

AGRICULTURAL EXTENSION SERVICE  
NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

SCHOOL OF AGRICULTURE AND LIFE SCIENCES  
October 13, 1970

OFFICE OF EXTENSION POULTRY SCIENCE  
SCOTT HALL  
Box 5307 ZIP 27607

I am enclosing the report of the growing period for the Twelfth 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, N. C., 28144.

Very truly yours,

*Grady A. Martin*  
Grady A. Martin  
Extension Poultry Specialist

TWELFTH NORTH CAROLINA RANDOM SAMPLE LAYING TEST  
Growing Report  
March 27, 1970, through August 23, 1970

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 purpose of the Tests is to assist poultrymen in evaluating stocks of commercial layers and management systems.

Beginning with the Twelfth Test, two cage management systems are compared to a combination half-litter and half-slat management system.

Samples of 1,080 freshly gathered 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; 360 sexed pullets (when available) were placed for each entry. Two pens of 60 each were placed on pine shavings litter-hardwood slat pens at 1.4 sq. ft. per bird for 150 days. Four groups of 60 each were placed in 24"x22" wire cages. Floor space was 17.6 sq. inches for two weeks, 26.4 sq. inches for another three weeks, and 61.6 sq. inches from 5 weeks to 150 days. At 150 days, the litter-slat grown birds were randomly reduced to 50 birds and kept in the same pens at 1.67 sq. ft. per bird for the laying period (Table L). At the same time, two groups of the cage grown birds (Table K1) were randomly reduced to 50 birds and housed in 24"x22" cages at 7 birds per cage. The other two groups were randomly reduced to 52 birds and housed in two blocks of 10"x18" cages at two birds per cage (Table K3). 328  
= 30 birds/cage  
20  
2.5



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

All-mash rations were mixed at the test site. A starting ration was fed for eight weeks and a growing ration was fed for the remainder of the growing period. Commercial laying mash will be fed to all treatments during the laying period.

All birds were debeaked at ten days, vaccinated for Newcastle and bronchitis in the water at four days, four weeks and 16 weeks of age, vaccinated for Pox via wing-web at 12 weeks and vaccinated for Avian encephalomyelitis at 14 weeks. Birds exposed to litter were vaccinated for coccidiosis at five days with a low level of coccidiostat added to the feed for eight weeks. Average losses from Marek's disease were 1.4% on litter and 2.0 and 1.7% for the two-cage groups.

The tables list the combined data for the entry (Table 12 G - C) and the data for the litter-slat housing (Table 12G - L), cage growing for two-bird laying cages (Table 12G-K1) and cage growing for seven-bird laying cages (Table 12G-K3). The entry number was drawn at random. The breeder is fully identified later, with stock identification, availability of flock list, number of birds in flocks sampled, sampling procedure, and source of sample listed. Net pullets at 1 week excludes first week mortality, sexing errors and accidental deaths. Mortality 8 through 150 days is average of group data. Average feed per pullet for 150 days is based upon bird days and does not charge against survivors the feed consumed by birds that died. Average body weight at 150 days is average weight of survivors. Feed and chick cost per pullet housed distributes the total cost of the net pullets at one week and the feed which they consumed equally among survivors and, therefore, includes the cost of mortality. Feed costs are based upon three-year averages of monthly price quotations from the N. C. Department of Agriculture. Chick prices are the three-year average of price per 10,000 quoted by distributors. Average eggs per pullet at 150 days indicates general maturity level of the entry at housing.

