AGRICULTURAL
EXTENSION
SERVICE

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TWENTY-EIGHTH

NORTH CAROLINA LAYER PERFORMANCE

AND MANAGEMENT TEST

Growing Report
(1-126 Days)

Vol. 28, No. 1
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The North Carolina Layer Performance and Management Test is conducted under the auspices of the Agricultural Extension Service at North Carolina State University and the North Carolina Department of Agriculture. The flock is maintained at the Piedmont Research Station, Salisbury, North Carolina. Mr. Billy Ayscue is Piedmont Research Station Superintendent; Mr. Joe Hampton was Resident Manager of the flock during the pullet rearing period; and Dr. J. B. Carey is Project Leader. The purpose of this program is to assist poultrymen in evaluation of stocks of commercial layers and management systems.

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Cooperative Extension Work in Agriculture and Home Economics A&T and N.C. State Universities, 100 Counties and U. S. Department of Agriculture

28th NORTH CAROLINA LAYER PERFORMANCE AND MANAGEMENT TEST

Protocol for Pullet Rearing Period

Dates of Importance:

The eggs were set on January 7, 1988. The flock was hatched on January 28, 1988, and moved to laying facilities on June 2, 1988 (18 weeks).

Experimental Design:

The test was a factorial arrangement of treatments. Main effects were strain and pullet housing.

Strain--Samples of fertile eggs were provided from the breeders. All eggs were set and hatched concurrently. A total of seven white egg strains and five brown egg strains were in the test. A minimum of 422 pullets per strain were started at the initiation of the test.

Pullet Housing--Within strain, equal numbers of birds were started in open-sided or controlled environment pullet facilities. Within the controlled environment facility, birds were started in the center level of a three-deck cage system. At six weeks of age, the birds were spread throughout the cage decks. Cage dimensions in the controlled environment facility are 20" x 24". Thirty birds were started per cage. After six weeks of age, 10 birds were housed per cage for a final rearing floor space allowance of 48 in^2 per bird. Within the open-sided facility, cage dimensions are 40" x 48". Cages are arranged in a single deck. Forty birds were started and reared per cage, floor space allowance was 48 in^2 per bird.

Pullet Management and Nutrition:

Pullets were fed ad libitum. Diet formulations are outlined in Table 3. Starter was fed until 2.25 pounds were consumed per bird. Thereafter, grower was fed until such time that the birds began to exceed breeder recommended weight goals at which point developer was fed. Pullet feed consumption and body weight was monitored continuously and summarized biweekly beginning at 6 weeks. Mortality was recorded daily, those mortalities occurring after Day 6 are included in this report. Pullet vaccination and debeaking schedules are outlined below:

Table 1. Pullet Vaccination and Debeaking Schedule

Age	Event
Hatch	Marek's vaccination (HVT)
1 Week	Newcastle (B1) and Bronchitis (Mass.) vaccination via aerosol spray
10 days	Precision beak trimming
5 weeks	Newcastle (LaSota) and Bronchitis (Mass.) vaccination via aerosol spray
9 weeks	Newcastle (LaSota) and Bronchitis (Mass.) vaccination via aerosol spray Final beak trimming
10 weeks	Fowl pox and avian encephalomylitis vaccination via wing web stab
15 weeks	Newcastle (LaSota) and Bronchitis (Mass.) vaccination via eyedrop

The lighting schedule for the pullet facilities is outlined below:

Table 2. Lighting Schedule

Age	Photoperiod (hr)	
	Controlled Environment	Open-Sided
Day 1 + 2	23	23
Day 3	9.5	14.5
17 weeks	12	14.5
18 weeks	15	15
19 weeks	15.5	15.5
20 weeks	16.0	16.0
21 weeks	16.5	16.5

Table 3. Diet Formulations

Ingredient	Starter	Grower	Developer
	Pounds per Ton		
Corn	1292	1432	1585
Soybean meal	625	490	331
Limestone	20	18	16
Methionine	0	0	1
Dynamate®[1]	4	4	4
Phosphorus	40	40	44
Salt	4.8	4.8	4.8
Vitamin Premix	2	2	2
Min. Premix	1	1	1
GV	1	1	1
$CuSO_4$	1	1	1
Micro-Tracer®[1]	1	1	1
Choline	1.7	1.7	1.7
Protein	20.0	17.3	14.0
ME	1351	1386	1418
Calcium	1.08	1.03	1.04
T. Phos.	.075	0.73	.073
Lysine	1.40	1.10	1.00
TSAA	0.68	0.61	0.58

[1]The use of trade names in this publication does not imply endorsement by the North Carolina Agricultural Extension Service of the products named, nor criticism of similar ones, not mentioned.

