AGRICULTURAL
EXTENSION
SERVICE

North Carolina State University
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Enclosed is the Growing Report for the Twenty-Fifth North Carolina Layer Performance and Management 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.

This is the second flock for which the high rise laying house is vacant due to budget limitations. The sample size for the entries has been kept constant by increasing replication in the remaining layer houses. Budget restoration is permitting return to the 3 layer house design with the 26th flock which is now being grown.

Dr. John B. Carey is Co-Project Leader and will publish results of the pullet growing research trials from the twenty-fifth flock. We believe that you will find both the test and research reports from this flock useful.

Very truly yours,

Grady A. Martin

Grady A. Martin
Extension Poultry Specialist

TWENTY-FIFTH NORTH CAROLINA LAYER PERFORMANCE AND MANAGEMENT TEST
Growing Report
March 30, 1983 through August 23, 1983

The North Carolina Layer Performance and Management 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 and Dr. J. B. Carey are Co-Project Leaders. Mr. B. N. Ayscue is Superintendent of the Piedmont Research Station near Salisbury, North Carolina, where the flock is maintained. The purpose of the tests is to assist poultrymen in evaluating stocks of commercial layers and management systems for them.

In this flock, birds grown in a light and air controlled (LAC) house with three decks of 24" X 20" (.610 X .508 meters) cages are compared with birds grown in a well-insulated curtain-side (CS) house with 48" X 40" (1.219 X 1.016 meters) flat deck cages.

Samples of 1260 fresh hatching eggs were taken at selected flocks under the supervision of public employees in agriculture. All eggs were shipped or delivered to the test site and assigned at random to incubator trays for hatching. Four hundred eighty sexed pullet chicks were banded and 240 were placed in the LAC house with the remaining 240 placed in the CS growing house. Approximately 48 sq. in. of cage space per bird was provided (32.3 birds/m^2).

All pullets were vaccinated at day-old for Marek's with cell associated live turkey herpes virus vaccine. We express our appreciation to Keenum, Inc., P. O. Box 1706, Anniston, AL for providing this vaccine for the flock and to Mr. Mike Williams in the Department of Poultry Science at NCSU for supervising the storage and administration of the vaccine. Beaks of all pullets were precision trimmed at 1-week of age, with touch up at 13 weeks of age if needed. All pullets were vaccinated for Newcastle (B1) at ten days, (LaSota) at four weeks and (LaSota) at 18 weeks and for bronchitis at 10 days and 18 weeks via water; vaccinated for pox via wing web at 11 weeks; and vaccinated for Avian encephalomyelitis at 11 weeks of age. The flock has remained M.g. negative.

All mash rations were purchased on contract from a commercial feed manufacturer. Starting mash (20% protein, 1290 Kcal./lb. ME) was fed at the rate of 2.5 lbs. per bird. When the starter was consumed, a 17% protein, 1295 Kcal./lb. ME grower was fed ad lib until the pullets were between 13 and 15 weeks old. A 14% protein, 1295 Kcal/lb. ME developer was fed ad lib until the pullets were 18½ weeks old when a 14% protein, 1295 Kcal/lb. ME, 1.49% Ca pre-lay ration was fed ad lib to all reps until they reached 3 to 5% production. Feed change times were guided by conformity of strains to the breeders recommended growth curve.

Lighting was scheduled at 23 hours per day for 3 days. In the LAC house lighting was scheduled at 9½ hours per day from 3 days to 19 weeks and stepped up to reach 15½ hours at 21 weeks of age. In the CS house lighting was held constant at day length of June 21 from 3 days to June 21 and natural day length from then to 20 weeks of age. Day length was stepped up to 15 hours at 20 weeks and to 15½ hours at 21 weeks of age. A malfunction in the timer in the LAC house during the 13th week exposed the pullets to an estimated 54 hours of continuous light, when they were returned to the 9½ hour per day lighting. One rep of entry #1 laid 2 eggs at 15 weeks and 1 day of age. One rep each of entries #2 and #4 began production before reaching 16 weeks of age. During the 17th week, 2 more reps of entry #1, 2 reps of entry #5, and 1 rep of entry #6 began production. By the end of the 18th week when the first eggs were produced in the CS house, all reps of entry #1, 2/3 of the reps of entries #3, #4, and #5, and 1/3 of the reps of entries #2, #6 and #8 in the LAC house had begun production.

At 21 weeks of age, 210 pullets were placed in each of the LAC and the flush-waste, curtain-side laying houses that were used in the 24th test. They were equally divided between houses, between shallow and deep cages, and between 54 and 72 sq. in. per bird cage space (28.7 and 21.5 per M^2). Each strain within house bloc was fed one of 6 available laying rations based on feed consumption, rate of production, and condition during each two week period of lay.

Entries had to be restricted to Category I, having extensive distribution in the southeast, stocks to fill the 8 available spaces. Complete identification and entry information is listed on another page. We express our appreciation to DeKalb AgResearch, Inc., H & N, Inc., and Pilch, Inc., their distributors, and other helpful individuals for providing extra hatching eggs for pullet management and stress physiology research. These data will be published elsewhere.