GROWING PERIOD - TABLE 12G-K1

Entry No.	Breeder	Net pul-lets at 1 week	Mortality 8-150 days %	Av. lbs of feed/pullet 150 days	Av. body wt. at 150 days	Feed & chick cost/pullet housed	Av. eggs per pullet to 150 days
1	Davis (Reds)	114	6.2	18.5	3.9	\$1.13	0.01
2	Garber (GX 291)	113	4.4	17.3	3.4	1.05	0.07
3	Ind. Fm. Bu. (Pr.55)	112	5.3	16.7	3.1	1.05	0.21
4	Welp's (937)	116	3.4	16.6	3.2	1.06	0.39
5	Parks (Key. B-1)	98	5.1	18.3	3.3	1.12	0.09
6	Babcock (B-390)	120	5.0	18.7	3.7	1.11	0.00
7	Shaver (*X-288)	111	2.7	15.5	3.2	0.99	0.12
8	Hubbard (Gld.Comet)	117	2.6	17.5	3.7	1.06	0.06
9	Babcock (B-305)	108	6.2	16.9	3.0	1.04	1.41
10	Tatum (T-100)	111	2.7	16.3	3.0	1.06	1.18
11	Thorner (808)	117	1.7	16.1	3.0	1.11	0.43
12	Hubbard (101)	111	1.8	15.7	2.8	0.96	0.05
13	Fisher (105)	119	4.2	15.6	2.8	1.02	0.11
14	NCRPB (CRB)	78	12.8	18.3	3.3	1.35	0.06
15	Lawton (Buff SL)	106	1.9	19.8	3.9	1.16	0.00
16	Ideal (236)	110	2.8	16.8	3.1	1.03	0.05
17	NCRPB (CKRB)	116	6.0	17.5	3.1	1.06	0.05
18	Garber (G-200)	114	2.6	16.5	3.2	0.99	0.12
19	Anthony (W. Leg.)	113	3.5	17.6	3.1	1.11	0.06
20	Kimber (K-137)	116	6.1	16.3	3.0	1.04	0.09
	Average	111	4.4	17.1	3.2	1.08	0.23

GROWING PERIOD - TABLE 12G - K3

1	Davis (Reds)	109	1.8	19.3	3.9	\$1.13	0.01
2	Garber (GX 291)	115	3.5	17.0	3.5	1.05	0.30
3	Ind. Fm. Bu. (Pr. 55)	112	6.2	17.4	2.9	1.08	0.15
4	Welp's (937)	112	1.8	16.7	3.0	1.05	0.53
5	Parks (Key. B-1)	95	5.1	18.1	3.5	1.12	0.30
6	Babcock (B-390)	117	3.4	19.1	3.8	1.12	0.02
7	Shaver (*X-288)	116	2.5	17.0	3.0	1.07	0.04
8	Hubbard (Gld. Comet)	119	0.8	18.3	3.5	1.08	0.11
9	Babcock (B-305)	124	4.1	16.1	2.8	1.01	0.43
10	Tatum (T-100)	118	11.8	16.8	2.8	1.17	0.73
11	Thorner (808)	117	0.8	15.9	2.8	1.08	0.21
12	Hubbard (101)	113	3.5	16.8	2.6	1.03	0.01
13	Fisher (105)	115	6.9	15.7	2.8	1.04	0.36
14	NCRPB (CRB)	85	4.7	18.2	3.3	1.21	0.20
15	Lawton (Buff SL)	106	2.8	21.1	4.1	1.22	0.00
16	Ideal (236)	114	2.6	16.6	3.1	1.02	0.09
17	NCRPB (CKRB)	116	10.3	16.5	3.0	1.06	0.09
18	Garber (G-200)	115	5.2	16.7	2.8	1.02	0.03
19	Anthony (W. Leg.)	106	2.9	17.7	3.1	1.11	0.06
20	Kimber (K-137)	113	5.3	16.3	3.0	1.03	0.45
	Average	112	4.3	17.4	3.2	1.08	0.21

