AGRICULTURAL EXTENSION SERVICE
NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

SCHOOL OF AGRICULTURE AND LIFE SCIENCES

OFFICE OF EXTENSION POULTRY SCIENCE
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September, 1969

I am enclosing the final summary of the Tenth North Carolina Random Sample Laying Test which you have requested. We believe that the information contained herein is a useful guide for evaluating egg production stocks and management systems. Please circulate this report among your associates so that they, too, may study its contents.

This is the third complete test which compared all stocks under two growing environments and three laying environments. There were three events in the house with half litter-half slat environment which influenced the outcome adversely. First, on April 19, 1968, a dog slipped by an attendant, entered a pen of entry 15 and killed 64 chicks. Second, a mixed infection of coccidiosis and Blackhead occurred when these pullets were about 14 weeks old and caused about 1% mortality and high morbidity in this house. Third, when the flock was about 57 weeks old, this house experienced an outbreak of Fowl Cholera. The mortality was about 7%, the morbidity was great, and production dropped drastically. All birds on the farm were vaccinated with the Cholera bacterin, this house was treated, and recovery was encouragingly rapid. However, egg production was reduced throughout the flock. Mortality by entries from these causes is listed in separate columns in the tables.

We believe that the data from this test is useful as a part of the series of reports from this test and we are making it available. We suggest that the above events be considered in evaluating any unusual result contained herein.

Requests for reports from this test should be sent to Piedmont Research Station, Route 6, Box 420, Salisbury, N. C. 28144.

Very truly yours,

Grady A. Martin

Grady A. Martin
Extension Poultry Specialist

FINAL SUMMARY REPORT
TENTH NORTH CAROLINA RANDOM SAMPLE LAYING TEST
March 29, 1968, through August 10, 1969

The North Carolina Random Sample Laying Tests are conducted under the auspices of the Agricultural Extension Service of North Carolina State University and the Division of Research Stations of the North Carolina Department of Agriculture. Mr. T. R. Burleson, Jr., Route 6, Box 420, Salisbury, N. C., 28144, is Resident Manager of the tests and Dr. G. A. Martin, Department of Poultry Science, N. C. State University, Raleigh, N. C., 27607, is Project Leader. The purpose of the project is to

assist poultrymen in evaluating stocks and management systems. A committee representing various poultry interests in the State advises the Steering Committee in establishing policies and practices which best serve this purpose.

Data are presented as Tables 10-4A-I, II, III and IV, 10-4B-I, II, III and IV, 10-4C-I, II, III and IV, and 10-4D-I, II, III and IV. Tables carrying the letters A, B, C and D in their numbers contain performance data for birds housed on slats, on combination of litter and slats, in cages and averaged across all three housing schemes, respectively. Due to the large number of items reported, each of the tables is divided into Parts I, II, etc., for the final report. These data are for one year at one location. The ARS 44-79 series of publications summarizes all laying tests in the United States and Canada over two years and may be obtained from the USDA. It provides an excellent basis for comparing the performance of different stocks.

INFORMATION CONCERNING DATA REPORTED

All items reported are averages of pen or cage block means.

Chicks for each entry were hatched at the test site from a 1080-egg sample which was taken by public employees in Agriculture. The sample was taken as eggs were gathered at a randomly chosen supply flock, with the few exceptions shown on Page 5 when nest sampling was not feasible. A maximum of 352 sexed pullets was divided into four equal lots with two pens reared on slats at one sq. ft. per pullet and two pens reared on half slats-half litter at 1½ sq. ft. per pullet. First week mortality, sexing errors and accidental deaths were not charged against the the entry. At 150 days of age a maximum of 50 randomly chosen pullets were retained in the pens where they were grown on floor space held constant and a maximum of 26 randomly chosen pullets were placed in a block of 10" x 18" laying cages at two birds per cage.

Allmash rations were mixed at the test site. A starting ration was fed for 8 weeks, a growing ration was fed for 13½ weeks, and three laying rations were fed during early, mid and late portions of the laying period. All birds were debeaked and vaccinated for Newcastle, bronchitis, pox and Avian Encephalomyelitis. The birds which were permitted access to litter were inoculated with coccidiosis oocysts and fed a coccidiostat at a low level. Other management was as nearly commercial procedures as practical.

RESULTS

Part I of Tables

Entry No. is assigned at random to the particular entry.

Type Housing. 1 = slats, 2 = slats and litter, 3 = cages, 0 = average of three types.

Breeder is the name used to distinguish entries. Full information about the stock and source is listed elsewhere in this report.

Average bird weight is recorded in pounds at housing and at end of test.

Egg size distribution (%) was obtained by crediting each week's production to size classes in proportion to those observed in the total production of one day. Individual eggs weighing between 23 and 26 oz/doz. are classified as large. Other size classes are scaled up or down from large in blocks of 3 oz/doz.

Average egg weight was obtained by crediting all eggs for each week at the average size observed on one day by mass weight.

Age at 50% production was the age of pullets on the first day of the first two consecutive days on which production reached or exceeded 50%.

Hen-Day Production Percentages represent the daily average number of eggs produced per 100 hens of the entry during the specified periods.

Eggs per Pullet Housed is the total number of eggs produced divided by the number of pullets housed.

Part II of Tables

Entry No. and Type Housing are same as above.

No. of Birds are the net pullets or hens retained at the specified times. Sexing errors, first week mortality and accidental deaths are excluded.

Mortality is the percentage of birds that died during growing and laying periods and the average days per bird housed that were lost to mortality during the laying period.

Feed Consumed is average feed consumed for the 150 days of growing, per 100 birds per day in laying period, per pound of eggs produced in laying period, and per dozen eggs laid.

Chick Price is the average of prices quoted for this stock in March of 1966, 1967 and 1968.

Values per Pullet Housed are the amounts charged or credited to the entry at 3-year monthly average feed prices quoted by N. C. Department of Agriculture, at 3-year weekly egg prices quoted for Raleigh market by the Federal-State Market Service, and 3-year average fowl prices at Raleigh for the week in which the test terminated. IOFCC is income over laying feed cost and growing chick and feed cost. This does not represent net return since many other costs are involved in egg production.

Part III of Tables

Entry No. and Type Housing are same as above.

% Loss (downgrades) was the percentage by which total egg value was reduced below Grade A value due to downgrades detected from candling. We express our appreciation to the N. C. Department of Agriculture, Egg Law Enforcement Section, whose personnel provided candling service on one day of production each month. Market value of all eggs was calculated on the basis of these candling reports.

% Inclusions (Breakout): Blood spots and colored meat spots were observed by breaking one day's production from each pen at about 30-day intervals throughout the year. Spots exceeding 1/8 inch were classified as large and those of lesser size as small. Breakout data were not used for egg value calculations.

Candled Quality Percentages: Official graders from the N. C. Department of Agriculture candled the production of one day each month. The percentages reported are a summary of their findings and were used to determine egg value.

Haugh Units were measured one day each quarter of the year. Since this factor undergoes seasonal change, the quarterly averages and the annual average are given.

Shell Score (specific gravity) was secured by using salt solutions to determine the specific gravity of eggs. The eggs with specific gravity below 1.068 were given score of 0; those between 1.068 and 1.072, a score of 1, etc., with those exceeding 1.100 receiving a score of 9. One day's production from each pen was classified in the months indicated.

Part IV of Tables

Entry No. and Type Housing are the same as above.

Causes of Mortality were assigned from autopsy findings. Birds were held in a freezer as mortality occurred and examined at the N. C. Department of Agriculture Poultry Disease Laboratory once each week. We express our appreciation to Dr. W. W. Clemmons for providing this service to the Test. The 10-point classification system recommended by the Council of American Official Poultry Tests was used on autopsy reports. Some categories which caused little mortality were combined under 'Miscellaneous' in the interest of saving space.

Part V of Tables

This section of the tables is presented only for the average performance of the entries in all types of housing and for only the four characteristics listed.

The Range column indicates those entries which are in the most desirable half of the range above the mean by 1, those between this point and the mean by 2, those in the least desirable half of the range below the mean by 4, and those between this point and the mean by 3.

Entry No. indicates which stock from earlier listing in the tables attained the average performance value shown.

The Duncan Test may have little meaning to those who are not accustomed to statistical procedures. Basically, this test indicates that difference greater than those spanned by any one of the vertical lines would not be expected to occur more than five times out of 100 comparisons if all stocks had the same ability to produce. Few of us can insure 19 to 1 odds in our favor on daily business transactions. Observing the stocks in more than one test and more than one year can help ascertain the margin of economic feasibility in stock selection.

