

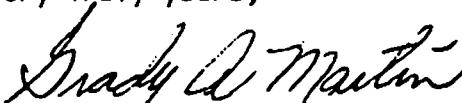
AGRICULTURAL EXTENSION SERVICE
NORTH CAROLINA STATE UNIVERSITY AT RALEIGH
SCHOOL OF AGRICULTURE AND LIFE SCIENCES

OFFICE OF EXTENSION POULTRY SCIENCE
SCOTT HALL
Box 5307 Zip 27607

October 14, 1974

Enclosed is the report of the growing period for the Sixteenth 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, North Carolina, 28144.

Very truly yours,



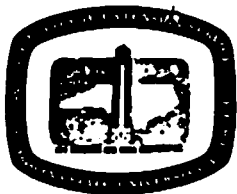
Grady A. Martin
Extension Poultry Specialist

SIXTEENTH NORTH CAROLINA RANDOM SAMPLE LAYING TEST
Growing Report
March 22, 1974 through August 18, 1974

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" x 20" 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 1.74 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" x 20" cages at seven birds per cage. The other two groups were randomly reduced to 52 birds each and housed in two blocks of 10" x 18" cages at two birds per cage (Table K3).



Commercial all-mash rations were purchased on contract. Starting mash (20% protein) was fed for eight 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 three pullets of the 7201 started for research and the Laying Test.

All birds were debeaked at seven days; vaccinated for Newcastle and bronchitis by ocular method at one day (LaSota) and with LaSota Newcastle at four weeks; vaccinated for Pox via wing-web at 9 weeks; vaccinated for Avian encephalomyelitis at 12 weeks, and vaccinated for LaSota Newcastle and bronchitis at 17 weeks.

In this test, North Carolina has limited entries to Category I. As in the previous test, Category I-A is stocks fully supported by the breeder or distributor, I-B is stocks acquired with approval of the breeder or distributor but without financial participation, and I-C is stocks acquired without approval of the breeder or distributor. The category of each entry is shown on the stock list and the cooperation 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 management without breeder or distributor request (No).

The facilities released by limiting entries in this test to ten are being used for a series of management research trials. We are attempting to determine the causes of the reduction of egg numbers for caged birds when compared to birds housed in litter-slat pens. We express our appreciation to Babcock Poultry Farm, Inc., DeKalb AgResearch, Inc., Hubbard Farms, Inc., Shaver Poultry Breeding Farms, Ltd., and their distributors for providing extra hatching eggs to be used in this research. Research results will be published from time to time as appropriate.

The tables list, the combined data for the entry (Table 16G-C), the data for the litter-slat housing (Table 16G-L), cage growing for two-bird laying cages (Table 16G-K3), and cage growing for seven-bird laying cages (Table 16G-K1). The entry number was drawn at random. The breeder is fully identified later, with stock identification, entry category, cooperater indication, and source of sample listed. Net pullets at 1 week 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 16G-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. Eggs per pullet to 150 da.
4	Arbor Acres (AA-26)	118	2.6	14.4	3.10	1.25	0.11
5	Babcock (B-380)	119	0.0	15.5	3.29	1.32	0.00
6	DeKalb (231)	116	0.0	15.6	3.10	1.29	0.74
7	Hy-Line (W-36)	119	1.7	14.9	3.04	1.30	0.19
8	H&N("Nick Chick")	115	0.8	14.3	2.82	1.23	0.17
9	Davis (Combiner)	120	2.5	15.8	3.55	1.36	0.02
10	Babcock (B-300)	120	0.8	14.6	2.81	1.27	0.38
11	Shaver (288)	121	2.5	15.0	3.03	1.30	0.09
12	DeKalb-Warren (SSL)	119	0.8	15.4	3.24	1.34	0.00
13	Hubbard (Gld. Comet)	118	0.0	15.3	3.25	1.28	0.16
Average		118	1.2	15.1	3.12	1.29	0.19

GROWING PERIOD - TABLE 16G-K3

4	Arbor Acres (AA-26)	119	0.8	15.2	2.80	1.30	0.08
5	Babcock (B-380)	119	0.8	16.0	3.34	1.36	0.00
6	DeKalb (231)	117	1.7	14.3	2.83	1.27	0.42
7	Hy-Line (W-36)	117	3.4	15.3	3.04	1.33	0.08
8	H&N("Nick Chick")	120	0.0	15.0	2.61	1.27	0.07
9	Davis (Combiner)	119	3.4	16.0	3.46	1.45	0.02
10	Babcock (B-300)	116	2.6	14.9	3.04	1.29	0.37
11	Shaver (288)	115	1.7	15.6	3.08	1.34	0.16
12	DeKalb-Warren (SSL)	119	0.0	15.5	3.42	1.34	0.00
13	Hubbard (Gld. Comet)	120	0.8	16.3	3.34	1.36	0.14
Average		118	1.5	15.4	3.10	1.33	0.13

