AGRICULTURAL
EXTENSION
SERVICE

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M E M O R A N D U M

TO: North Carolina Layer Performance and Management Test Report Recipients

FROM: John B. Carey, Extension Poultry Specialist
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SUBJECT: Molting Report (435-490 Days) for 26th North Carolina Layer Performance and Management Test

This is the first progress report from the North Carolina Layer Performance and Management Test of the performance of strains subjected to an induced molt. Careful consideration of the procedures used in the test are necessary. Molting programs vary considerably throughout the industry, and it is highly likely that under differing conditions the strains will respond differently. These data include only the period of the molt and return to production.

Molting Procedures:

Current North Carolina State University recommended molting procedures were followed. Refer to PS & T Guide #10, published by NCSU Extension Poultry Science for complete details. Pre-molt treatment consisted of a 24-hour photoperiod for seven days. The molt was initiated by removal of feed. This is considered Day 1 of the molt. Body weight goals were established using pre-molt body weights. Target weight loss for birds up to 3.6 pounds was 30%; for birds up to 3.8 pounds, 33%; and for birds over 3.8 pounds, 35%. Birds were weighed daily as they approached target weights and were returned to feed when target weights were achieved or on Day 22 if weight loss was not attained by that date. Strains within a house were treated similarly regardless of cage type. Hens were returned to a 16% CP, 0.65% TSAA, 2.0% Calcium, 1250 Kcal ME/lb ration until 5% production, then they were fed a 16% CP, 0.64% TSAA, 3.75% Calcium, 1275 Kcal ME/lb ration until 50% production at which point the regular layer feeding schedule resumed. The flock was 442 days old on Day 1 of the molt (July 2, 1985).

The next publication will be the final report for the flock.

EXPLANATIONS OF DATA AND TABULAR HEADINGS

Entry (Strain): The name of the breeder and the strain entered in the evaluation. See information following data tables.

Cage Type: "S" denotes performance in shallow (18" x 12") cages. "D" denotes performance in deep (12" x 18") cages.

Birds per Cage: "3" or "4" denotes performance with 3 or 4 birds per cage.

Housing Type: "FL" denotes performance in a curtain-sided flush waste facility. "HR" denotes performance in a curtain-sided high rise facility. "LC" denotes performance in a light and air controlled facility.

Pre-Molt Weight: The average body weight of the hens prior to initiation of the molt (61 weeks).

Days Off Feed: The number of days without feed required to achieve target weight loss. Feed was returned to hens on Day 22 if target weight had not been reached by that date.

Mortality: Percent mortality occurring from 435 to 490 days.

Days to 50%: The number of days from Day 1 of the molt until hen-day egg production was 50%.

Eggs Per HH: The number of eggs produced per hen housed from 435 to 490 days.

TABLE 1. AVERAGE PERFORMANCE OF ENTRIES, 26th NCLPMT (435-490 DAYS)

Breeder (Strain)	Pre-Molt Weight (Lbs)	Days Off Feed	Body Weight Loss (%)	Mort. (%)	Days to 50%	Eggs per HH
White Egg Layers						
DeKalb (XL - Link)	3.96	19.2	33.3	1.67	41.6	13.9
ISA-Babcock (B300)	4.02	21.7	35.4	2.22	40.8	14.3
Hisex (White)	3.81	16.0	32.9	2.71	38.1	16.7
H & N (Nick Chick)	3.80	16.8	33.9	1.72	37.7	15.7
Hubbard (Leghorn)	4.17	19.7	35.1	3.05	39.5	15.9
HyLine (W-36)	3.57	16.7	31.5	0.55	44.3	12.9
Colonial (365-S)	2.85	13.0	30.5	3.78	37.0	15.9
Shaver (288-A)	3.92	17.2	33.2	0.28	41.2	15.0
White Egg Average	**3.76**	**17.5**	**33.2**	**2.00**	**40.0**	**15.0**
Brown Egg Layers						
Hisex (Brown)	4.98	21.8	32.9	3.12	45.5	11.4
Hubbard (Golden Comet)	4.73	21.8	30.8	6.04	41.2	12.4
DeKalb (Sex-Sal-Link G)	4.99	21.7	33.0	3.89	45.3	11.1
Brown Egg Average	**4.90**	**21.8**	**32.2**	**4.35**	**44.0**	**11.6**

TABLE 2. EFFECTS OF CAGE TYPE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 26th NCLPMT (435-490 DAYS)