Breeder	Stock Identification	Sample Procedure*	Source of Sample
Arbor Acres Farm, Inc. Glastonbury, Conn. 06033	Harco Sex Link RIRxBPR BX	B	Arbor Acres Farm, P.O.Box 2928 Asheville, N. C. 28802
Babcock Poultry Farm, Inc., P.O.Box 280, Ithaca, N.Y. 14850	Babcock B-300 WL 3wX	A	Harrold's Chicks, Inc. Winterville, Ga. 30683
Cashman Leghorn Farms Webster, Kentucky 40176	Cashman Hi-Cash WL IN	A	Cashman Leghorn Farms Webster, Ky. 40176
Joe K. Davis Hatchery P.O.Box 27, Earl, N.C. 28038	Davis RIR RIR 3wX	A	Joe K. Davis Hatchery Box 27, Earl, N. C. 28038
Joe K. Davis Hatchery P.O.Box 27, Earl, N. C. 28038	Combiner Sex Link RIRxBPR BX	A	Joe K. Davis Hatchery Box 27, Earl, N. C. 28038
Experimental	WL SX	-	Selected by Breeder
Garber Poultry Breeding Farm Modesta, Calif. 95351	Garber GX-291 CGxWL BX	A	Joe K. Davis Hatchery Box 27, Earl, N. C. 28038
Hubbard Farms, Inc. Walpole, N. Hamp. 03608	Hubbard Golden Comet NHxSyn BX	A	Hubbard Farms Statesville, N. C. 28677
Hy-Line Poultry Farms Des Moines, Io. 50309	Hy-Line 934-E 4wX INX	B	Wallace Hatchery, Inc., P.O.Bo 20004, St. Petersburg, Fla. 337
Ideal Poultry Breeding Farm,Inc. P.O.Box 710, Cameron, Tex. 76520	Ideal 236 SynxWL 4wBX	C	Ideal Poultry Breeding Farm,In Box 710, Cameron, Tex. 76520
Ind. Fm. Bu. Coop. Assn., Inc. Indianapolis, Ind. 46204	Princess 55 WL SX	B	Co-op Breeding & Research Farm Lafayette, Ind. 47900
Kimber Farms, Inc., P.O.Box 2008 Fremont, Calif. 94536	Kimber K-137 WL SX	A	Nichols Poultry Farm, Inc., R# Jefferson City, Tenn. 37760
Kimber Farms, Inc., P.O.Box 2008 Fremont, Calif. 94536	Kimber K-141 WL SX	C	Nichols Poultry Farm, Inc., R# Jefferson City, Tenn. 37760
North Central Poul. Breeding Lab. Lafayette, Ind. 47900	Cornell Randombred WL RB	-	Selected at Lafayette, Ind.
Parks Poultry Farm Altoona, Pa. 16601	Parks Keystone B-1 WL 4wX	C	Parks Poultry Farm Altoona, Pa. 16601
Shaver Poultry Breeding Farm, Ltd. Box 400, Gault, Ontario, Canada	Starcross 288 WL SX	A	Mid-Valley Hatchery Dayton, Va. 22821
Stone's Poultry Breeding Farm Dinuba, Calif. 93618	Stone's H-56-E WL SX	A	Stone's Poultry Breeding Farm Dinuba, Calif. 93618
Sturtevant Farms, Inc. Halifax, Mass. 02338	Sturtevant Sex Link RIRxBPR BX	B	Sturtevant Farms, Inc. Halifax, Mass. 02338
Tatum Farms Dawsonville, Ga. 30534	Tatum's T-100 WL SX	A	Tatum Farms Dawsonville, Ga. 30534
Welp's Breeding Farm Bancroft, Io. 50517	Welp Line 937 WL 3wX	A	Welp's Breeding Farm Bancroft, Io. 50517

*A = nest sample; B = egg room sample; and C = incubator tray sample.

Table 10-4A-I - Bird Weight, Egg Size, Maturity and Production Data

Entry No.	Type Housing	Breeder	Average Body Wt. 150 Days	Average Body Wt. 500 Days	% Egg Size, Distribution: Pee Wee	Small	Medium	Large	Ex. Lg. and Over	Av. Egg Wt oz/doz	Age at 50% Production	Egg Production Rate: 151-240 Days	241-330 Days	331-420 Days	421-500 Days	471-500 Days	After 50% Production	Eggs per Pullet Housed
1	1	NCRPBL (CRB)	3.2	4.7	0.2	1.2	16.8	42.5	39.3	25.1	188.0	48.8	70.2	62.9	60.3	57.2	66.3	171.7
2	1	Welp's (937)	3.2	4.0	0.2	0.7	11.6	30.9	56.6	26.1	163.5	69.2	69.5	61.1	60.1	56.8	66.0	212.8
3	1	Tatum (T-100)	3.2	4.2	0.1	0.6	10.4	30.4	58.6	26.4	176.0	54.3	64.6	56.5	52.5	52.6	59.9	187.8
4	1	Hubbard (Gld.Com)	3.6	5.0	0.0	0.1	2.6	15.9	81.5	28.7	173.0	61.2	72.9	59.5	51.1	46.4	65.1	202.1
5	1	Kimber (K-137)	3.0	4.3	0.0	0.2	7.4	32.6	59.7	26.4	173.5	62.1	71.3	61.7	66.3	63.6	68.6	208.0
6	1	Experimental A	3.1	4.3	0.0	0.4	6.5	28.8	64.3	26.5	175.0	61.4	79.5	72.1	69.6	67.1	74.4	230.3
7	1	Kimber (K-141)	3.1	4.4	0.0	0.2	10.4	32.7	56.7	26.0	173.5	61.9	72.7	65.1	65.2	62.3	69.3	208.1
8	1	Hy-Line (934-E)	3.0	3.9	0.0	0.2	2.9	15.0	81.9	28.9	180.0	50.6	64.6	61.8	63.1	58.3	63.7	175.0
9	1	Sturtevant (SxLk)	4.6	5.8	0.0	0.1	4.6	19.5	75.7	28.2	179.0	53.2	70.0	58.7	48.4	46.5	61.4	196.6
10	1	Arbor A.(Har.SL)	4.1	5.6	0.0	0.0	1.8	13.8	84.4	28.9	182.0	57.8	75.5	66.8	60.7	57.2	70.2	218.9
11	1	Shaver (*X 288)	3.5	4.9	0.1	0.2	5.0	22.8	71.9	27.4	169.0	57.8	79.7	69.3	64.6	62.2	73.5	217.8
12	1	Parks (Key.B-1)	3.4	4.4	0.1	0.3	6.5	24.8	68.2	26.9	168.5	68.0	76.7	72.3	62.7	58.9	72.6	214.7
13	1	Ideal (236)	3.3	4.5	0.0	0.1	5.1	23.7	71.2	27.4	176.0	57.5	77.1	67.7	61.3	59.3	69.9	219.2
14	1	Cashman (Hi-Cash)	3.2	4.3	0.1	0.1	4.9	18.9	76.1	27.6	181.5	52.5	74.0	66.6	64.0	61.5	69.2	194.3
15	1	Davis (Sex Lk)	4.2	5.3	0.1	0.2	6.1	23.7	69.9	27.6	181.0	52.7	74.2	61.7	53.1	49.4	64.9	200.0
16	1	Stone (H-56)	3.3	4.5	0.0	0.2	7.6	29.4	62.7	26.7	170.0	64.9	72.3	64.6	63.3	60.3	69.0	213.6
17	1	Ind.Fm.Bu.(Pr. 55)	3.0	4.2	0.1	0.2	6.8	30.3	62.6	26.6	179.5	55.6	72.0	66.5	66.1	62.6	69.2	205.6
18	1	Davis (RIR)	4.0	5.1	0.0	0.2	5.7	25.9	68.3	27.2	180.0	55.1	73.8	63.2	59.2	55.2	67.3	218.4
19	1	Babcock (B-300)	2.9	4.2	0.1	0.4	7.9	26.2	65.4	26.5	164.0	66.0	74.4	65.8	65.1	58.7	69.6	216.1
20	1	Garber (GX 291)	3.4	4.4	0.1	0.5	9.9	27.2	62.2	26.6	165.0	65.7	74.3	64.7	55.5	47.1	67.0	215.0
0	1	Average	3.4	4.6	0.1	0.3	7.0	25.7	66.9	27.1	174.9	58.8	73.0	64.4	60.6	57.1	67.9	206.3