DESCRIPTION OF DATA TABLE STATISTICS

Breeder (Strain):

Short identification of the breeder and strain of the stock. See more complete information following data tables.

Protein per Bird to 126 Days:

Calculated cumulative protein intake per bird to 126 days.

Metabolizable Energy per Bird to 126 Days:

Calculated cumulative metabolizable energy intake per bird to 126 days.

Feed Cost per Bird to 126 Days:

Calculated feed cost per bird to 126 days. Using three-year average regional feed prices; starter $167.20/T; Grower $161.80/T; Developer $160.40/T.

Age at 50% Production:

The age of the pullets on the first of two consecutive days at or above 50% hen-day egg production.

Mortality 7-126 Days:

The percentage of the birds housed which died during days 7-126. Accidental deaths and males removed are excluded.

Body Weights (6, 8, 10, . . . 18 Weeks):

Bi-weekly average body weights of all birds within representative cages. Sample size per strain was 120 birds in each pullet facility.

Feed Consumption (1-6, 7-8, . . . 17-18, 1-18):

Feed consumption per bird within the time periods indicated. The last column in the table is the cumulative feed intake per bird throughout the growing period. Estimated feed consumed by males is excluded from the calculation. Reduction of feed intake at 9-10 weeks is due to beak trimming.

Statistical Analyses and Separation of Means:

Analyses of variance were performed on all data. Separate analyses were conducted for white and brown egg strains. Significant differences ($P < .01$) within white and brown egg strains are noted by differing letters among columns of means. Significant strain effects are noted in Tables 1-3, significant interactions between strain and pullet house are noted in Tables 4-6 for the closed pullet facility, and Tables 7-9 for the open pullet facility.

Table 1. Performance of Entries in All Housing, 28th NCLPMT

Breeder	Protein (kg)	Met. Energy (kcal)	Feed Cost ($)	Age at 50% Prod. (d)	Mortality (8-126 d) (%)
	---(per bird to 126 days)---				
White Egg Pullets					
H & N (Nick Chick)	1.03	17966	1.06	157.5	3.03
HyLine (W-36)	0.98	17032	1.00	158.3	4.62
Shaver (288A)	1.03	18424	1.08	158.2	0.84
DeKalb (XL-Link)	1.06	18906	1.11	158.2	4.27
Hisex (White)	1.03	18274	1.07	152.6	3.43
ISA/Babcock (B300)	1.00	17843	1.05	157.5	2.51
Colonial (365-S)	0.99	17364	1.02	164.7	10.29
White Egg Average	1.02	17973	1.06	158.3	4.14
Brown Egg Pullets					
ISA (Brown)	1.23	22307	1.30	151.7	1.50
Hisex (Brown)	1.14	20769	1.21	151.7	1.69
DeKalb (Sex-Sal-Link)	1.17	21306	1.25	164.7	1.77
Hubbard (Golden Comet)	1.14	20775	1.21	150.4	1.28
HyLine (Brown)	1.18	21466	1.25	153.1	1.34
Brown Egg Average	1.17	21324	1.25	154.5	1.52

Table 2. Body Weight of Entries in All Housing, 28th NCLPMT

Breeder	(Weeks of Age) 6	8	10	12	14	16	18
	(lbs)						
White Egg Pullets							
H & N (Nick Chick)	0.99	1.34	1.56	2.05	2.35	2.53	2.79_{AB}
HyLine (W-36)	1.07	1.38	1.57	2.07	2.36	2.56	2.79_{AB}
Shaver (288A)	1.06	1.40	1.58	2.08	2.39	2.60	2.84_{AB}
DeKalb (XL-Link)	1.03	1.36	1.58	2.09	2.47	2.62	2.90_{A}
Hisex (White)	1.06	1.34	1.54	2.03	2.27	2.48	2.76_{B}
ISA/Babcock (B300)	0.98	1.31	1.50	1.99	2.31	2.47	2.78_{AB}
Colonial (365-S)	0.88	1.17	1.35	1.81	2.06	2.25	2.49_{C}
White Egg Average	1.01	1.33	1.52	2.02	2.32	2.50	2.77
Brown Egg Pullets							
ISA (Brown)	1.16	1.68	2.06	2.68	3.13	3.42	3.75
Hisex (Brown)	1.30	1.74	2.09	2.73	3.09	3.36	3.70
DeKalb (Sex-Sal-Link)	1.26	1.71	2.07	2.65	3.07	3.38	3.62
Hubbard (Golden Comet)	1.23	1.72	2.06	2.67	3.06	3.33	3.70
HyLine (Brown)	1.23	1.72	2.14	2.69	3.11	3.38	3.68
Brown Egg Average	1.24	1.71	2.08	2.68	3.09	3.37	3.69