Breeder (Strain)	Cage Type	Pre-Molt-Weight (Lbs)	Days Off Feed	Body Weight Loss (%)	Mort. (%)	Days to 50%	Eggs per HH
White Egg Layers							
DeKalb (XL - Link)	S	*	*	*	1.39	41.0	14.9
	D	*	*	*	1.94	42.2	12.9
ISA-Babcock (B300)	S	*	*	*	2.36	40.8	14.4
	D	*	*	*	2.08	40.8	14.2
Hisex (White)	S	*	*	*	0.97	36.7	17.8
	D	*	*	*	4.44	39.5	15.7
H & N (Nick Chick)	S	*	*	*	2.16	38.7	15.7
	D	*	*	*	1.29	36.8	15.8
Hubbard (Leghorn)	S	*	*	*	1.70	40.0	16.0
	D	*	*	*	4.41	39.0	15.8
HyLine (W-36)	S	*	*	*	1.11	42.5	13.2
	D	*	*	*	0.00	46.2	12.5
Colonial (365-S)	S	*	*	*	2.98	35.5	16.2
	D	*	*	*	4.58	38.5	15.6
Shaver (288-A)	S	*	*	*	0.55	41.0	15.3
	D	*	*	*	0.00	41.5	14.7
White Egg Average	**S**	*	*	*	**1.65**	**39.5**	**15.4**
	D	*	*	*	**2.34**	**40.6**	**14.6**
Brown Egg Layers							
Hisex (Brown)	S	*	*	*	1.94	42.5	12.6
	D	*	*	*	4.30	48.5	10.2
Hubbard (Golden Comet)	S	*	*	*	1.80	41.5	13.1
	D	*	*	*	10.28	40.8	11.6
DeKalb (Sex-Sal-Link G)	S	*	*	*	4.58	45.8	11.5
	D	*	*	*	3.19	44.8	10.6
Brown Egg Average	**S**	*	*	*	**2.78**	**43.3**	**12.4**
	D	*	*	*	**5.92**	**44.7**	**10.8**

*Cage types grouped for body weight measurement.

TABLE 3. EFFECTS OF NUMBER OF BIRDS PER CAGE ON PERFORMANCE OF ENTRIES IN ALL HOUSING, 26th NCLPMT (435-490 DAYS)

Breeder (Strain)	Birds Per Cage	Pre-Molt-Weight (Lbs)	Days Off Feed	Body Weight Loss (%)	Mort. (%)	Days to 50%	Eggs per HH
White Egg Layers							
DeKalb (XL - Link)	3	4.23	22.0	34.3	1.66	43.6	13.1
	4	3.69	16.3	32.3	1.66	39.5	14.6
ISA-Babcock (B300)	3	4.13	21.7	34.3	1.11	40.2	15.2
	4	3.92	21.7	36.6	3.33	41.5	13.6
Hisex (White)	3	3.99	19.3	35.2	3.33	39.7	16.4
	4	3.63	12.7	30.5	2.08	36.5	17.0
H & N (Nick Chick)	3	3.89	17.7	33.5	1.93	39.2	15.9
	4	3.71	16.0	34.3	1.52	36.3	15.6
Hubbard (Leghorn)	3	4.30	19.3	34.8	2.34	39.0	16.6
	4	4.05	20.0	35.4	3.76	39.8	15.4
HyLine (W-36)	3	3.56	17.0	31.9	1.11	43.0	14.0
	4	3.58	16.3	31.1	0.00	45.7	12.0
Colonial (365-S)	3	3.00	14.7	30.7	4.23	38.0	15.9
	4	2.70	11.3	30.3	3.33	36.0	15.9
Shaver (288-A)	3	4.16	19.7	33.9	0.55	42.8	13.6
	4	3.69	14.7	32.6	0.00	39.7	16.0
White Egg Average	**3**	**3.90**	**18.9**	**33.6**	**2.03**	**40.7**	**15.1**
	4	**3.62**	**16.1**	**32.9**	**1.96**	**39.4**	**15.0**
Brown Egg Layers							
Hisex (Brown)	3	5.14	22.0	30.6	1.67	42.0	12.7
	4	4.83	21.7	35.2	4.58	49.0	10.3
Hubbard (Golden Comet)	3	4.95	22.0	29.6	1.67	38.8	14.2
	4	4.52	21.7	31.9	10.42	43.5	11.0
DeKalb (Sex-Sal-Link G)	3	5.12	22.0	32.6	4.44	43.3	12.8
	4	4.87	21.3	33.4	3.33	47.3	9.7
Brown Egg Average	**3**	**5.07**	**22.0**	**30.9**	**2.59**	**41.4**	**13.3**
	4	**4.74**	**21.6**	**33.5**	**6.11**	**47.1**	**10.3**

TABLE 4. EFFECTS OF HOUSING ON PERFORMANCE OF ENTRIES, 26th NCLPMT (435-490 DAYS)