Table 10-4A - II - Birds, Mortality, Feed use and Cost and Income Data

Entry No.	Type Housing	No. of Birds			Mortality			Feed Consumed				Chick Price	Value per Pullet Housed					IOFCC
		At one Week	Housed	At End of Test	% 8-150 Days	% 151-500 Days	Av. Days Lost/Hen Housed	Per Bird 1-150 Da.	Per 100 Birds (1 day)	Per lb. of Eggs	Per Doz. Eggs		Growing Feed Cost	Laying Feed Cost	Total Feed and Chick Cost	Value of Eggs	Value of Meat	
1	1	106.	100.	75.	3.7	25.0	64.4	16.8	24.5	3.13	4.91	.34	0.71	3.15	4.22	4.49	.20	0.476
2	1	103.	99.	86.	3.9	13.2	24.0	17.1	25.0	2.84	4.64	.36	0.73	3.66	4.77	5.83	.20	1.257
3	1	106.	99.	88.	5.0	11.1	20.9	17.1	24.0	3.06	5.05	.39	0.74	3.54	4.69	5.01	.21	0.524
4	1	115.	100.	83.	0.0	17.0	23.3	18.4	25.4	2.75	4.93	.35	0.77	3.73	4.85	5.50	.27	0.916
5	1	114.	100.	83.	1.7	17.0	31.0	16.4	24.5	2.73	4.52	.34	0.70	3.51	4.56	5.70	.20	1.347
6	1	104.	100.	91.	1.2	9.0	23.5	16.5	24.6	2.52	4.19	.30	0.70	3.60	4.60	6.36	.22	1.984
7	1	105.	100.	81.	4.3	19.0	35.5	16.3	23.7	2.65	4.31	.34	0.70	3.35	4.41	5.65	.20	1.442
8	1	104.	98.	73.	4.3	25.7	55.3	16.5	26.6	2.98	5.38	.45	0.70	3.52	4.69	4.74	.17	0.213
9	1	86.	82.	78.	3.9	4.9	10.1	21.0	26.0	3.06	5.39	.32	0.90	3.96	5.20	5.25	.40	0.456
10	1	111.	100.	92.	1.8	8.0	15.1	19.9	27.3	2.78	5.01	.32	0.85	4.10	5.27	5.99	.37	1.089
11	1	114.	100.	71.	2.9	29.0	42.6	17.7	28.1	2.79	4.78	.33	0.74	3.88	4.92	5.88	.20	1.159
12	1	102.	98.	79.	3.9	19.4	43.4	17.5	26.9	2.75	4.62	.35	0.75	3.70	4.81	5.75	.20	1.138
13	1	103.	99.	86.	1.3	13.1	18.1	17.0	25.0	2.65	4.54	.38	0.72	3.72	4.82	6.08	.22	1.482
14	1	115.	100.	81.	1.8	19.0	46.2	17.2	25.1	2.73	4.71	.33	0.73	3.43	4.49	5.26	.20	0.965
15	1	115.	101.	92.	1.7	8.9	20.1	19.2	26.9	3.09	5.33	.34	0.82	3.98	5.15	5.42	.35	0.620
16	1	109.	100.	87.	4.3	13.0	28.2	16.9	24.7	2.68	4.47	.28	0.73	3.57	4.59	5.76	.22	1.396
17	1	100.	94.	79.	5.3	16.3	33.3	16.2	23.4	2.61	4.34	.37	0.69	3.33	4.41	5.62	.20	1.402
18	1	114.	100.	97.	1.7	3.0	2.9	19.3	25.8	2.90	4.92	.34	0.82	4.02	5.19	5.87	.33	1.008
19	1	113.	100.	85.	7.0	15.0	31.7	16.8	25.2	2.70	4.46	.33	0.70	3.60	4.66	5.73	.20	1.272
20	1	113.	100.	88.	4.1	12.0	21.6	17.9	25.5	2.82	4.69	.32	0.77	3.76	4.86	5.76	.22	1.119
0	1	108.	99.	84.	3.2	14.9	29.5	17.6	25.4	2.81	4.76	.34	0.75	3.66	4.76	5.53	.24	1.063

Table 10-4A-III - Egg Quality Data

Entry No.	Type Housing	% Loss (down-grades)	% Inclusion (Break-out)				Candled Quality Percentages					Haugh Units					Shell Score (specific gravity)				
			Large Bloods	Small Bloods	Large Meats	Small Meats	A or Better	B	C	Chex & Cracks	Loss Eggs	Sept.	Dec.	Mar.	June	Average	October	January	April	July	Average
1	1	5.5	1.9	1.7	0.4	0.8	91.1	3.0	0.0	4.9	1.0	81.7	78.3	69.3	67.5	74.2	4.02	3.65	1.50	1.12	2.57
2	1	3.3	0.4	1.5	0.1	0.3	94.2	2.1	0.3	3.1	0.3	79.1	75.6	72.2	66.9	73.5	3.95	3.37	1.57	1.39	2.57
3	1	5.7	2.5	2.2	0.2	0.5	90.8	2.5	0.1	5.2	1.4	82.0	80.0	69.6	69.7	75.3	3.83	3.32	1.99	1.64	2.70
4	1	5.7	1.6	1.6	13.1	22.5	91.4	1.3	0.0	5.4	1.9	84.2	78.0	72.6	70.7	76.4	2.83	1.39	0.48	1.25	1.49
5	1	3.7	0.7	1.9	0.3	0.8	93.8	2.2	0.0	3.7	0.4	88.2	83.9	77.9	74.1	81.0	4.60	3.86	2.48	2.12	3.27
6	1	2.5	0.5	0.5	0.1	0.2	95.5	1.7	0.0	2.7	0.1	88.4	83.8	75.5	74.0	80.4	3.53	2.89	1.10	1.24	2.19
7	1	4.2	1.1	1.2	0.0	0.4	93.5	3.1	0.0	2.1	1.3	81.3	77.9	70.3	68.0	74.4	4.48	3.84	2.06	1.81	3.05
8	1	5.4	1.2	1.5	0.2	0.3	90.9	4.5	0.2	3.8	0.6	79.4	74.4	67.3	61.9	70.8	4.02	3.50	1.56	1.64	2.68
9	1	6.2	1.1	2.4	12.9	17.4	90.8	2.5	0.0	3.8	2.8	82.0	79.5	69.3	83.0	78.4	2.80	1.75	1.08	1.01	1.66
10	1	4.3	1.1	2.0	10.7	16.8	93.4	1.0	0.1	4.0	1.5	85.5	80.7	75.0	67.4	77.2	2.82	1.36	0.69	0.91	1.45
11	1	5.7	1.6	1.0	0.3	0.7	90.7	3.1	0.1	5.1	1.0	78.8	74.7	69.8	61.2	71.1	3.82	3.21	1.40	1.43	2.47
12	1	5.8	0.8	1.6	0.3	0.8	90.4	1.4	0.4	7.1	0.7	78.3	78.3	68.5	68.0	73.3	3.91	3.32	0.96	1.63	2.45
13	1	2.6	0.9	0.8	0.1	0.6	95.8	0.5	0.0	3.3	0.4	80.4	74.3	70.8	65.9	72.9	3.74	3.01	1.33	1.49	2.39
14	1	4.6	0.6	1.5	0.6	0.4	92.5	2.2	0.0	4.4	0.9	83.0	75.9	72.9	73.8	76.4	3.75	3.11	1.69	1.03	2.40
15	1	4.7	1.5	3.6	7.3	15.8	92.7	1.5	0.2	4.8	0.9	81.7	77.3	70.4	66.0	73.8	2.66	1.88	1.03	1.11	1.67
16	1	5.1	0.3	0.7	0.3	1.6	91.4	3.1	0.1	4.4	0.9	82.3	78.1	74.3	68.6	75.8	3.67	3.15	1.63	1.20	2.41
17	1	3.6	1.6	1.4	0.1	0.8	94.4	1.6	0.0	2.9	1.0	89.3	82.2	78.6	74.6	81.2	3.91	2.98	0.90	1.06	2.21
18	1	5.3	1.3	2.7	8.7	13.5	91.5	2.6	0.0	4.8	1.1	83.6	77.2	72.3	70.2	75.8	2.38	1.62	0.75	0.88	1.41
19	1	6.8	1.9	2.2	0.3	0.6	89.3	1.3	0.0	8.4	1.0	82.2	75.3	72.3	66.9	74.2	3.38	2.60	1.52	1.29	2.20
20	1	5.6	0.8	0.4	1.0	1.6	90.8	2.6	0.5	5.1	0.9	77.5	75.6	75.4	65.9	73.6	3.36	2.63	1.14	0.82	1.99
0	1	4.8	1.2	1.6	2.8	4.8	92.2	2.2	0.1	4.5	1.0	82.4	78.0	72.2	69.2	75.5	3.57	2.82	1.34	1.30	2.26