A,B,C - Differing letters denote significant differences ($P < .01$).

Table 3. Feed Consumption of Entries in All Housing, 28th NCLPMT

Breeder	(Weeks of Age) 1-6	7-8	9-10 *	11-12	13-14	15-16	17-18	1-18
	(lbs per bird)							
White Egg Pullets								
H & N (Nick Chick)	3.33	1.51	1.20	1.79	1.79	1.69	1.70	13.00
HyLine (W-36)	2.98	1.58	1.20	1.73	1.68	1.56	1.58	12.32
Shaver (288A)	3.19	1.57	1.47	1.84	1.83	1.70	1.70	13.30
DeKalb (XL-Link)	3.22	1.60	1.36	1.90	1.99	1.69	1.88	13.64
Hisex (White)	3.29	1.60	1.33	1.80	1.76	1.59	1.80	13.19
ISA/Babcock (B300)	3.03	1.46	1.25	1.79	1.83	1.73	1.79	12.87
Colonial (365-S)	3.41	1.50	1.28	1.59	1.60	1.62	1.55	12.55
White Egg Average	3.21	1.55	1.30	1.78	1.78	1.65	1.71	12.98
Brown Egg Pullets								
ISA (Brown)	3.37	1.82	1.82	2.30	2.40	2.11	2.25	16.06
Hisex (Brown)	2.91	1.72	1.77	2.28	2.14	2.09	2.05	14.95
DeKalb (Sex-Sal-Link)	3.03	1.78	1.83	2.23	2.33	2.14	2.01	15.34
Hubbard (Golden Comet)	2.95	1.74	1.65	2.24	2.17	2.10	2.10	14.95
HyLine (Brown)	3.18	1.73	1.78	2.26	2.28	2.19	2.04	15.46
Brown Egg Average	3.09	1.76	1.77	2.26	2.26	2.13	2.09	15.35

*Drop in consumption is due to beak trimming.

Table 4. Performance of Entries in Closed Housing, 28th NCLPMT

Breeder	Protein (kg)	Met. Energy (kcal)	Feed Cost ($)	Age at 50% Prod. (d)	Mortality (8-126 d) (%)
	---(per bird to 126 days)---				
White Egg Pullets					
H & N (Nick Chick)	0.97	16519	0.98	150.5_{D}	1.67
HyLine (W-36)	0.97	16591	0.98	155.5_{B}	0.83
Shaver (288A)	0.96	17043	1.00	153.2_{C}	1.69
DeKalb (XL-Link)	0.97	17359	1.02	154.6_{BC}	1.71
Hisex (White)	0.95	16852	0.99	148.5_{D}	3.49
ISA/Babcock (B300)	0.96	17085	1.00	154.8_{BC}	0.00
Colonial (365-S)	1.02	18008	1.06	157.7_{A}	2.98
White Egg Average	0.97	17065	1.00	153.5	1.77

A,B,C - Differing letters denote significant differences ($P < .01$).

Brown Egg Pullets					
ISA (Brown)	1.16	20903	1.22	147.2_{Z}	0.00
Hisex (Brown)	1.08	19695	1.15	149.4_{YZ}	0.00
DeKalb (Sex-Sal-Link)	1.12	20192	1.18	157.7_{X}	0.85
Hubbard (Golden Comet)	1.11	20147	1.18	147.4_{Z}	0.00
HyLine (Brown)	1.14	20435	1.20	151.2_{Y}	0.00
Brown Egg Average	1.12	20274	1.19	150.6	0.17

X,Y,Z - Differing letters denote significant differences ($P < .01$).

