

AGRICULTURAL EXTENSION SERVICE  
NORTH CAROLINA STATE UNIVERSITY AT RALEIGH

SCHOOL OF AGRICULTURE AND LIFE SCIENCES

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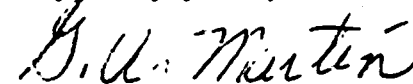
December 11, 1978

Enclosed is the report of the growing period for the Twentieth 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, NC 28144.

Laying tests have used uniform feeding programs and have thereby been unable to measure the magnitude of general mean and strain interaction effects of this practice vs. the commercial practice of feeding to specific flock needs. For this flock all birds are caged during both growing and laying periods. The growing program was uniform for all reps and strains. During the laying period five layer rations are available. Three reps of each strain in each of closed and curtain-side housing are being phased-fed as in previous tests. Another three reps of each strain in each type of housing are being fed to conform with a set of instructions by the breeder or distributor such as would be given to a customer or a field service supervisor who had the five feed formulas to choose among. Feed consumption and production data are calculated every 14 days and appropriate changes in choice of feed are made. All test birds are full-fed the ration assigned to them.

Results of this comparison should give some indication of the value of feed formulation for specific flocks.

Very truly yours,



GRADY A. MARTIN

Extension Poultry Specialist

TWENTIETH NORTH CAROLINA RANDOM SAMPLE LAYING TEST  
Growing Report  
March 23, 1978 through August 16, 1978

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 flock is maintained at the Piedmont Research Station near Salisbury, North Carolina. The purpose of the tests is to assist poultrymen in evaluating stocks of commercial layers and management systems.



COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, NORTH CAROLINA STATE UNIVERSITY AT RALEIGH, 100 COUNTIES AND U. S. DEPARTMENT OF AGRICULTURE COOPERATING

Two cage management systems and two layer feeding programs are compared in this test.

Samples of 1080 freshly gathered hatching eggs were taken at selected supply flocks or by random sampling from egg rooms when nest sampling was not feasible. Public employees in Agriculture supervised the sample selection and sealed the cases for shipment to the test site where all eggs were incubated; 405 sexed pullet chicks (when available) were placed for each entry. One hundred eighty birds were placed as three reps in 24" x 20" (61 cm x 51 cm) brood-grow cages in a curtain-side (CS) house @ 24 square inches per bird for five weeks and @ 56 square inches per bird thereafter (65 and 28 birds/M<sup>2</sup>). Two hundred twenty-five birds were placed as two reps in 24" x 20" brood-grow cages in a light and air controlled (LAC) house @ 21 square inches per bird for five weeks and @ 64 square inches per bird thereafter (73 and 24 birds/M<sup>2</sup>).

At 147 days, six reps of 26 birds each (when available) were randomly selected from pullets of each stock in the CS house and placed in a similar house with two birds per 10" x 18" cage @ 90 square inches per bird (17 birds/M<sup>2</sup>). At the same time six reps of 30 birds each (when available) were randomly selected from pullets of each stock in the LAC house and placed in a similar house with three birds per 12" x 16" cage @ 64 square inches per bird (24 birds/M<sup>2</sup>). Three reps in each house were assigned to breeder-specified feeding program and the other three were placed on the regular phased feeding program.

All-mash rations were purchased on contract from a commercial feed manufacturer. Starting mash (20.8% protein, 1329 Kcal. M.E./lb.) was fed at a rate of 2.67 lbs. per bird and growing mash (14.8% protein, 1325 Kcal. M.E./lb) was fed ad lib until housing at 147 days or until 5% production was reached. Light in the CS house was held constant at maximum day length during the growing period. Nine hours of light were maintained in the LAC house.

All birds were vaccinated at day-old for Marek's with cell associated live turkey herpes virus vaccine. We express our appreciation to Dr. Bob Keenum, Keenum, Inc., P. O. Box 1706, Anniston, Alabama for providing this vaccine for the flock and to Dr. Max Colwell, who was then in the Department of Veterinary Science, North Carolina State University, for supervising the administration of the vaccine. No mortality was attributable to Marek's during the growing period of this flock.

All pullets were debeaked at between six and ten days of age with touch-up at about 12 weeks of age if needed. All pullets were vaccinated for Newcastle at seven days (B1), four weeks (LaSota) and 16 weeks (LaSota) and for bronchitis at seven days and 16 weeks via water; vaccinated for pox via wing-web at 12 weeks; and vaccinated for Avian encephalomyelitis at 16 weeks of age. Mycoplasma gallisepticum status of the flock has been monitored and remains negative, even though hatched and grown on the same farm with a positive adult flock.

Entries. Entry policy remains unchanged from the Nineteenth Test, except for the additional requirement of Mg clean supply source. This additional requirement precluded some Category II stocks that might otherwise have been tested. Complete entry identification and source information are included elsewhere in this report.