Table 10-4A-IV - Causes of Mortality

Entry No.	Type Housing	Marek's		Lymphoid Leukosis		Other Neop.		Internal Parasites		Kidney Disorders		Canni-balism		Reproduc-tive Dis.	Cholera	Misc.		No Visible Lesions		No Autopsy		Total	
		Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Lay	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay
1	1	-	11.0	-	4.0	-	-	-	-	-	1.0	-	1.0	-	-	-	6.0	-	-	3.7	2.0	3.7	25.0
2	1	-	2.0	-	-	-	-	-	-	-	-	-	3.1	5.0	-	0.7	3.0	0.6	-	2.6	-	3.9	13.2
3	1	0.6	2.0	0.6	-	-	-	-	1.0	-	-	1.2	-	4.0	-	0.6	1.0	1.2	2.0	0.6	1.0	5.0	11.1
4	1	-	1.0	-	-	-	1.0	-	-	-	-	-	6.0	4.0	-	-	2.0	-	-	-	3.0	-	17.0
5	1	0.6	2.0	-	-	-	-	-	-	-	-	-	8.0	5.0	-	0.6	2.0	-	-	0.6	-	1.7	17.0
6	1	-	7.0	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	1.0	1.2	-	1.2	9.0
7	1	-	10.0	-	-	-	1.0	0.6	-	-	-	-	1.0	-	-	1.3	7.0	1.9	-	0.6	-	4.3	19.0
8	1	-	2.0	-	6.2	-	-	-	-	-	-	1.9	8.2	8.2	-	0.6	1.0	-	-	1.9	-	4.3	25.7
9	1	-	1.2	-	-	-	-	0.8	-	-	-	-	-	1.2	-	0.8	2.4	0.8	-	1.6	-	3.9	4.9
10	1	-	3.0	0.6	1.0	0.6	1.0	-	-	-	-	-	-	-	-	-	3.0	0.6	-	-	-	1.8	8.0
11	1	-	5.0	-	1.0	-	-	-	-	-	2.0	0.6	12.0	5.0	-	0.6	2.0	-	-	1.7	2.0	2.9	29.0
12	1	0.6	7.2	0.6	1.0	-	-	-	-	-	-	-	5.1	2.1	-	-	3.0	0.7	-	1.9	1.0	3.9	19.4
13	1	-	1.0	-	4.0	-	-	-	-	-	-	-	2.0	3.0	-	-	2.0	-	1.0	1.3	-	1.3	13.1
14	1	0.6	8.0	0.6	5.0	-	-	-	-	-	-	0.6	1.0	1.0	-	-	2.0	-	1.0	-	1.0	1.7	19.0
15	1	-	3.0	-	1.0	-	-	-	-	-	1.0	-	-	2.0	-	0.6	2.0	0.6	-	0.6	-	1.7	8.9
16	1	-	6.0	1.2	1.0	-	-	-	-	-	-	-	-	4.0	-	0.6	2.0	0.6	-	1.8	-	4.3	13.0
17	1	0.7	2.1	_	3.2	1.3	2.1	-	-	-	1.1	-	-	1.1	-	2.0	3.2	-	2.2	1.3	1.1	5.3	16.3
18	1	-	-	-	1.0	-	-	-	-	-	-	0.6	-	-	-	0.6	2.0	-	-	0.6	-	1.7	3.0
19	1	0.6	6.0	-	-	-	-	-	-	-	-	1.2	-	4.0	-	1.7	3.0	1.7	2.0	1.8	-	7.0	15.0
20	1	0.6	4.0	0.6	-	-	-	-	-	-	-	-	3.0	3.0	-	1.2	2.0	0.6	-	1.2	-	4.1	12.0
0	1	0.2	4.2	0.2	1.4	0.1	0.3	0.1	0.0	0.0	0.3	0.3	2.5	2.7	0.0	0.6	2.5	0.5	0.5	1.2	0.6	3.2	14.9

Table 10-4B-I - Bird Weight, Egg Size, Maturity and Production Data

Entry No.	Type Housing	Breeder	Average Body Wt. 150 Days	Average Body Wt. 500 Days	Egg Size Distribution (%) Pee Wee	Small	Medium	Large	Ex. Large and Over	Av. Egg Wt. oz/doz.	Age at 50% Production	Egg Production Rate 151-240 Days	241-330 Days	331-420 Days	421-500 Days	471-500 Days	After 50% Production	Eggs per Pullet Housed
1	2	NCRPBL (CRB)	3.1	4.5	0.0	0.7	17.7	46.9	34.7	24.9	187.5	46.6	72.6	58.5	61.1	59.5	65.9	160.7
2	2	Welp's (937)	3.0	3.9	0.1	0.4	13.2	34.9	51.3	25.6	165.0	70.7	80.4	64.6	70.1	68.6	73.4	213.8
3	2	Tatum (T-100)	3.2	4.3	0.3	0.4	13.5	36.3	49.5	25.7	172.5	63.4	78.1	65.1	65.8	64.4	71.6	197.4
4	2	Hubbard (Gld.Com)	4.0	5.2	0.1	0.1	4.7	19.4	75.8	28.1	172.5	60.3	75.9	57.1	57.3	57.2	65.5	186.8
5	2	Kimber (K-137)	3.0	4.2	0.1	0.1	11.6	33.0	55.1	26.0	173.0	60.2	76.7	66.5	67.9	65.3	71.4	178.9
6	2	Experimental A	3.1	4.3	0.1	0.1	9.2	29.9	60.7	26.3	176.0	65.0	76.7	61.4	63.7	61.8	70.9	200.4
7	2	Kimber (K-141)	2.9	4.3	0.2	0.4	14.5	37.5	47.4	25.6	181.0	57.7	74.6	60.3	60.5	56.5	67.7	184.1
8	2	Hy-Line (934-E)	2.8	3.8	0.0	0.0	5.7	20.7	73.6	27.5	179.0	55.6	76.7	62.1	61.7	58.8	69.0	180.9
9	2	Sturtevant (SxLk)	4.6	6.0	0.0	0.1	5.6	24.1	70.1	27.4	181.5	56.7	76.1	54.4	59.0	57.1	66.3	182.6
10	2	Arbor A.(Har.SL)	4.4	5.8	0.0	0.0	4.0	15.4	80.6	28.3	175.5	63.7	80.9	57.0	61.6	57.2	69.9	208.5
11	2	Shaver (*X 288)	3.3	4.8	0.0	0.2	7.3	25.9	66.7	26.8	169.0	69.6	85.5	69.0	68.5	67.4	76.7	211.5
12	2	Parks (Key. B-1)	3.3	4.6	0.1	0.2	7.8	29.0	62.9	26.7	173.0	67.8	87.0	71.2	61.1	58.9	75.8	202.3
13	2	Ideal (236)	3.2	4.6	0.0	0.1	5.4	29.6	65.0	26.9	176.5	62.8	78.7	66.3	68.3	70.2	72.8	213.4
14	2	Cashman (Hi-Cash)	3.1	4.2	0.1	0.1	7.3	30.2	62.4	26.6	180.5	58.0	81.4	62.4	62.6	65.7	71.3	192.8
15	2	Davis (Sex Lk)	4.4	5.5	0.1	0.2	10.6	29.3	59.7	26.6	177.5	59.1	77.2	58.7	61.8	59.8	68.4	199.9
16	2	Stone (H-56)	3.2	4.6	0.1	0.5	7.7	27.7	64.0	26.6	170.5	65.2	77.0	61.1	50.5	44.2	67.3	190.8
17	2	Ind.Fm.Bu.(Pr.55)	3.0	4.1	0.1	0.2	8.6	30.6	60.5	26.7	178.5	61.4	82.0	61.6	66.4	67.5	72.3	206.3
18	2	Davis (RIR)	4.1	5.6	0.1	0.1	9.2	34.6	56.0	26.3	176.5	62.8	80.8	51.6	66.4	67.6	69.7	204.4
19	2	Babcock (B-300)	3.1	4.4	0.2	0.6	11.8	30.7	56.7	26.1	164.5	72.5	82.1	67.5	69.8	67.4	75.5	207.1
20	2	Garber (GX 291)	3.6	4.7	0.2	0.5	16.4	35.7	47.2	25.5	165.5	71.5	75.2	60.0	60.5	61.7	69.3	201.2
0	2	Average	3.4	4.7	0.1	0.2	9.6	30.1	60.0	26.5	174.8	62.5	78.8	61.8	63.2	61.8	70.5	196.2