GROWING PERIOD - TABLE 12G - L

Entry No.	Breeder	Net pullets at 1 week	Mortality 8-150 da. %	Av. lbs of feed/pullet 150 days	Av. body wt. at 150 days	Feed & chick cost/pullet housed	Av. eggs per pullet to 150 days
1	Davis (Reds)	117	0.0	18.0	3.9	\$1.06	0.13
2	Garber (GX 291)	114	3.4	17.4	3.5	1.03	1.05
3	Ind. Fm. Bu. (Pr. 55)	111	1.8	17.3	3.2	1.05	0.81
4	Welp's (937)	121	1.7	15.3	3.0	.99	1.17
5	Parks (Key. B-1)	93	3.3	17.8	3.3	1.10	0.40
6	Babcock (B-390)	119	3.4	18.5	3.9	1.07	0.44
7	Shaver (*X-288)	113	0.0	16.9	3.3	1.03	0.07
8	Hubbard (Gld. Comet)	120	0.0	17.5	3.5	1.04	0.50
9	Babcock (B-305)	115	1.8	16.7	3.0	1.00	1.73
10	Tatum (T-100)	112	1.8	16.5	3.0	1.05	1.69
11	Thornber (808)	116	0.9	16.4	3.0	1.07	0.74
12	Hubbard (101)	115	2.6	16.5	3.0	1.01	0.23
13	Fisher (105)	117	4.3	16.6	3.0	1.06	0.55
14	NCRPB (CRB)	81	6.1	17.6	3.2	1.20	0.18
15	Lawton (Buff SL)	112	0.9	19.4	4.1	1.12	0.04
16	Ideal (236)	113	0.9	16.9	3.2	1.01	1.38
17	NCRPB (CKRB)	111	7.2	17.2	3.2	1.06	0.14
18	Garber (G-200)	119	5.1	16.3	3.2	1.01	0.49
19	Anthony (W. Leg.)	114	0.9	16.2	3.0	1.02	0.08
20	Kimber (K-137)	115	5.1	16.9	3.1	1.06	0.81
	Average	112	2.6	17.1	3.3	1.05	.63

GROWING PERIOD - TABLE 12G - C

1	Davis (Reds)	340	2.7	18.6	3.9	1.11	0.05
2	Garber (GX 291)	342	3.8	17.2	3.5	1.05	0.47
3	Ind. Fm. Bu. (Pr. 55)	335	4.4	17.1	3.1	1.06	0.39
4	Welp's (937)	349	2.3	16.2	3.1	1.03	0.80
5	Parks (Key. B-1)	286	4.5	18.1	3.4	1.11	0.26
6	Babcock (B-390)	356	3.9	18.8	3.8	1.10	0.15
7	Shaver (*X-288)	340	1.8	16.5	3.2	1.03	0.08
8	Hubbard (Gld. Comet)	356	1.1	17.8	3.6	1.06	0.22
9	Babcock (B-305)	347	4.0	16.5	3.0	1.02	1.19
10	Tatum (T-100)	341	5.4	16.5	3.0	1.09	1.20
11	Thornber (808)	350	1.1	16.1	2.9	1.09	0.46
12	Hubbard (101)	339	2.6	16.3	2.8	1.00	0.09
13	Fisher (105)	351	5.1	16.0	2.9	1.04	0.34
14	NCRPB (CRB)	244	7.9	18.1	3.3	1.25	0.15
15	Lawton (Buff SL)	324	1.9	20.1	4.0	1.17	0.01
16	Ideal (236)	337	2.1	16.8	3.2	1.02	0.51
17	NCRPB (CKRB)	343	7.8	17.1	3.1	1.06	0.09
18	Garber G-200)	348	4.3	16.5	3.0	1.01	0.21
19	Anthony (W. Leg.)	333	2.4	17.2	3.1	1.08	0.06
20	Kimber (K-137)	344	5.5	16.5	3.0	1.04	0.45
	Average	335	3.7	17.2	3.2	1.07	0.36