Table 5. Body Weight of Entries in Open Housing, 28th NCLPMT

Breeder	(Weeks of Age) 6	8	10	12	14	16	18
	(lbs)						
White Egg Pullets							
H & N (Nick Chick)	1.08_{AB}	1.42_{AB}	1.66_{A}	2.11_{AB}	2.48_{AB}	2.66_{A}	2.89
HyLine (W-36)	1.13_{A}	1.45_{A}	1.71_{A}	2.17_{A}	2.49_{AB}	2.71_{A}	2.87
Shaver (288A)	1.14_{A}	1.45_{A}	1.66_{A}	2.13_{AB}	2.50_{AB}	2.70_{A}	2.89
DeKalb (XL-Link)	1.07_{AB}	1.40_{AB}	1.66_{A}	2.13_{AB}	2.60_{A}	2.70_{A}	2.94
Hisex (White)	1.09_{A}	1.34_{AB}	1.56_{AB}	2.04_{AB}	2.33_{B}	2.59_{A}	2.76
ISA/Babcock (B300)	0.96_{BC}	1.31_{B}	1.50_{B}	2.01_{B}	2.41_{B}	2.54_{A}	2.79
Colonial (365-S)	0.87_{C}	1.14_{C}	1.34_{C}	1.76_{C}	2.07_{C}	2.32_{B}	2.48
White Egg Average	1.05	1.36	1.58	2.05	2.41	2.60	2.80

A,B,C - Differing letters denote significant differences ($P < .01$).

Brown Egg Pullets							
ISA (Brown)	1.28	1.73	2.19	2.76	3.30	3.60	3.98
Hisex (Brown)	1.41	1.77	2.16	2.80	3.19	3.52	3.84
DeKalb (Sex-Sal-Link)	1.37	1.77	2.17	2.71	3.20	3.53	3.78
Hubbard (Golden Comet)	1.28	1.74	2.12	2.74	3.22	3.47	3.80
HyLine (Brown)	1.33	1.77	2.23	2.73	3.24	3.52	3.90
Brown Egg Average	1.33	1.76	2.17	2.75	3.23	3.53	3.86

Table 6. Feed Consumption of Entries in Closed Housing, 28th NCLPMT

Breeder	(Weeks of Age) 1-6	7-8	9-10 *	11-12	13-14	15-16	17-18	1-18
	(lbs per bird)							
White Egg Pullets								
H & N (Nick Chick)	2.85	1.50	1.00	1.72	1.66	1.67	1.58	11.98
HyLine (W-36)	2.68	1.59	1.24	1.73	1.65	1.52	1.61	12.03
Shaver (288A)	2.72	1.48	1.48	1.78	1.66	1.56	1.60	12.30
DeKalb (XL-Link)	2.67	1.56	1.34	1.78	1.84	1.58	1.75	12.53
Hisex (White)	2.84	1.50	1.20	1.77	1.64	1.49	1.73	12.17
ISA/Babcock (B300)	2.70	1.43	1.12	1.82	1.74	1.73	1.78	12.33
Colonial (365-S)	3.03	1.57	1.41	1.77	1.78	1.70	1.74	13.01
White Egg Average	2.78	1.52	1.26	1.77	1.71	1.61	1.69	12.34
Brown Egg Pullets								
ISA (Brown)	2.99	1.88	1.72	2.27	2.20	1.98	2.01	15.06
Hisex (Brown)	2.67	1.77	1.70	2.23	2.05	1.81	1.95	14.18
DeKalb (Sex-Sal-Link)	2.99	1.86	1.67	2.22	2.12	1.94	1.74	14.55
Hubbard (Golden Comet)	3.03	1.85	1.58	2.16	1.95	1.98	1.97	14.51
HyLine (Brown)	3.21	1.86	1.64	2.23	2.14	1.91	1.73	14.73
Brown Egg Average	2.98	1.84	1.66	2.22	2.09	1.92	1.88	14.61

*Drop in consumption is due to beak trimming.