Table 10-4B-II. - Birds, Mortality, Feed Use and Cost and Income Data

Entry No.	Type Housing	No. of Birds: At One Week	No. of Birds: Housed	No. of Birds: At End of Test	Mortality: % 8-150 Days	Mortality: % 151-500 Days	Mortality: Av. Days Lost/Hen Housed	Feed Consumed: Per Bird 1-150 Days	Feed Consumed: Per 100 Birds (1 day)	Feed Consumed: Per Lb. of Eggs	Feed Consumed: Per Dozen Eggs	Chick Price	Value per Pullet Housed: Growing Feed Cost	Value per Pullet Housed: Laying Feed Cost	Value per Pullet Housed: Total Feed and Chick Cost	Value per Pullet Housed: Value of Eggs	Value per Pullet Housed: Value of Meat	IOFCC
1	2	106.	79.	53.	26.2	35.1	77.1	16.2	24.0	3.13	4.87	.34	0.87	2.94	4.29	4.29	.16	0.163
2	2	101.	97.	66.	4.5	31.7	51.4	15.3	23.9	2.51	4.02	.36	0.66	3.21	4.25	5.93	.15	1.828
3	2	111.	93.	68.	14.7	27.4	60.1	16.7	23.4	2.57	4.13	.39	0.80	3.05	4.32	5.39	.18	1.254
4	2	116.	100.	68.	7.4	32.0	55.4	19.2	24.2	2.64	4.63	.35	0.86	3.20	4.44	5.23	.26	1.052
5	2	114.	96.	59.	12.2	38.7	84.7	16.4	24.4	2.68	4.36	.34	0.76	2.92	4.07	4.95	.15	1.031
6	2	102.	94.	67.	7.9	28.7	50.4	16.1	24.1	2.63	4.32	.30	0.72	3.25	4.29	5.57	.17	1.452
7	2	109.	95.	71.	12.6	25.7	57.7	14.9	22.6	2.69	4.31	.34	0.67	2.97	4.03	5.02	.18	1.174
8	2	113.	100.	68.	9.3	32.0	66.0	15.6	23.7	2.60	4.46	.45	0.71	3.01	4.21	4.90	.15	0.834
9	2	85.	82.	57.	3.1	30.6	54.7	21.1	25.3	2.87	4.92	.32	0.91	3.37	4.61	5.16	.31	0.856
10	2	108.	100.	78.	5.4	22.0	34.8	20.5	26.3	2.70	4.78	.32	0.90	3.73	4.97	5.81	.33	1.168
11	2	114.	96.	67.	14.4	30.8	62.9	17.3	26.0	2.54	4.26	.33	0.81	3.36	4.56	5.78	.19	1.415
12	2	101.	89.	60.	11.6	32.7	69.8	18.1	25.2	2.52	4.20	.35	0.84	3.18	4.42	5.54	.18	1.304
13	2	105.	99.	73.	3.1	26.3	40.8	16.2	24.7	2.56	4.30	.38	0.74	3.43	4.57	5.92	.19	1.548
14	2	113.	93.	68.	14.8	27.1	58.5	16.7	24.0	2.61	4.35	.33	0.78	3.14	4.32	5.38	.17	1.239
15	2	72.	66.	48.	8.9	27.3	40.2	20.6	25.0	2.81	4.66	.34	0.91	3.49	4.78	5.56	.29	1.075
16	2	110.	99.	76.	7.8	23.2	52.6	17.3	24.2	2.72	4.53	.28	0.78	3.23	4.31	5.31	.20	1.198
17	2	102.	90.	68.	11.8	24.4	45.9	16.6	23.3	2.47	4.12	.37	0.76	3.18	4.36	5.80	.18	1.609
18	2	114.	100.	72.	5.8	28.0	37.6	19.9	24.5	2.74	4.50	.34	0.88	3.45	4.69	5.68	.29	1.286
19	2	116.	96.	61.	15.1	36.5	67.8	16.8	23.9	2.41	3.93	.33	0.81	3.04	4.24	5.75	.16	1.672
20	2	115.	100.	68.	8.7	32.0	52.2	17.0	23.3	2.59	4.14	.32	0.77	3.12	4.25	5.58	.18	1.508
0	2	106.	93.	66.	10.3	29.6	56.0	17.4	24.3	2.65	4.39	.34	0.80	3.21	4.40	5.43	.20	1.233

Table 10-4B-III. - Egg Quality Data

Entry No.	Type Housing	% Loss (Down-grades)	% Inclusion (Break-out)				Candled Quality Percentages					Haugh Units					Shell Score (specific gravity)				
			Large Bloods	Small Bloods	Large Meats	Small Meats	A or Better	B	C	Chex & Cracks	Loss Eggs	September	December	March	June	Average	October	January	April	July	Average
1	2	4.4	2.0	4.1	0.7	0.8	92.2	6.2	0.3	0.3	1.0	82.1	73.2	65.6	69.4	72.6	3.61	3.12	2.51	1.36	2.65
2	2	2.7	1.6	1.1	0.1	0.7	95.2	3.0	0.1	1.4	0.3	83.0	74.2	70.8	70.9	74.7	3.25	3.20	1.49	1.73	2.42
3	2	3.4	2.8	2.8	0.4	1.3	94.6	2.5	0.0	1.8	1.1	83.5	76.4	67.1	65.7	73.2	3.36	3.12	1.74	1.57	2.44
4	2	3.4	1.6	3.4	13.8	17.6	94.4	3.3	0.2	0.8	1.3	84.1	80.6	71.1	74.0	77.5	1.41	2.00	0.32	0.92	1.16
5	2	2.8	1.2	1.3	0.4	1.2	95.1	2.0	0.7	1.9	0.3	86.0	82.5	72.3	77.1	79.5	3.91	4.03	2.05	2.15	3.03
6	2	2.9	0.6	0.9	0.7	1.5	94.8	2.1	0.0	2.6	0.5	87.9	78.7	74.7	76.3	79.4	3.27	3.67	2.05	1.21	2.55
7	2	3.2	2.7	1.5	0.0	0.8	94.9	2.8	0.0	1.4	0.9	83.5	71.5	67.3	65.8	72.0	3.49	3.50	2.33	1.97	2.82
8	2	5.3	0.9	2.0	0.6	1.1	90.7	6.1	0.5	1.7	1.0	78.1	69.6	64.6	64.2	69.1	3.81	3.17	2.31	1.92	2.80
9	2	2.2	2.3	3.6	12.3	17.3	95.9	2.2	0.2	1.5	0.2	83.6	75.6	67.9	70.1	74.3	1.87	2.53	1.00	1.29	1.67
10	2	3.7	1.7	2.8	12.9	14.6	94.3	1.6	0.3	2.4	1.4	83.2	75.3	69.1	73.6	75.3	1.90	1.92	0.21	1.25	1.32
11	2	4.6	0.5	1.3	0.4	0.3	91.8	4.0	0.4	3.7	0.1	78.8	74.5	65.1	65.4	71.0	2.89	2.99	1.37	1.60	2.21
12	2	4.4	0.8	1.0	0.8	1.2	92.5	3.2	0.3	3.4	0.6	78.1	70.8	63.3	68.4	70.2	3.15	3.46	1.66	1.23	2.38
13	2	3.2	1.0	1.0	0.3	0.4	94.5	2.4	0.0	2.5	0.5	78.6	70.8	63.6	65.3	69.6	3.04	3.87	1.99	1.68	2.65
14	2	2.6	0.9	1.3	0.1	0.6	95.6	1.9	0.0	2.2	0.3	83.6	74.2	68.7	72.4	74.7	3.38	3.45	1.97	1.40	2.55
15	2	2.7	2.4	5.3	10.8	10.1	94.7	3.8	0.2	0.9	0.4	79.7	72.6	63.8	69.0	71.3	2.55	2.52	0.10	1.30	1.62
16	2	2.8	0.7	1.1	0.9	0.9	95.1	3.0	0.0	1.2	0.6	81.0	76.5	70.7	70.5	74.7	3.22	3.14	2.15	1.56	2.52
17	2	1.9	0.6	1.2	0.3	1.2	97.0	1.0	0.0	1.6	0.5	87.9	80.1	72.2	77.2	79.4	2.53	2.53	2.03	1.31	2.10
18	2	3.6	1.4	3.2	9.0	15.3	93.5	4.8	0.3	1.1	0.3	81.5	73.5	66.3	72.9	73.6	1.63	1.75	0.0	1.03	1.10
19	2	2.7	2.7	1.4	0.5	1.0	95.6	2.2	0.0	1.4	0.8	79.5	74.3	63.9	68.1	71.4	3.02	2.98	1.28	1.03	2.08
20	2	2.6	0.4	1.3	0.6	1.0	95.3	2.9	0.1	1.4	0.3	80.0	75.3	67.4	71.8	73.6	2.53	2.87	0.55	1.24	1.80
C	2	3.3	1.4	2.1	3.3	4.4	94.4	3.0	0.2	1.8	0.6	82.2	75.0	67.8	70.4	73.8	2.89	2.99	1.46	1.44	2.19