DATA TABLES

The average performance of replicates of each stock is shown in Table 25G-LAC for the light and air controlled house and in Table 25G-CS for the curtain-side house. Entry number was drqwn at random. Breeder is a short stock identification with more complete entry information shown on another page. Mortality 8 through 147 days is the average percentage loss of the groups with first week mortality, sexing errors, and accidental deaths excluded. Av. Lbs. Feed/Pullet-147 days is the bird-day feed consumption to 21 weeks of age. Av. 147-day Body Wt. is the average live weight of survivors at housing. Av. Eggs/Pullet to 147 Days indicates general maturity level of the entry at housing. Feed and Chick Cost/Pullet Housed distributes the value of net pullets at 1 week and of feed consumed by these birds equally among survivors of the entry. Chicks are charged at the average price per chick for all entries ($.40371) and feed prices are based on a three-year average of prices quoted by the NCDA Crop Reporting Service.

25TH FLOCK - GROWING — TABLE 25G-LAC — CLOSED HOUSE

Entry No.	Breeder	Net Pullets 1 Wk.	% Mort. 8-147 Da.	Av. Lbs. Feed/ Pullet 147 Days	Av. 147-Day Body Wt.	Av. Eggs/ Pullet to 147 Days	Feed & Chick Cost/ Pullet Housed
1	Euribrid (Hisex Wh.)	231	1.87	14.72	2.7888	0.94	$1.998
2	Euribrid (Hisex Br.)	237	0.43	16.50	3.596	0.04	2.173
3	Hy-Line (W-36)	237	4.16	15.11	2.963	0.70	2.058
4	Shaver (Starcross 288A)	235	4.21	15.77	3.008	0.31	2.129
5	H & N (Nick Chick-2)	229	1.38	15.19	2.789	0.31	2.045
6	DeKalb (XL Link)	217	1.09	15.76	2.875	0.19	2.101
7	DeKalb (Sex-Sal-Link G)	238	0.00	17.42	3.727	0.0	2.264
8	Hubbard (Golden Comet)	239	0.42	17.32	3.685	0.21	2.256
AV		233	1.70	15.97	3.179	0.32	2.129

TABLE 25G-CS — CURTAIN SIDE HOUSE

1	Euribrid (Hisex Wh.)	225	2.48	17.39	3.045	0.70	$2.285
2	Euribrid (Hisex Br.)	239	1.26	20.54	4.059	0.08	2.591
3	Hy-Line (W-36)	238	1.68	16.35	2.989	0.04	2.164
4	Shaver (Starcross 288A)	240	2.92	17.23	2.982	0.14	2.258
5	H & N (Nich Chick-2)	214	1.90	17.42	3.112	0.40	2.270
6	DeKalb (XL Link)	229	2.27	17.64	3.137	0.23	2.303
7	DeKalb (Sex-Sal-Link G)	238	3.39	20.09	3.957	0.01	2.579
8	Hubbard (Golden Comet)	237	1.70	19.69	4.059	0.20	2.502
AV		232	2.20	18.29	3.418	0.22	2.369

TWENTY-FIFTH NORTH CAROLINA LAYER PERFORMANCE AND MANAGEMENT TEST

Breeder	Stock Indentification	Entry Category*	Source of Sample
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb XL-Link WL 4w INX	I-A YES	Clay's Hatchery Route 1 Blackstone, VA 23824
DeKalb AgResearch, Inc. Sycamore Road DeKalb, IL 60115	DeKalb Sex-Sal-Link G RIR x SYN BX	I-A YES	Pee Dee Hatchery Box 156 Hartsville, SC 29550

TWENTY-FIFTH NORTH CAROLINA LAYER PERFORMANCE AND MANAGEMENT TEST

Breeder	Stock Indentification	Entry Category*	Source of Sample
Euribrid B. U., Entry by Pilch, Inc., Box 438 Troutman, NC 28677	Hisex White WL 4w INX	I-A YES	Gulf Coast Hatchery P. O. Box 1170 Quincy, FL 32351
Euribrid B. U., Entry by Pilch, Inc., Box 438 Troutman, NC 28677	Hisex Brown RIR x SYN BX	I-A YES	Cleveland Poultry Farms Route 4, Box 173-A Shelby, NC 28150
H & N, Inc. 15305 N.E. 40th St. Redmond, WA 98052	H & N Chick-2 WL 4W SX	I-A YES	Wheelocks Hatchery 2170 Wayne Road Chambersburg, PA 17201
Hubbard Farms Walpole, NH 03608	Hubbard Golden Comet WH x SYN BX		Bowers Hatchery, Route 4 Albemarle, NC 28001
Hy-Line International	Hy-Line W-36	I-C	Not Applicable
Shaver Poultry Breeding Farms, Ltd. Box 400, Cambridge, ONTARIO, CANADA NIR 5V9	Starcross 288A WL SX	I-A YES	Silver Lake Hatchery Silver Lake, MN 45328

* I = Extensive distribution in the southeast.
-A = Entry requested.
-C = Entry neither requested nor supported.
YES = Supporting and fully cooperating with test.