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NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH
SCHOOL OF AGRICULTURE AND LIFE SCIENCES

OFFICE OF EXTENSION POULTRY SCIENCE
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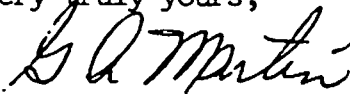
November 28, 1977

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

Beginning with this test the light and air controlled brood-grow house and laying house are replacing the curtain-side house that housed seven birds per 24" x 20" cage as an environmental treatment. The thirteen entries will have six reps of 30 birds @ three per 12" x 18" cage in the LAC laying house for each entry.

ERRATA If you have looked reasonably close at the final report of the Final Summary Report of our Eighteenth Test, you are aware that the second sentence of the third paragraph on page two is incorrect. It should read "Starting mash (20.0% protein, 1320 Kcal/lb. M.E.) was fed at the rate of 2.7 pounds per bird and growing mash (14.3% protein, 1324 Kcal/lb. M.E.) was fed ad lib until housing at 150 days, with troughs allowed to run empty approximately two hours per day from 12 to 20 weeks of age." We regret missing this omission in proofreading.

Very truly yours,



GRADY A. MARTIN
Extension Poultry Specialist

NINETEENTH NORTH CAROLINA RANDOM SAMPLE LAYING TEST
Growing Report
March 25, 1977 through August 21, 1977

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.



Two cage management systems and system of housing in half-litter and half-slat pens are compared in this test.

Samples of 1,260 freshly gathered hatching 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; 458 sexed pullet chicks (when available) were placed for each entry. [Due to shipping damage to eggs, 78 pullet chicks that were hatched the same day in a commercial hatchery were utilized for entry #4.] Two pens of 64 birds each were placed on pine shavings litter floors at 1.37 sq. ft. per bird (7.9 birds/M²) for 150 days. Two groups of 60 birds each were placed in 24" x 20" cages @ 24 sq. in. per bird for five weeks and @ 56 sq. in. per bird thereafter (65 and 28 birds per M²). Both the litter pens and these cage groups were grown and will be laid in curtain-side houses. Two groups of 105 birds each were placed in a light and air controlled (LAC) house in 24" x 20" cages @ 23 sq. in. per bird for five weeks and @ 69 sq. in. per bird thereafter (68 and 23 birds per M²).

At 150 days, the litter-grown birds were randomly reduced to 58 birds per pen and kept in the same pens @ 1.5 sq. ft. per bird (7.1 birds/M²) for the laying period with hardwood slats over half the area (Table 19G-L). At the same time the two groups of pullets grown in cages in the curtain-side house were randomly reduced to 52 birds each and housed in a curtain-side house with two birds per 10" x 18" cage (17 birds/M²) @ 90 sq. in. per bird (Table 19G-CS). Also, the two groups of birds grown in the LAC house were randomly reduced to 90 birds each and housed in a LAC house with three birds per 12" x 18" cage (21.5 birds/M²) @ 72 sq. in. per bird (Table 19G-CL).

Commercial all-mash rations were purchased on contract. Starting mash (20.0% protein, 1320 Kcal. M.E./lb.) was fed at a rate of 2.5 lbs. per bird and growing mash (14.3% protein, 1324 Kcal. M.E./lb.) was fed ad lib until housing at 150 days for all environments. Light in curtain-side houses was held constant at maximum day length during the growing period. Nine hours light was maintained in the LAC house.

All birds were vaccinated at day-old for Marek's with ^{cell}~~all~~ associated live turkey herpes virus vaccine. We express our appreciation to Dr. Bob Keenum, Keenum Inc., P. O. Box 1706, Anniston, AL for providing this vaccine for the flock. No mortality was attributable to Marek's during the growing period of the test flock.

All birds were debeaked at between seven and ten days of age with touch-up, if needed, at about 12 weeks of age. All birds were vaccinated for Newcastle at seven days (Bl), 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 17 weeks. Chicks that were housed on litter were given six species Coccivac at 11 days of age. No Coccistat or treatment were needed.

Both young and old flocks at the station were checked for the status of *Mycoplasma gallisepticum*. The old flock was clean but a break was in progress in the young flock. Attempts to isolate and produce an inoculum from the Mg organism in the flock were not fully successful.

Consequently, Dr. Max Colwell of the NCSU Department of Veterinary Science obtained the necessary permits and secured the mild strain of Mg from Dr. Julius Fabricant of Ithaca, New York that has been used successfully on multi-age premises. He produced a vaccine and supervised the inoculation of the young flock before they came into production. No adverse reaction to the vaccination was observed and a later check showed that all groups of the young flock were Mg positive. We express our appreciation to Drs. Colwell and Fabricant and to the members of the Veterinary section of NCDA for their assistance in minimizing the adverse effects of this break.