Table 10-4B-IV. - Causes of Mortality

Entry No.	Type Housing	Marek's		Lymphoid Leukosis		Other Neop.		Internal Parasites		Kidney Disorders		Canni-balism		Reproductive Disorders	Cholera	Misc.		No Visible Lesions		No Autopsy		Total	
		Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Lay	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay
1	2	3.8	14.7	10.6	4.5	-	1.1	1.9	-	-	1.5	-	-	1.1	2.6	3.8	8.5	5.0	-	1.3	1.1	26.2	35.1
2	2	0.6	7.3	1.3	2.0	-	1.1	0.6	-	-	-	-	-	3.1	12.3	1.3	3.0	0.6	2.0	-	1.0	4.5	31.7
3	2	3.5	14.5	4.1	3.3	-	3.3	-	-	-	-	-	-	-	4.2	1.8	1.2	1.8	-	3.5	1.0	14.7	27.4
4	2	0.6	8.0	1.7	3.0	-	-	-	-	1.1	1.0	-	2.0	5.0	3.0	1.1	9.0	1.1	1.0	2.3	-	8.0	32.0
5	2	3.5	17.5	4.1	3.2	0.6	-	2.3	-	-	-	-	-	-	7.5	-	5.3	0.6	2.1	1.2	3.2	12.2	38.7
6	2	0.3	4.3	4.6	4.3	-	-	-	-	-	-	-	-	4.3	9.6	2.0	3.2	-	2.1	0.7	1.1	7.9	28.7
7	2	2.4	8.7	3.6	3.3	-	-	1.2	1.1	-	-	-	-	2.0	2.0	2.4	7.5	1.8	1.1	1.2	-	12.6	25.7
8	2	1.8	11.0	3.5	1.0	-	2.0		1.0	-	-	-	-	4.0	4.0	1.2	5.0	2.3	-	0.6	4.0	9.3	32.0
9	2	-	7.3	-	1.2	-	1.2	-	-	-	1.2	-	-	1.2	8.7	3.2	7.3	-	1.2	-	1.2	3.2	30.6
10	2	0.6	5.0	0.6	5.0	-	1.0	-	-	0.6	-	-	-	1.0	2.0	1.8	7.0	1.2	-	0.6	1.0	5.4	22.0
11	2	2.3	4.3	3.4	4.3	-	-	2.3	3.3	0.6	-	-	1.0	1.0	8.3	2.3	6.4	0.6	2.1	2.9	-	14.4	30.8
12	2	0.6	7.9	3.8	3.5	-	-	2.6	-	-	-	-	-	4.5	3.4	-	7.8	1.9	4.4	2.6	1.1	11.6	32.7
13	2	0.7	7.0	0.6	1.0	-	-	0.6	-	-	1.0	-	-	2.0	4.0	-	10.1	1.3	-	-	1.0	3.1	26.3
14	2	1.2	6.5	7.1	2.3	-	-	1.8	-	-	2.0	-	-	1.0	6.5	1.7	7.8	1.3	-	1.2	1.0	14.8	27.1
15	2	0.9	10.6	0.9	3.0	-	-	2.7	-	-	-	-	-	1.5	7.6	1.8	3.0	0.7	-	1.8	1.5	8.9	27.3
16	2	3.0	10.1	1.2	1.0	-	-	0.6	-	-	-	-	-	1.0	3.0	-	4.0	1.2	1.0	1.8	3.0	7.8	23.2
17	2	2.0	5.6	1.3	1.1	3.3	-	-	-	-	-	-	-	6.7	6.7	2.0	2.2	1.3	1.1	1.9	1.1	11.8	24.4
18	2	0.6	2.0	-	-	-	-	1.7	-	1.2	-	-	-	1.0	18.0	1.2	3.0	1.7	1.0	-	3.0	5.8	28.0
19	2	5.9	13.7	3.5	4.3	0.6	-	1.2	1.0	-	-	-	-	2.1	13.3	0.6	2.2	1.7	-	1.8	-	15.1	36.5
20	2	1.7	10.0	3.5	1.0	-	1.0	0.6	-	0.6	-	-	-	1.0	14.0	1.2	1.0	-	1.0	1.2	3.0	8.7	32.0
0	2	1.8	8.8	3.0	2.6	0.2	0.5	1.0	0.3	0.2	0.3	0.0	0.2	2.2	7.0	1.5	5.2	1.3	1.0	1.3	1.4	10.3	29.6

Table 10-4C-I. - Bird Weight, Egg Size, Maturity and Production Data

Entry No.	Type Housing	Breeder	Average Body Wt.		Egg Size Distribution (%)					Av. Egg Weight ounces/dozen	Age at 50% Production	Egg Production Rate						Eggs per Pullet Housed
			150 Days	500 Days	Pee Wee	Small	Medium	Large	Ex. Lg. and Over			151-240 Days	241-330 Days	331-420 Days	421-500 Days	471-500 Days	After 50% Production	
1	3	NCRPBL (CRB)	3.2	4.7	0.3	0.8	19.7	42.1	37.1	25.4	182.2	52.9	66.6	61.5	58.2	56.7	64.4	167.4
2	3	Welp's (937)	3.2	4.2	0.1	0.4	10.2	28.9	60.4	26.6	161.5	71.8	74.0	63.8	59.0	56.8	68.7	224.0
3	3	Tatum (T-100)	3.2	4.2	0.0	0.4	8.6	32.1	58.9	26.6	176.0	59.1	68.3	59.4	56.8	53.5	64.4	189.3
4	3	Hubbard (Gld.Com)	3.8	5.2	0.1	0.0	3.1	17.2	79.6	29.0	172.0	61.1	67.5	58.4	50.5	46.6	62.9	184.8
5	3	Kimber (K-137)	3.1	4.3	0.2	0.6	7.7	34.9	56.6	26.5	173.5	63.2	75.7	64.1	60.9	60.9	69.6	205.1
6	3	Experimental A	3.0	4.3	0.1	0.2	6.7	32.1	60.9	26.9	174.5	63.7	79.1	71.4	61.5	57.1	72.7	223.8
7	3	Kimber (K-141)	3.0	4.5	0.1	0.5	8.9	38.0	52.6	26.2	174.5	60.0	68.9	61.2	59.2	56.7	66.0	197.8
8	3	Hy-Line (934-E)	2.9	4.0	0.0	0.2	3.1	17.3	79.4	28.7	174.2	57.4	70.2	62.9	57.6	53.9	65.7	194.7
9	3	Sturtevant (SxLk)	4.5	6.0	0.0	0.1	5.2	20.0	74.7	28.2	179.0	53.9	63.8	55.4	54.3	51.3	60.7	177.3
10	3	Arbor A. (Har.SL)	4.2	5.9	0.1	0.1	3.4	17.4	79.1	28.8	175.5	62.5	74.6	65.5	61.0	56.9	70.0	214.6
11	3	Shaver (*X 288)	3.3	4.7	0.1	0.1	5.1	21.8	72.9	27.7	171.2	68.0	80.8	71.2	65.1	61.9	74.9	223.9
12	3	Parks (Key. B-1)	3.4	4.8	0.0	0.2	5.2	22.9	71.7	27.5	167.7	66.4	78.4	72.8	65.7	64.7	73.5	219.3
13	3	Ideal (236)	3.2	4.6	0.0	0.0	4.4	25.0	70.5	27.7	176.2	61.6	76.5	68.9	61.9	61.0	71.1	221.3
14	3	Cashman (Hi-Cash)	3.1	4.4	0.1	0.1	4.3	24.2	71.3	27.8	186.7	49.6	72.3	60.2	62.2	61.5	66.8	177.4
15	3	Davis (Sex Lk)	4.4	6.0	0.1	0.1	5.6	24.7	69.4	27.9	177.2	57.5	67.7	58.7	53.8	49.2	63.4	195.4
16	3	Stone (H-56)	3.2	4.4	0.0	0.7	6.6	30.3	62.5	27.0	170.7	64.3	69.0	56.4	47.2	49.5	62.9	194.5
17	3	Ind.Fm.Bu (Pr.55)	3.1	4.4	0.0	0.3	8.9	30.4	60.4	26.9	179.0	53.8	70.4	62.5	57.4	58.3	65.1	188.1
18	3	Davis (RIR)	4.1	5.6	0.1	0.1	7.0	31.9	60.9	27.0	176.0	61.6	72.8	61.0	55.5	52.8	66.6	215.6
19	3	Babcock (B-300)	3.0	4.2	0.1	0.3	7.9	31.2	60.4	26.4	166.5	68.0	78.5	71.9	65.0	68.0	73.1	217.4
20	3	Garber (GX 291)	3.5	4.7	0.2	0.1	7.8	25.1	66.9	27.3	169.0	63.8	71.3	59.6	56.3	55.2	65.4	209.5
0	3	Average	3.4	4.8	0.1	0.3	7.0	27.4	65.3	27.3	174.2	61.0	72.3	63.3	58.5	56.6	67.4	202.1