GROWING PERIOD - TABLE 20G-CL

<u>Entry No.</u>	<u>Breeder</u>	<u>Mortality 8 - 147 Days %</u>	<u>Av. Lbs. Feed Per Pullet for 147 Days</u>	<u>Av. Body Wt. at 147 Days</u>	<u>Feed &amp; Chick Cost/ Pullet Housed</u>	<u>Av. Eggs Per Pullet at 147 Days</u>
1	Hubbard (Gld. Comet)	0.00	13.82	3.12	1.47	0.00
2	Babcock (B-300V)	0.36	13.58	2.84	1.45	0.13
3	Babcock (B-380)	1.77	15.59	3.51	1.62	0.16
4	Euribrid (Hisex Wh.)	0.52	13.14	2.72	1.42	0.37
5	Tatum (T-100)	1.72	15.17	2.81	1.56	0.02
6	Hy-Line (W-36)	1.64	13.04	2.80	1.42	0.01
7	Shaver (288)	0.71	14.15	2.88	1.50	0.10
8	DeKalb (XL Link)	0.18	14.09	2.84	1.49	0.05
9	DeKalb (Amber Link)	0.45	14.63	3.21	1.53	0.02
10	H & N ("Nick Chick")	0.86	13.25	2.74	1.43	0.09
AV	Average	0.82	14.05	2.95	1.49	0.10

GROWING PERIOD - TABLE 20G-CS

1	Hubbard (Gld. Comet)	1.34	13.81	3.19	1.48	0.06
2	Babcock (B-300V)	1.11	13.44	2.68	1.45	0.32
3	Babcock (B-380)	4.56	16.00	3.54	1.66	0.07
4	Euribrid (Hisex Wh.)	1.25	13.57	2.92	1.46	2.82
5	Tatum (T-100)	3.95	16.17	3.05	1.66	0.56
6	Hy-Line (W-36)	0.56	13.11	2.83	1.42	0.05
7	Shaver (288)	1.12	13.77	2.96	1.47	0.09
8	DeKalb (XL Link)	0.58	13.40	2.84	1.44	0.19
9	DeKalb (Amber Link)	0.34	13.95	3.24	1.48	0.10
10	H & N ("Nick Chick")	0.00	14.12	2.93	1.49	0.73
AV	Average	1.48	14.13	3.02	1.50	0.50

GROWING PERIOD - TABLE 20G-AV

1	Hubbard (Gld. Comet)	0.67	13.82	3.16	1.47	0.03
2	Babcock (B-300V)	0.74	13.51	2.76	1.45	0.22
3	Babcock (B-380)	3.17	15.80	3.52	1.64	0.12
4	Euribrid (Hisex Wh.)	0.88	13.36	2.82	1.44	1.60
5	Tatum (T-100)	2.84	15.67	2.93	1.61	0.29
6	Hy-Line (W-36)	1.10	13.07	2.82	1.42	0.03
7	Shaver (288)	0.92	13.96	2.92	1.48	0.09
8	DeKalb (XL Link)	0.38	13.75	2.84	1.46	0.12
9	DeKalb (Amber Link)	0.39	14.29	3.22	1.51	0.05
10	H & N ("Nick Chick")	0.43	13.69	2.84	1.46	0.41
AV	Average	1.15	14.09	2.98	1.49	0.30

Breeder	Stock Identi- fication	Entry Cate- gory	Source of Sample
Babcock Poultry Farm, Inc. Box 280 Ithaca, NY 14850	Babcock B-300V WL INX	I-A YES	Harrold's Hatchery 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. Box 280 Ithaca, NY 14850
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb XL-Link WL 4wSX	I-A YES	Clay's Hatchery Route 1 Blackstone, VA 23824
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb Amber-Link RIRxSYN BX	I-A YES	Hillcrest Hatcheries Route 2, Box 163 Bogart, GA 30622
Euribrid B.U. Entry by Pilch-Hisex, Box 438 Troutman, NC 28677	Hisex White WL 4wSX	I-A YES	Grassy Knoll Hatchery P. O. Box 6036 Charlottesville, VA 22906
H & N, Inc. 15305 N.E. 40th St. Redmond, WA 98052	H&N "Nick Chick" WL 4wSX	I-A YES	Walter Wheelock Hatchery Route 8 Chambersburg, PA 17201
Hubbard Farms, Inc. Walpole, NH 03608	Hubbard Golden Comet NHxSYN BX	I-A	Bowers Brothers Hatchery Albemarle, NC 28001
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	Delta Hatcheries P. O. Box 769 Lake City, FL 32055
Tatum Farms Route 3 Dawsonville, GA 30534	Tatum T-100 WL SX	I-A YES	Tatum Farms Route 3 Dawsonville, GA 30534

TWENTIETH NORTH CAROLINA RANDOM SAMPLE LAYING TEST

We express our appreciation to Babcock Poultry Farms, Inc., DeKalb AgResearch, Inc., H & N, Inc., Hubbard Farms, Pilch-Hisex, Shaver Poultry Breeding Farms, Ltd., Wallace Hatcheries, Inc., and their distributors for providing extra hatching eggs for birds to be used in LAC housing cage shape and crowding research and in bird interaction and nutrition level research in conjunction with this test.

Data tables list: the average performance for the two growing management systems for each entry (Table 20G-AV), the average performance of cage-grown reps in curtain-side housing (Table 20G-CS), and the average performance of cage-grown reps in LAC housing (Table 20G-CL). The entry number was drawn at random. The breeder is fully identified on the page that gives stock identification, entry category, cooperator status, and source of sample for entries. Mortality 8 through 147 days is the average percent loss of the groups with first week mortality, sexing errors, and accidental loss excluded. Average feed per pullet for 147 days is based on bird-days. It does not include feed consumed by birds that died or were removed. Average body weight at 147 days is average weight of survivors. Feed and chick cost per pullet housed distributes the value of net pullets at one week and of feed consumed by these birds equally among survivors. The average price for all entries of \$.38125 per chick is used for each entry. Feed costs are based on three-year averages of monthly price quotations from NCDA. Average eggs per pullet at 147 days indicates general maturity level of the entry at housing.