Entries. Since no laying tests are now operating in the U. S. west of the Appalachian Mountain range, the Steering Committee of the North Carolina test altered policy to permit acceptance of a limited number of Category II stocks (not sold extensively in the Southeast but commercial elsewhere in the country) for occasional testing. Entries 4, 5, 7, and 11 are of this category. We misunderstood the status of the stock in entry 9 and thought that it was to be the primary commercial stock distributed by that breeder in the Southeast. When we learned of our error we reclassified the entry to Category III (experimental) which apparently describes its current status. We regret any inconvenience our misdirection has caused.

We express our appreciation to DeKalb AgResearch, Inc., H & N, Inc., Shaver Poultry Breeding Farms, Ltd., and their distributors for providing extra hatching eggs for birds to be used in nutritional research in conjunction with this test.

The tables list: the average data for the three growing management systems for each entry (Table 19G-~~AI~~), the data for litter-housed reps (Table 19G-L), the data for cage-grown reps in curtain-side housing (Table 19G-CS), and the data for reps grown in LAC housing (Table 19G-CL). The entry number was drawn at random. The breeder is fully identified on the page gives stock identification, entry category, cooperator status and source of sample for the entries. Net pullets at one week excludes first week mortality, sexing errors, and accidental deaths. Mortality 8 through 150 days is the average % loss of the groups. Average feed per pullet for 150 days is based on bird-days. It does not include feed consumed by birds that died which is charged against survivors in growing cost data. Average body weight at 150 days is average weight of survivors. Feed and chick cost per pullet housed distributes the total value of net pullets at one week and of feed consumed by these birds equally among survivors. The average price for all entries of \$.3654 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 150 days indicates general maturity level of the entry at housing.

GROWING PERIOD - TABLE 19G-CL

<u>Entry No.</u>	<u>Breeder</u>	<u>Net Pullets at One Week</u>	<u>Mortality 8 - 150 Days %</u>	<u>Av. Lbs. Feed Per Pullet 150 Days</u>	<u>Av. Body Wt. at 150 Days</u>	<u>Feed & Chick Cost Pullet Housed</u>	<u>Av. eggs per Pullet at 150 Days</u>
1	DeKalb (Amber Link)	209	0.95	14.84	3.46	1.50	0.01
2	DeKalb (XL Link)	204	1.96	15.60	2.97	1.58	0.00
3	Babcock (B-300V)	211	0.0	14.62	2.89	1.48	0.03
4	Ideal (236)	206	2.91	15.29	3.02	1.55	0.00
5	Hubbard (Leghorn)	208	2.88	15.54	3.02	1.58	0.00
6	Hubbard (Gld. Comet)	208	0.49	16.14	3.42	1.60	0.03
7	Carey (Nick 310)	203	1.47	15.50	3.00	1.57	0.00
8	Shaver (288)	205	0.49	15.44	3.13	1.55	0.00
9	H & N (Petite Nick)	202	1.53	14.00	2.62	1.45	0.00
10	Hy-Line (W-36)	201	1.00	15.36	2.85	1.55	0.00
11	Colonial (T.L. 365-S)	195	0.52	14.48	2.66	1.48	0.11
12	Euribrid (Hisex Wh.)	205	0.50	15.58	2.93	1.56	0.06
13	Babcock (B-380)	210	0.95	16.12	3.62	1.60	0.00
	Average	206	1.20	15.27	3.04	1.54	0.02

GROWING PERIOD - TABLE 19G-CS

1	DeKalb (Amber Link)	120	8.33	15.80	3.56	1.67	0.13
2	DeKalb (XL Link)	121	2.63	15.27	2.70	1.55	0.37
3	Babcock (B-300V)	119	0.85	14.86	2.94	1.50	1.01
4	Ideal (236)	115	1.75	15.07	3.15	1.53	0.77
5	Hubbard (Leghorn)	114	2.67	15.58	3.27	1.59	1.45
6	Hubbard (Gld. Comet)	120	1.67	15.55	3.58	1.57	1.21
7	Carey (Nick 310)	120	0.0	14.82	2.86	1.50	0.32
8	Shaver (288)	113	0.0	16.55	3.08	1.63	0.74
9	H & N (Petite Nick)	116	3.39	14.75	2.85	1.52	1.74
10	Hy-Line (W-36)	127	2.43	15.24	2.80	1.56	0.20
11	Colonial (T.L. 365-S)	119	0.83	15.79	2.61	1.58	1.93
12	Euribrid (Hisex Wh.)	112	0.0	15.02	2.78	1.51	3.46
13	Babcock (B-380)	120	2.50	15.81	3.75	1.59	0.33
	Average	118	2.08	15.39	3.07	1.56	1.05

