0.03
11	Tatum (T-111)	117	2.6	18.4	4.3	1.14	0.00
12	Tatum (T-100)	118	0	16.0	3.2	1.02	0.76
13	Shaver (288)	110	4.5	16.9	3.4	1.12	0.32
14	Thornber (808)	119	1.7	15.8	3.2	1.06	0.14
15	Parks (Keystone)	75	0	17.2	3.3	1.10	0.31
16	DeKalb (171)	119	4.2	15.8	3.2	1.05	0.04
17	Colonial (365-B)	113	0.8	15.9	3.1	0.99	0.52
18	Hubbard (Gld. Comet)	117	0	17.4	3.9	1.07	0.31
19	Babcock (B-300)	118	1.7	16.0	3.2	1.02	0.91
20	Anthony (W. Leg.)	116	0.8	16.0	3.3	1.01	0.10
Av.		113	1.6	16.5	3.4	1.05	0.42

GROWING PERIOD - TABLE 14G-K3

1	H & N (Experimental A)	109	2.7	14.7	2.7	0.96	0.30
2	Welps (971)	101	15.3	15.7	3.0	1.07	0.67
3	H & N ("Nick Chick")	95	4.2	14.5	2.7	0.96	0.18
4	Davis (Combiner)	82	3.3	19.8	4.2	1.20	0.00
5	Shaver (Experimental)	105	1.0	15.0	2.9	1.01	0.00
6	Ideal (236)	109	9.2	16.0	3.1	1.01	0.25
7	Ind.Fm.Bu. (Duckess 60)	105	11.8	15.6	3.0	1.09	0.37
8	Babcock (B-390)	101	3.0	18.2	3.7	1.11	0.00
9	Kimber (K-137	116	1.7	14.3	2.7	0.95	0.01
10	Hy-Line (W-36)	115	5.2	14.9	3.0	1.00	0.00
11	Tatum (T-111)	105	3.7	18.0	4.0	1.12	0.00
12	Tatum (T-100)	114	0	15.2	2.9	0.98	0.22
13	Shaver (288)	106	1.9	15.7	3.0	1.04	0.07
14	Thornber (808)	107	4.8	15.2	2.9	1.05	0.15
15	Parks (Keystone)	72	1.4	16.7	3.1	1.07	0.09
16	DeKalb (171)	99	5.1	16.4	3.2	1.08	0.24
17	Colonial (365-B)	90	0	15.0	2.7	0.95	0.33
18	Hubbard (Gld. Comet)	88	1.1	18.3	3.8	1.11	0.37
19	Babcock (B-300)	107	4.8	15.1	2.9	0.99	0.08
20	Anthony (W. Leg)	99	7.9	16.7	2.9	1.04	0.12
Av.		101	4.4	16.0	3.1	1.04	0.17

Breeder	Stock Identification	Entry Category*	Cooperation	Source of Sample
George M. Anthony & Sons Strausstown, Pa. 19559	Anthony Strain Cross WL SX	II	Yes	Geo. M. Anthony & Sons Poultry Farm, Strausstown, Pa. 19559
Babcock Poultry Farm, Inc. Box 280, Ithaca, N.Y.14850	Babcock B-300 WL IN	I-A	Yes	Harrold's Chicks, Inc. Winterville, Ga. 30683
Babcock Poultry Farm, Inc. Box 280, Ithaca, N.Y. 14850	Babcock B-390 RIRxBPR BX	I-A	Yes	Beamsdale Hatchery Lawndale, N. C. 28090
Colonial Poultry Farms,Inc. Box 89, Pleasant Hill,Mo. 64080	True-Line 365-B WL IN	II	Yes	Colonial Poultry Farms, Inc. Box 89, Pleasant Hill, Mo. 6408(
Joe K. Davis Hatchery Box 27, Earl, N. C. 28038	Combiner Sex Link RIRxBPR BX	I-A	Yes	Joe K. Davis Hatchery Box 27, Earl, N. C. 28038
DeKalb AgResearch, Inc. Sycamore Rd.,DeKalb,Il. 60115	DeKalb 171 INX	I-C	No	Not applicable
H&N Inc., 15305 N.E.40th St., Redmond, Wa. 98052	H&N Expl. A WL SX	III	Yes	Shipped by breeder
H&N Inc., - entry by J. C. Castlebury Pltry. Fm.	H&N "Nick Chick" WL 4wX	I-A	Dist.	J. C. Castlebury Poultry Farm Route #3, Apex, N. C. 27502
Hubbard Farms, Inc. Walpole, N. H. 03608	Hubbard Gld. Comet NHxSYN BX	-A	Yes	Rocky Ford Hatchery Box 26, Lincolnton, N.C. 28092
Hy-Line International 1206 Mulberry, Des Moines,Io.	Hy-Line W-36 INX	I-C	No	Not applicable
Ideal Poul.Breed.Farms,Inc. Box 591, Cameron, Tx.76520	Ideal 236 BX	II	Yes	Ideal Poultry Breeding Farms,Inc Box 591, Cameron, Tx. 76520
Ind.Fm.Bu.Coop.Assn.,Inc. Indianapolis, In. 46204	Duchess 60 WL SX	II	Yes	Co-op. Breeding & Research Farm R#2, W. Lafayette, In. 47906
Kimber Farms,Inc., Entry by Nichols Poultry Farm, Inc.	Kimber K-137 WL SX	I-A	Dist.	Nichols Poultry Farm, Inc., R#2 Jefferson City, In. 37760
Parks Poultry Farm, R#4 Box 118, Altoona, Pa. 16601	Keystones WL 4wSX	II	Yes	Parks Poultry Farm, R#4, Box 118, Altoona, Pa. 16601
Shaver Poul.Breed.Fms.,Ltd. Box 400, Galt, Ont.,Canada	Shaver Expl. WL SX	III	Yes	Shipped by breeder
Shaver Poul.Breed.Farms,Ltd. Box 400, Galt, Ont.,Canada	Shaver 288 WL SX	I-A	Yes	Delta Hatchery, Lake City, Florida 32055
Tatum Farms, R#3, Dawsonville, Ga. 30534	Tatum T-100 WL SX	II	Yes	Tatum Farms, Route #3, Dawsonville, Ga. 30534
Tatum Farms, Route #3, Dawsonville, Ga. 30534	Tatum T-111 RIRxBPR BX	II	Yes	Tatum Farms, Route #3, Dawsonville, Ga. 30534
Thornber (North America) Wyoming, Ont., Canada	Thornber 808 WL 4wSX	II	Yes	Thornber (North America) Wyoming, Ontario, CANADA
Welp's Breeding Farm Box 366, Bancroft, Io. 50517	Welp Line 971 WL IN	II	Yes	Welp's Breeding Farm Box 366, Bancroft, Io. 50517

* See text. 14th Test