Breeder (Strain)	House Type	Pre-Molt-Weight (Lbs)	Days Off Feed	Body Weight Loss (%)	Mort. (%)	Days to 50%	Eggs per HH
White Egg Layers							
DeKalb (XL - Link)	FL	3.95	21.0	34.9	1.46	40.2	15.0
	HR	4.11	18.5	31.1	2.08	39.7	14.6
	LC	3.81	18.0	33.8	1.46	44.7	12.0
ISA-Babcock (B300)	FL	4.00	22.0	34.5	2.71	40.2	14.5
	HR	4.14	22.0	37.5	0.83	40.7	15.1
	LC	3.93	21.0	34.2	3.12	41.5	13.3
Hisex (White)	FL	3.89	17.0	32.2	0.62	35.0	18.6
	HR	3.79	17.0	32.8	3.33	37.7	16.8
	LC	3.73	14.0	33.5	4.17	41.5	14.8
H & N (Nick Chick)	FL	3.91	17.0	35.8	1.82	34.5	17.6
	HR	3.90	19.0	34.7	0.69	38.0	15.4
	LC	3.58	14.5	31.0	2.66	40.7	14.3
Hubbard (Leghorn)	FL	4.34	20.0	36.2	2.36	39.2	16.8
	HR	4.26	19.5	35.1	6.02	38.0	15.3
	LC	3.92	19.5	34.0	0.78	41.2	15.7
HyLine (W-36)	FL	3.44	17.5	30.7	0.83	40.5	14.0
	HR	3.76	17.5	32.8	0.83	42.7	12.9
	LC	3.51	15.0	31.0	0.00	49.7	11.6
Colonial (365-S)	FL	3.00	12.5	30.0	5.00	31.0	19.1
	HR	2.74	13.5	30.7	5.09	35.0	15.6
	LC	2.80	13.0	30.9	1.25	45.0	13.1
Shaver (288-A)	FL	3.96	18.5	31.9	0.83	39.0	16.1
	HR	4.01	17.0	34.6	0.00	40.5	15.6
	LC	3.79	16.0	33.1	0.00	44.2	13.2
White Egg Average	**FL**	**3.81**	**18.2**	**33.3**	**1.95**	**37.4**	**16.4**
	HR	**3.84**	**18.0**	**33.7**	**2.36**	**39.0**	**15.2**
	LC	**3.63**	**16.3**	**32.7**	**1.68**	**43.6**	**13.5**
Brown Egg Layers							
Hisex (Brown)	FL	5.10	22.0	32.1	6.67	41.2	12.8
	HR	5.25	21.5	35.4	0.62	46.0	11.9
	LC	4.59	22.0	31.2	2.08	49.2	9.4
Hubbard (Golden Comet)	FL	4.67	22.0	30.3	11.67	39.7	13.2
	HR	4.95	22.0	31.4	5.21	40.7	12.7
	LC	4.57	21.5	30.5	1.25	43.0	11.1
DeKalb (Sex-Sal-Link G)	FL	5.22	22.0	32.5	6.25	45.5	11.5
	HR	5.20	22.0	32.2	4.58	44.0	11.6
	LC	4.55	21.0	34.1	0.83	46.5	10.1
Brown Egg Average	**FL**	**5.00**	**22.0**	**31.6**	**8.19**	**42.1**	**12.5**
	HR	**5.13**	**21.8**	**33.0**	**3.47**	**43.6**	**12.1**
	LC	**4.57**	**21.5**	**32.0**	**1.39**	**46.2**	**10.2**

STOCK SUPPLIERS AND CATEGORIES

Breeder	Stock	Category*	Source
DeKalb AgResearch, Inc. 3100 Sycamore Road DeKalb, IL 60115	DeKalb XL-Link	I-A YES	Clay's Hatchery Route 1 Blackstone, VA 23824
ISA-Babcock, Inc. P.O. Box 280 Ithaca, NY 14851	ISA-Babcock B300	I-A YES	Hodges Poultry Farm P.O. Drawer D Callahan, FL 32011
Hisex Division Pilch, Inc. Box 438 Troutman, NC 28166	Hisex White	I-A YES	Cleveland Farms Route 4, Box 173-A Shelby, NC 28150
Hisex Division Pilch, Inc. Box 438 Troutman, NC 28166	Hisex Brown	I-A YES	Cleveland Farms Route 4, Box 173-A Shelby, NC 28150
Hubbard Farms Walpole, NH 03608	Hubbard Golden Comet	I-A YES	Bowers Brothers Hatchery Route 4 Albemarle, NC 28001
H & N, Inc. 15305 N.E. 40th Street Redmond, WA 98052	H & N "Nick Chick"	I-A YES	Tatum Farms Route 3 Dawsonville, GA 30534
Hubbard Farms Walpole, NH 03608	Hubbard Leghorn	II YES	Hubbard Farms Walpole, NH 03608
DeKalb AgResearch, Inc. 3100 Sycamore Road DeKalb, IL 60115	DeKalb Sex-Sal-Link "G"	I-A YES	Pee Dee Hatchery P.O. Box 156 Hartsville, SC 29550
HyLine International Johnston, IA 50131	HyLine W-36	I-C	Not applicable
Colonial Poultry Farms, Inc., Pleasant Hill, MO 64080	Colonial True-Line 365-S	II YES	Colonial Poultry Farms, Inc. Pleasant Hill, MO 64080
Shaver Poultry Breeding Farms, Ltd., Box 400 Ontario, CANADA N14 5V9	Shaver Starcross 288-A	I-A YES	Silver Lake Hatchery, Inc. 209 Grove Street Silver Lake, MN 55381

*I = Extensive distribution in southeast United States.
II = Little or no distribution in southeast United States.
A = Entry requested.
C = Entry neither requested nor supported.
YES = Supporting and fully cooperating with test.