GROWING PERIOD - TABLE 19G-L

Entry No.	Breeder	Net Pullets at One Week	Mortality 8 - 150 Days %	Av. Lbs. Feed Per Pullet 150 Days	Av. Body Wt. at 150 Days	Feed & Chick Cost Pullet Housed	Av. eggs per Pullet at 150 Days
1	DeKalb (Amber Link)	126	0.0	17.82	3.83	1.72	0.21
2	DeKalb (XL Link)	124	1.61	14.92	3.31	1.51	0.55
3	Babcock (B-300V)	120	4.24	16.02	3.20	1.63	1.81
4	Ideal (236)	124	0.0	14.95	3.27	1.51	0.44
5	Hubbard (Leghorn)	124	0.81	15.95	3.38	1.59	1.03
6	Hubbard (Gld. Comet)	127	0.0	17.58	3.77	1.71	0.86
7	Carey (Nick 310)	124	0.0	16.00	3.21	1.59	0.15
8	Shaver (288)	128	1.56	16.57	3.36	1.64	0.49
9	H & N (Petite Nick)	128	0.0	15.29	2.93	1.49	1.32
10	Hy-Line (W-36)	126	2.39	15.43	3.14	1.56	0.28
11	Colonial (T.L. 365-S)	123	1.59	15.01	2.72	1.52	1.74
12	Euribrid (Hisex Wh.)	127	0.78	16.03	3.28	1.60	2.70
13	Babcock (B-380)	132	0.0	16.34	3.94	1.61	0.57
	Average	126	1.00	15.99	3.33	1.59	0.94

GROWING PERIOD - TABLE 19G-AV

1	DeKalb (Amber Link)	455	3.10	16.15	3.62	1.63	0.18
2	DeKalb (XL Link)	449	2.07	15.26	2.99	1.55	0.31
3	Babcock (B-300V)	450	1.70	15.17	3.01	1.54	0.95
4	Ideal (236)	445	1.57	15.10	3.15	1.53	0.40
5	Hubbard (Leghorn)	446	2.12	15.69	3.22	1.58	0.83
6	Hubbard (Gld. Comet)	455	0.72	16.43	3.59	1.63	0.70
7	Carey (Nick 310)	447	0.49	15.44	3.02	1.55	0.16
8	Shaver (288)	446	0.68	16.19	3.19	1.60	0.41
9	H & N (Petite Nick)	446	1.64	14.68	2.81	1.49	1.02
10	Hy-Line (W-36)	454	1.94	15.34	2.93	1.56	0.16
11	Colonial (T.L. 365-S)	437	0.98	15.09	2.66	1.53	1.26
12	Euribrid (Hisex Wh.)	444	0.42	15.54	2.99	1.56	2.07
13	Babcock (B-380)	462	1.15	16.09	3.77	1.60	0.30
	Average	449	1.43	15.55	3.15	1.57	0.67

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
Carey Farms, Inc. 3252 Mt. Olive - Agosta Rd. Marion, OH 43302	Carey's Nick 310 WL 2wSX	II YES	Carey Farms, Inc. 3252 Mt. Olive - Agosta Rd. Marion, OH 43302
Colonial Poultry Farms, Inc. P. O. Box 89 Pleasant Hill, MO 64070	True Line 365-S WL 4wIN	II YES	Colonial Poultry Farms, Inc. P. O. Box 89 Pleasant Hill, MO 64070
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb Amber Link RIRxSYN BX	I-A YES	Hillcrest Hatchery Route 2, Box 163 Bogart, GA 30622
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb XL-Link WL 4wSX	I-A YES	Tri-State Hatchery Route 3, Box 386 Cuthbert, GA 31740
Euribrid B.U. Entry by Chicks of Dixie, Inc. Atlanta, GA 30317	Hisex White WL 4wSX	I-A YES	Chicks of Dixie, Inc. 260 Howard St. N.E. Atlanta, GA 30317
H & N, Inc. 15305 N.E. 40th St. Redmond, WA 98052	H&N "Petite Nick" WL 4wSX	III* YES	H & N, Inc. 1150 Everee Inn Road Griffin, GA 30223
Hubbard Farms, Inc. Walpole, NH 03608	Hubbard Golden Comet NHxSYN BX	I-A YES	Cleveland Farms, Box 608 Shelby, NC 28150
Hubbard Farms, Inc. Walpole, NH 03608	Hubbard Leghorn WL SX	II YES	Hubbard Farms, Inc. Statesville, NC 28677
Hy-Line International 1206 Mulberry Des Moines, IO 50309	Hy-Line W-36 INX	I-C NO	Not Applicable
Ideal Poultry Breeding Farm, Inc. Box 581 Cameron, TX 76520	Ideal 236 SYNxWL BX	II YES	Ideal Poultry Breeding Farm, Inc. Box 581 Cameron, TX 76520
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.

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