Table 10-4C-II. - **Birds, Mortality,** Feed Use and Cost and Income Data

Entry No.	Type Housing	No. of Birds: At one Week	No. of Birds: Housed	No. of Birds: At End of Test	Mortality: % 8-150 Days	Mortality: % 151-500 Days	Mortality: Av. Days Lost/Hen Housed	Feed Consumed: Per Bird 1-150 Days	Feed Consumed: Per 100 Birds (1 day)	Feed Consumed: Per Lb. of Eggs	Feed Consumed: Per Doz. Eggs	Chick Price	Value per Pullet Housed: Growing Feed Cost	Value per Pullet Housed: Laying Feed Cost	Value per Pullet Housed: Total Feed and Chick Cost	Value per Pullet Housed: Value of Eggs	Value per Pullet Housed: Value of Meat	IOFCC
1	3	108.	90.	63.	15.0	30.5	68.5	16.5	22.5	2.86	4.55	.34	0.79	2.86	4.06	4.38	.18	0.496
2	3	105.	99.	83.	4.2	15.6	19.2	16.2	23.2	2.48	4.14	.36	0.70	3.45	4.52	6.16	.20	1.042
3	3	114.	102.	85.	9.8	16.9	38.0	16.9	21.4	2.55	4.24	.39	0.77	3.00	4.21	5.15	.20	1.137
4	3	120.	104.	82.	3.7	21.2	41.3	18.8	22.5	2.50	4.53	.35	0.82	3.13	4.31	5.11	.30	1.093
5	3	117.	102.	86.	7.0	15.9	38.7	16.4	21.8	2.40	3.97	.34	0.73	3.04	4.14	5.69	.20	1.753
6	3	105.	98.	88.	4.6	10.3	23.7	16.3	22.3	2.32	3.90	.30	0.71	3.26	4.28	6.14	.22	2.081
7	3	112.	102.	83.	8.5	18.8	33.0	15.6	21.2	2.49	4.08	.34	0.68	3.02	4.07	5.41	.20	1.338
8	3	114.	104.	84.	6.8	19.2	36.9	16.0	22.5	2.42	4.34	.45	0.70	3.17	4.35	5.26	.18	1.095
9	3	84.	82.	64.	3.5	21.9	38.3	21.0	23.5	2.82	4.98	.32	0.90	3.30	4.54	4.88	.34	0.637
10	3	113.	104.	91.	3.6	12.5	25.0	20.2	25.4	2.57	4.62	.32	0.87	3.71	4.92	5.93	.38	1.390
11	3	118.	102.	85.	8.6	17.0	36.7	17.5	24.7	2.40	4.16	.33	0.78	3.48	4.60	6.11	.24	1.747
12	3	102.	94.	75.	7.7	20.7	41.2	17.8	23.9	2.36	4.06	.35	0.79	3.32	4.49	5.96	.21	1.586
13	3	108.	102.	92.	2.2	9.9	22.1	16.6	23.0	2.37	4.10	.38	0.73	3.39	4.50	6.16	.23	1.886
14	3	116.	100.	77.	3.3	23.9	55.8	16.9	21.8	2.50	4.34	.33	0.76	2.88	4.01	4.91	.19	1.096
15	3	99.	88.	75.	20.3	15.9	23.2	19.9	23.9	2.76	4.80	.34	0.87	3.51	4.74	5.33	.37	0.962
16	3	113.	104.	91.	6.0	12.5	25.5	17.1	22.0	2.61	4.41	.28	0.75	3.21	4.26	5.43	.22	1.391
17	3	100.	92.	72.	8.6	22.1	42.8	16.4	21.0	2.46	4.14	.37	0.72	2.91	4.04	5.12	.19	1.271
18	3	118.	104.	97.	3.8	6.7	8.0	19.6	23.4	2.64	4.46	.34	0.85	3.59	4.80	5.93	.39	1.525
19	3	116.	100.	82.	11.1	18.9	44.2	16.8	22.2	2.28	3.78	.33	0.76	3.05	4.18	6.01	.19	2.022
20	3	118.	104.	95.	6.4	8.7	17.3	17.5	22.5	2.52	4.30	.32	0.77	3.36	4.48	5.74	.24	1.504
0	3	110.	99.	83.	7.2	17.0	34.0	17.5	22.7	2.52	4.29	.34	0.77	3.23	4.33	5.54	.24	1.410

Table 10-4C-III. - Egg Quality Data

Entry No.	Type Housing	% Loss (Down-grades)	% Inclusion (Break-out)				Candled Quality Percentages					Haugh Units					Shell Score (specific gravity				
			Large Bloods	Small Bloods	Large Meats	Small Meats	A or Better	B	C	Chex & Cracks	Loss Eggs	Sept.	Dec.	Mar.	June	Average	October	January	April	July	Average
1	3	5.7	3.2	3.1	1.7	1.1	90.7	5.0	0.8	1.7	1.8	79.0	74.8	69.4	69.8	73.3	3.97	3.07	1.56	2.01	2.65
2	3	3.1	1.7	1.5	0.1	0.9	94.6	2.8	0.0	1.9	0.7	79.5	74.6	71.5	67.8	73.3	3.74	2.40	1.30	1.89	2.33
3	3	4.0	3.6	3.3	0.3	0.7	93.7	3.4	0.0	1.7	1.2	80.9	76.7	71.2	68.8	74.4	3.73	2.39	1.57	1.93	2.41
4	3	4.3	1.1	3.4	14.5	19.8	92.3	2.9	0.0	4.6	0.3	84.0	77.3	71.1	70.1	75.6	3.04	1.68	0.61	1.09	1.60
5	3	2.5	2.0	2.3	0.4	1.8	95.8	1.7	0.0	2.1	0.4	85.6	81.1	77.5	74.3	79.6	4.45	3.62	1.65	2.56	3.07
6	3	3.3	0.6	0.5	0.1	0.8	94.3	2.6	0.2	2.6	0.4	86.2	82.5	75.8	70.9	78.9	3.62	2.46	1.05	1.85	2.24
7	3	3.3	3.6	3.7	0.1	0.5	94.6	2.2	0.8	2.0	0.4	79.8	76.8	70.6	69.3	74.1	4.24	3.64	1.63	2.53	3.01
8	3	5.7	1.5	0.6	0.3	0.6	89.8	6.3	1.0	2.4	0.6	73.3	72.7	67.7	64.6	69.6	3.84	2.71	1.29	2.10	2.49
9	3	3.7	2.5	4.3	9.9	17.1	94.1	2.4	0.0	2.3	1.2	78.5	77.9	69.2	68.3	73.5	3.00	2.42	0.82	2.01	2.06
10	3	3.3	2.4	2.1	10.5	20.1	94.5	2.2	0.3	2.2	0.8	82.3	76.8	70.5	70.7	75.1	2.80	1.60	0.95	1.73	1.77
11	3	4.5	1.0	2.4	0.2	1.5	92.4	3.2	0.2	3.5	0.7	76.7	73.8	68.4	70.5	72.4	3.76	2.50	1.13	1.92	2.33
12	3	4.7	1.3	1.8	0.6	0.9	92.3	2.8	0.4	3.7	0.8	78.1	74.6	68.1	63.1	71.0	3.84	2.44	1.55	2.02	2.46
13	3	2.3	1.1	1.9	0.1	1.0	95.8	1.8	0.6	1.6	0.1	76.2	71.3	67.0	61.9	69.1	4.48	2.63	1.66	2.15	2.73
14	3	2.5	0.7	1.6	0.0	0.6	95.5	2.5	0.5	1.5	0.0	72.9	76.3	72.0	69.0	72.6	3.82	2.39	1.65	2.05	2.48
15	3	4.6	2.7	4.0	10.4	18.7	92.9	2.6	0.2	3.1	1.1	77.1	73.1	70.3	64.1	71.1	3.14	1.89	0.96	1.59	1.90
16	3	2.6	0.8	1.7	0.0	0.5	95.0	3.2	0.1	1.6	0.1	82.0	77.3	73.4	70.5	75.8	3.81	2.56	1.60	2.43	2.60
17	3	4.1	1.7	2.5	0.4	0.6	93.3	2.2	0.0	3.7	0.8	83.3	82.1	76.2	74.0	78.9	3.74	2.37	1.14	1.80	2.26
18	3	3.3	1.3	2.7	9.3	13.7	94.3	2.2	0.1	3.0	0.4	80.1	75.0	71.4	66.5	73.3	2.85	1.61	0.36	1.42	1.56
19	3	2.9	2.5	3.2	0.5	0.6	95.6	1.5	0.3	1.6	1.0	75.9	74.9	67.7	67.7	71.5	3.70	2.60	1.60	2.08	2.50
20	3	3.8	1.0	1.5	0.3	1.1	94.0	2.3	0.3	2.4	1.1	78.8	74.8	72.2	67.7	73.4	3.60	2.41	1.34	1.97	2.33
0	3	3.7	1.8	2.4	3.0	5.1	93.8	2.8	0.3	2.4	0.7	79.5	76.2	71.1	68.5	73.8	3.66	2.47	1.27	1.96	2.34