Table 7. Performance of Entries in Open Housing, 28th NCLPMT

Breeder	Protein (kg)	Met. Energy (kcal)	Feed Cost ($)	Age at 50% Prod. (d)	Mortality (8-126 d) (%)
	---(per bird to 126 days)---				
White Egg Pullets					
H & N (Nick Chick)	1.09_{AB}	19412_{AB}	1.14_{AB}	164.5_{B}	4.39_{BC}
HyLine (W-36)	0.98_{BC}	17474_{BC}	1.03_{BC}	161.1_{D}	8.40_{B}
Shaver (288A)	1.11_{A}	19804_{A}	1.16_{A}	163.2_{BC}	0.00_{C}
DeKalb (XL-Link)	1.15_{A}	20452_{A}	1.20_{A}	161.8_{CD}	6.83_{BC}
Hisex (White)	1.11_{A}	19696_{A}	1.16_{A}	156.8_{E}	3.38_{BC}
ISA/Babcock (B300)	1.04_{ABC}	18601_{ABC}	1.09_{ABC}	160.2_{D}	5.02_{BC}
Colonial (365-S)	0.95_{C}	16720_{C}	0.99_{C}	171.6_{A}	17.59_{A}
White Egg Average	1.06	18880	1.11	162.74	6.52

A,B,C - Differing letters denote significant differences ($P < .01$).

Brown Egg Pullets					
ISA (Brown)	1.30_{X}	23710_{X}	1.39_{X}	156.1_{Y}	3.01
Hisex (Brown)	1.20_{Y}	21843_{XY}	1.27_{Y}	154.1_{YZ}	3.38
DeKalb (Sex-Sal-Link)	1.23_{XY}	22420_{XY}	1.31_{XY}	171.8_{X}	2.68
Hubbard (Golden Comet)	1.17_{Y}	21403_{Y}	1.25_{XY}	153.4_{Z}	2.56
HyLine (Brown)	1.23_{XY}	22497_{XY}	1.31_{XY}	155.0_{YZ}	2.68
Brown Egg Average	1.23	22375	1.31	158.1	2.86

X,Y,Z - Differing letters denote significant differences ($P < .01$).

Table 8. Body Weight of Entries in Closed Housing, 28th NCLPMT

Breeder	(Weeks of Age) 6	8	10	12	14	16	18
	(lbs)						
White Egg Pullets							
H & N (Nick Chick)	0.91_{BC}	1.26_{AB}	1.47_{AB}	1.99_{AB}	2.21_{AB}	2.41_{AB}	2.69
HyLine (W-36)	1.01_{AB}	1.31_{AB}	1.43_{AB}	1.96_{AB}	2.24_{A}	2.41_{AB}	2.72
Shaver (288A)	0.98_{ABC}	1.34_{A}	1.50_{AB}	2.04_{A}	2.29_{A}	2.51_{AB}	2.80
DeKalb (XL-Link)	0.99_{ABC}	1.33_{A}	1.50_{AB}	2.05_{A}	2.34_{A}	2.54_{A}	2.85
Hisex (White)	1.04_{A}	1.33_{A}	1.52_{A}	2.02_{A}	2.21_{AB}	2.36_{BC}	2.76
ISA/Babcock (B300)	0.99_{ABC}	1.32_{A}	1.50_{AB}	1.98_{AB}	2.21_{AB}	2.40_{AB}	2.78
Colonial (365-S)	0.89_{C}	1.21_{B}	1.36_{B}	1.86_{B}	2.06_{B}	2.19_{C}	2.51
White Egg Average	0.97	1.30	1.47	1.99	2.22	2.40	2.73

A,B,C - Differing letters denote significant differences ($P < .01$).

Brown Egg Pullets							
ISA (Brown)	1.05_{Y}	1.64	1.93	2.60	2.96	3.24	3.53
Hisex (Brown)	1.19_{X}	1.71	2.02	2.66	2.99	3.21	3.56
DeKalb (Sex-Sal-Link)	1.15_{XY}	1.66	1.97	2.60	2.95	3.23	3.47
Hubbard (Golden Comet)	1.18_{XY}	1.71	2.00	2.60	2.90	3.19	3.60
HyLine (Brown)	1.13_{XY}	1.67	2.05	2.65	2.99	3.24	3.46
Brown Egg Average	1.14	1.68	1.99	2.62	2.96	3.22	3.52

X,Y,Z - Differing letters denote significant differences ($P < .01$).