BREEDER	STOCK IDENTIFICATION	# Birds & List	Sampling Procedure*	Source of Sample
Geo. M. Anthony & Sons Strausstown, Pa. 19559	Anthony W. Leg WL SX	28,000 Yes	B	Geo. M. Anthony & Sons Plty Farm, Strausstown, Pa. 19559
Babcock Poultry Farm, Inc. Box 280, Ithaca, N.Y. 14850	Babcock B-305 WL 4W IN	25,500 Yes	A	Harrold's Chicks, Inc. Winterville, Ga. 30683
Babcock Poultry Farm, Inc. Box 280, Ithaca, N.Y. 14850	Babcock B-390 RIRxBPR BX	7,000 Yes	B	Beamsdale Hatchery Lawndale, N. C. 28090
Joe K. Davis Hatchery Box 27, Earl, N. C. 28038	Davis Reds RIR 3wX	6,000 Yes	A	Joe K. Davis Hatchery Box 27, Earl, N. C. 28038
Fisher Poultry Fm., Ltd. Ayton, Ontario, CANADA	Fisher 105 WL 3wX	12,200 Yes	A	Fisher Poultry Farm, Ltd. Ayton, Ontario, CANADA
Garber Poultry Breeding Farms 4255 Hammett Rd., Modesto Ca. 95351	Garber G-200 WL SX	15,000 No	B	Garber Poultry Br. Fms. 4255 Hammett Rd. Modesto, CA 95351
" "	Garber GX-291 CG x WL BX	5,000 No	B	" "
Hubbard Farms, Inc. Walpole, N.H. 03608	Hubbard 101 WL 3wX	6,000 Yes	B	Hubbard Farms, Inc. Walpole, N. H. 03608
" "	Hubbard Gld. Comet NH x SyN BX	19,000 Yes	A	J. C. Castlebury Poultry Farm Apex, N. C. 27502
Ideal Plty. Br. Fms. Inc., Box 591 Cameron, Texas 76520	Ideal 236 SYN x WL BX	22,000 Yes	A	Ideal Poultry Breeding Fms.Inc Box 591, Cameron, Texas 76520
Ind.Fm.Bu.Coop.Assn., Inc. Indianapolis, In. 46204	Princess 55 WL SX	4,000 Yes	B	Co-op Breeding & Research Farm R#2, Lafayette, In. 47901
Kimber Farms, Inc., Box 2008 Fremont, Ca. 94536	Kimber K-137 WL SX	21,000 Yes	B	Nichols Plty. Fm., Inc., R#2, Jefferson City, Tn. 37760
A. C. Lawton & Sons, 70 North St. Foxboro, Mass. 02035	Lawton's Bf. Sx. Lk. RIR x WPR BX	7,000 Yes	B	Burling Hatchery, 38 S. 5th St. Oxford, Pa. 19363
N.Central Plty.Breed. Lab. Lafayette, In. 47900	Cornell RB (CRB) WL RB	-	-	Selected at Lafayette, Indiana
"	Cor.-Kent RB (CKRB) WL RBX	-	-	"
Parks Poultry Farm, R#4, B-118 Altoona, Pa. 16601	Keystone B-1 WL 4wX	3,000 No	B	Parks Poultry Farm, R#4, Box 118, Altoona, Pa. 16601
Shaver Plty. Br. Fm., Ltd. Box 400, Galt, Ont., CANADA	Starcross 288 WL SX	3,600 No	B	Shaver Poultry Br. Farm, Ltd. Box 400, Galt, Ont., CANADA
Tatum Farms Dawsonville, Ga. 30534	Tatum T-100 WL SX	3,500 No	A	Tatum Farms Dawsonville, Ga. 30534
Thornber Bros.,Ltd., Mytholmroyd Halifax, Yorkshire, ENGLAND	Thornber 808 WL 4wX	80,000 Yes	C	Thornber Bros.,Ltd., Mytholm- royd, Halifax, Yorkshire, ENG.
Welp's Breeding Farm Bancroft, Io. 50517	Welp Line 937 WL 3wX	15,000 No	B	Welp's Breeding Farm Bancroft, Io. 50517

\*A = Nest sample; B = Egg room sample; C = Incubator tray sample