GROWING PERIOD - TABLE 16G-C

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. Eggs per pullet to 150 da.
4	Arbor Acres (AA-26)	355	1.1	14.9	2.97	1.28	0.08
5	Babcock (B-380)	356	0.8	16.1	3.43	1.37	0.01
6	DeKalb (231)	353	1.1	15.1	3.04	1.30	0.47
7	Hy-Line (W-36)	352	2.6	15.3	3.04	1.33	0.11
8	H&N("Nick Chick")	352	0.6	14.7	2.80	1.26	0.26
9	Davis (Combiner)	358	2.0	15.9	3.53	1.39	0.02
10	Babcock (B-300)	353	3.1	15.3	3.04	1.33	0.65
11	Shaver (288)	349	2.3	15.6	3.16	1.35	0.16
12	DeKalb-Warren (SSL)	358	0.6	15.7	3.42	1.36	0.00
13	Hubbard (Gld. Comet)	358	1.1	15.8	3.33	1.32	0.12
Average		354	1.5	15.4	3.18	1.33	0.18

GROWING PERIOD - TABLE 16G-KI

4	Arbor Acres (AA-26)	118	0.0	15.1	3.00	1.29	0.03
5	Babcock (B-380)	118	1.7	16.9	3.66	1.43	0.02
6	DeKalb (231)	120	1.7	15.3	3.18	1.34	0.26
7	Hy-Line (W-36)	116	2.6	15.6	3.12	1.36	0.05
8	H&N("Nick Chick")	117	0.9	14.9	2.96	1.28	0.06
9	Davis (Combiner)	119	0.0	16.0	3.57	1.37	0.02
10	Babcock (B-300)	117	6.0	16.3	3.26	1.43	1.19
11	Shaver (288)	113	2.7	16.3	3.35	1.40	0.23
12	DeKalb-Warren (SSL)	120	0.8	16.1	3.60	1.39	0.00
13	Hubbard (Gld. Comet)	120	2.5	15.9	3.39	1.31	0.06
Average		118	1.9	15.8	3.31	1.36	0.21

Breeder	Stock Identifi- cation	Entry Cate- gory *	Source of Sample
Arbor Acres Farm, Inc. Glastonbury, CN 06033	Arbor Acres 26 WL SX	I-C No	Not Applicable
Babcock Poultry Farm, Inc. Box 280 Ithaca, NY 14850	Babcock B-300F WL INX	I-A Yes	Harrold's Hatchery, Inc. P. O. Box 98 Winterville, GA 30683
Babcock Poultry Farm, Inc. Box 280 Ithaca, NY 14850	Babcock B-380 RIRxSYN IBX	I-A Yes	Babcock Poultry Farm, Inc. Ithaca, NY 14850
Joe K. Davis Hatchery Box 27 Earl, NC 28038	Combiner Sex Link RIRxBPR BX	I-A Yes	Joe K. Davis Hatchery Earl, NC 28038
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb 231 IBX	I-C No	Not Applicable
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb-Warren Sex-Sal-Link RIRxRIW BX	I-C No	Not Applicable
H & N, Inc. Entry by Owens Hatchery, Inc. Dahlonega, GA 30533	H & N "Nick Chick" WL 4wX	I-A Dist.	Owens Hatchery, Inc. Dahlonega, GA 30533
Hubbard Farms, Inc. Walpole, NH 03608	Hubbard Gld. Comet NHxSYN BX	I-A Yes	Rocky Ford Hatchery Box 26 Lincolnton, NC 28092
Hy-Line International 1206 Mulberry Des Moines, IO 50309	Hy-Line W-36 INX	I-C No	Not Applicable
Shaver Poultry Breeding Farms, Ltd., Box 400 Galt, Cambridge Ontario, NIR 5W6, CANADA	Starcross 288 WL SX	I-A Yes	Shaver Poultry Breeding Farms, Ltd., Box 400 Galt, Cambridge, Ontario NIR 5W6, CANADA

* See Text. Sixteenth Test