Table 9. Feed Consumption of Entries in Open Housing, 28th NCLPMT

Breeder	(Weeks of Age) 1-6	7-8	9-10*	11-12	13-14	15-16	17-18	1-18
	(lbs per bird)							
White Egg Pullets								
H & N (Nick Chick)	3.80	1.52	1.40	1.85	1.91_{ABC}	1.71	1.81	14.02_{AB}
HyLine (W-36)	3.29	1.56	1.16	1.73	1.72_{C}	1.60	1.56	12.61_{BC}
Shaver (288A)	3.66	1.66	1.46	1.89	2.00_{AB}	1.83	1.79	14.29_{A}
DeKalb (XL-Link)	3.77	1.65	1.38	2.02	2.13_{A}	1.79	2.01	14.76_{A}
Hisex (White)	3.75	1.71	1.46	1.84	1.89_{BC}	1.69	1.87	14.22_{A}
ISA/Babcock (B300)	3.36	1.49	1.38	1.76	1.92_{ABC}	1.72	1.80	13.42_{ABC}
Colonial (365-S)	3.79	1.43	1.15	1.41	1.42_{D}	1.54	1.35	12.09_{C}
White Egg Average	3.63	1.57	1.34	1.79	1.86	1.70	1.74	13.63

A,B,C - Differing letters denote significant differences ($P < .01$).

Brown Egg Pullets								
ISA (Brown)	3.75	1.75	1.91	2.34	2.60_{Y}	2.24	2.49	17.07_{Y}
Hisex (Brown)	3.15	1.66	1.84	2.32	2.23_{Y}	2.36	2.15	15.72_{XY}
DeKalb (Sex-Sal-Link)	3.06	1.70	1.98	2.23	2.53_{Y}	2.34	2.28	16.13_{XY}
Hubbard (Golden Comet)	2.87	1.63	1.72	2.33	2.39_{XY}	2.21	2.24	15.40_{Y}
HyLine (Brown)	3.15	1.60	1.93	2.28	2.41_{XY}	2.47	2.34	16.18_{XY}
Brown Egg Average	3.20	1.67	1.88	2.30	2.43	2.32	2.30	16.10

X,Y,Z - Differing letters denote significant differences ($P < .01$).
*Drop in consumption is due to beak trimming.

STOCK SUPPLIERS AND CATEGORIES

Breeder	Stock	Category*	Source
Hisex Division Pilch, Inc. Box 438 Troutman, NC 28166	Hisex White	I-A	Wonder Chick 500 South Oak Street Searcy, AR 72143
Colonial Poultry Farms, Inc., P.O. Box 89, Pleasant Hill, MO 64080	Colonial True-Line 365-S	II-A	Colonial Poultry Farms, Inc., P.O. Box 89 Pleasant Hill, MO 64080
ISA-Babcock, Inc. P.O. Box 280 Ithaca, NY 14851	ISA-Babcock B300	I-A	AGRI General 42 Pinewood Avenue Lititz, PA 17543
Hy-Line International P.O. Box 310 Dallas Center, IA 50063	Hy-Line W-36	I-C	Not applicable
Shaver Poultry Breeding Farms, Ltd., Box 400 Ontario, CANADA N1R 5V9	Shaver Starcross 288-A	I-A	Merrill Poultry Farms, Inc., Route 2, Box 21 Paul, ID 83347
DeKalb AgResearch, Inc. 3100 Sycamore Road DeKalb, IL 60115	DeKalb XL-Link	I-A	Clay's Hatchery Route 1 Blackstone, VA 23824
H & N, Inc. 15305 NE 40th Street Redmond, WA 98052	H & N "Nick Chick"	I-A	H & N, Inc. 15305 NE 40th Street Redmond, WA 98052
Hubbard Farms Walpole, NH 03608	Hubbard Golden Comet	I-A	Bowers Brothers Hatchery, Route 4, P.O. Box 100, Albemarle, NC 28001
DeKalb AgResearch, Inc. 3100 Sycamore Road DeKalb, IL 60115	DeKalb Sex-Sal-Link "G"	I-A	Pee Dee Hatchery P.O. Box 148 Hartsville, SC 29550
Hisex Division Pilch, Inc. Box 438 Troutman, NC 28166	Hisex Brown	I-A	Pilch, Inc. Box 438 Troutman, NC 28166
ISA-Babcock, Inc. P.O. Box 280 Ithaca, NY 14851	ISA Brown	I-A	Clock & DeCloux 197 Maple Street Norwich, CT 06360
Hy-Line International P.O. Box 310 Dallas Center, IA 50063	Hy-Line Brown	I-C	Not applicable

*I = Extensive distribution in southeast United States.
II = Little or no distribution in southeast United States.
A = Entry requested.
C = Entry not requested.