Table 10-4C-IV. - Causes of Mortality, Laying Period

		Marek's	Lymphoid Leukosis	Other Neop.	Internal Parasites	Kidney Disorders	Canni-balism	Reproductive Disorders	Cholera	Misc.	No. Visible Lesions	No Autopsy	Total
1	3	15.1	-	-	1.0	-	1.0	2.2	-	8.8	1.2	1.2	30.5
2	3	1.9	-	-	-	-	-	6.0	-	5.8	1.0	1.0	15.6
3	3	5.2	2.0	-	-	1.9	-	1.0	-	4.9	1.0	1.0	16.9
4	3	5.8	2.9	-	-	1.9	-	2.9	-	7.7	-	-	21.2
5	3	7.9	-	-	-	-	-	1.0	-	5.0	-	2.0	15.9
6	3	5.0	1.0	-	-	-	-	-	-	4.3	-	-	10.3
7	3	7.1	4.0	-	-	1.0	-	-	-	5.8	-	1.0	18.8
8	3	7.7	1.0	-	-	-	1.0	3.8	-	5.8	-	-	19.2
9	3	4.5	1.2	-	-	-	1.2	2.5	-	7.5	4.9	-	21.9
10	3	6.7	1.9	-	-	1.0	-	-	-	1.9	1.0	-	12.5
11	3	7.2	3.0	-	-	1.0	-	1.0	-	4.9	-	-	17.0
12	3	7.7	4.4	-	-	2.3	-	3.2	-	3.2	-	-	20.7
13	3	2.0	2.0	-	-	1.0	-	-	-	4.9	-	-	9.9
14	3	11.3	5.3	-	-	1.0	-	1.0	-	4.2	1.1	-	23.9
15	3	4.2	-	-	-	1.0	-	2.4	-	7.5	-	1.0	15.9
16	3	3.8	1.0	-	-	-	-	1.0	-	3.8	-	2.9	12.5
17	3	9.1	1.0	-	-	1.0	1.1	3.3	-	4.3	2.3	-	22.1
18	3	2.9	-	-	-	-	-	1.0	-	2.9	-	-	6.7
19	3	4.2	2.3	-	-	1.0	-	3.1	-	5.2	1.1	2.1	18.9
20	3	4.8	-	-	-	-	-	-	-	2.9	-	1.0	8.7
0	3	6.2	1.6	0.0	0.0	0.7	0.2	1.8	0.0	5.1	0.7	0.7	17.0

Table 10-4D-I. - Bird Weight, Egg Size, Maturity and Production Data

Entry No.	Type Housing	Breeder	Average Body Wt. 150 Days	Average Body Wt. 500 Days	Egg Size Distribution (%) Pee Wee	Small	Medium	Large	Ex. Lg. and Over	Av. Egg Weight oz/doz	Age at 50% Production	Egg Production Rate 151-240 Days	241-330 Days	331-420 Days	421-500 Days	471-500 Days	After 50% Production	Eggs per Pullet Housed
1	0	NCRPBL (CRB)	3.1	4.6	0.2	0.9	18.0	43.8	37.0	25.1	185.9	49.4	69.8	61.0	59.9	57.8	65.5	166.6
2	0	Welp's (937)	3.1	4.0	0.1	0.5	11.7	31.6	56.1	26.1	163.3	70.5	74.7	63.2	63.3	60.7	69.4	216.9
3	0	Tatum (T-100)	3.2	4.3	0.1	0.5	10.8	32.9	55.6	26.2	174.8	58.9	70.3	60.3	58.4	56.8	65.3	191.5
4	0	Hubbard (Gld.Com)	3.8	5.1	0.0	0.1	3.4	17.5	78.9	28.6	172.5	60.9	72.1	58.3	53.0	50.1	64.5	191.3
5	0	Kimber (K-137)	3.0	4.2	0.1	0.3	8.9	33.5	57.1	26.3	173.3	61.8	74.6	64.1	65.0	63.3	69.9	197.3
6	0	Experimental A	3.1	4.3	0.1	0.2	7.5	30.3	61.9	26.6	175.2	63.4	78.5	68.3	64.9	62.0	72.7	218.2
7	0	Kimber (K-141)	3.0	4.4	0.1	0.4	11.3	36.0	52.2	25.9	176.3	59.9	72.0	62.2	61.6	58.5	67.6	196.7
8	0	Hy-Line (934-E)	2.9	3.9	0.0	0.1	3.9	17.6	78.3	28.3	177.7	54.6	70.5	62.3	60.8	57.0	66.1	183.6
9	0	Sturtevant (SxLk)	4.6	6.0	0.0	0.1	5.2	21.2	73.5	27.9	179.8	54.6	70.0	56.2	53.9	51.6	62.8	185.6
10	0	Arbor A. (Har.SL)	4.2	5.7	0.0	0.1	3.0	15.5	81.4	28.6	177.7	61.4	77.0	63.1	61.1	57.1	70.1	214.0
11	0	Shaver (*X 288)	3.4	4.8	0.0	0.2	5.8	23.5	70.5	27.3	169.7	65.1	82.0	69.8	66.0	63.8	75.0	217.8
12	0	Parks (Key.B-1)	3.4	4.6	0.1	0.2	6.5	25.6	67.6	27.0	169.7	67.4	80.7	72.1	63.1	60.8	74.0	212.1
13	0	Ideal (236)	3.2	4.5	0.0	0.0	4.9	26.1	68.9	27.3	176.2	60.6	77.5	67.6	63.8	63.5	71.3	218.0
14	0	Cashman (Hi-Cash)	3.1	4.3	0.1	0.1	5.5	24.4	69.9	27.3	182.9	53.4	75.9	63.0	63.0	62.9	69.1	188.1
15	0	Davis (Sex Lk)	4.3	5.6	0.1	0.2	7.5	25.9	66.3	27.4	178.6	56.5	73.0	59.7	56.2	52.8	65.6	198.4
16	0	Stone (H-56)	3.2	4.5	0.0	0.5	7.3	29.1	63.1	26.8	170.4	64.8	72.8	60.7	53.7	51.4	66.4	199.7
17	0	Ind.Fm.Bu (Pr.55)	3.0	4.2	0.1	0.2	8.1	30.5	61.2	26.7	179.0	56.9	74.8	63.5	63.3	62.8	68.9	200.0
18	0	Davis (RIR)	4.1	5.5	0.1	0.1	7.3	30.8	61.7	26.8	177.5	59.8	75.8	58.6	60.4	58.5	67.9	212.8
19	0	Babcock (B-300)	3.0	4.2	0.1	0.4	9.2	29.4	60.8	26.3	165.0	68.8	78.3	68.4	66.6	64.7	72.7	213.5
20	0	Garber (GX 291)	3.5	4.6	0.2	0.4	11.3	29.3	58.8	26.5	166.5	67.0	73.6	61.5	57.4	54.7	67.2	208.6
0	0	Average	3.4	4.7	0.1	0.3	7.9	27.7	64.1	27.0	174.6	60.8	74.7	63.2	60.8	58.5	68.6	201.5

Table 10-4D-II. - Birds, Mortality, Feed Use and Cost and Income Data

Entry No.	Type Housing	No. of Birds			Mortality			Feed Consumed				Chick Price	Value per Pullet Housed					IOFCC
		At One Week	Housed	At End of Test	% 8-150 Days	% 151-500 Days	Av. Days Lost/Hen Housed	Per Bird 1-150 Days	Per 100 Birds (1 day)	Per Lb. of Egg	Per Doz. Eggs		Growing Feed Cost	Laying Feed Cost	Total Feed and Chick Cost	Value of Eggs	Value of Meat	
1	0	320.	269.	191.	15.0	30.2	70.0	16.5	23.7	3.04	4.78	.34	0.79	2.98	4.19	4.39	.18	0.378
2	0	309.	295.	235.	4.2	20.2	31.5	16.2	24.1	2.61	4.27	.36	0.70	3.44	4.51	5.97	.18	1.643
3	0	331.	294.	241.	9.8	18.5	39.7	16.9	22.9	2.73	4.48	.39	0.77	3.20	4.41	5.18	.20	0.972
4	0	351.	304.	233.	3.7	23.4	40.0	18.8	24.0	2.63	4.70	.35	0.82	3.36	4.54	5.28	.28	1.020
5	0	345.	298.	228.	7.0	23.9	51.5	16.4	23.6	2.60	4.28	.34	0.73	3.16	4.26	5.45	.18	1.377
6	0	311.	292.	246.	4.6	16.0	32.5	16.3	23.6	2.49	4.14	.30	0.71	3.37	4.39	6.02	.21	1.839
7	0	326.	297.	235.	8.5	21.2	42.1	15.6	22.5	2.61	4.23	.34	0.68	3.11	4.17	5.36	.20	1.385
8	0	331.	302.	225.	6.8	25.6	52.8	16.0	24.3	2.67	4.73	.45	0.70	3.23	4.42	4.96	.17	0.714
9	0	255.	246.	199.	3.5	19.1	34.4	21.0	25.0	2.92	5.10	.32	0.90	3.54	4.78	5.10	.35	0.666
10	0	332.	304.	261.	3.6	14.2	25.0	20.2	26.3	2.68	4.80	.32	0.87	3.85	5.05	5.91	.36	1.216
11	0	346.	298.	223.	8.6	25.6	47.4	17.5	26.3	2.58	4.40	.33	0.78	3.57	4.69	5.92	.21	1.441
12	0	305.	281.	214.	7.7	24.3	51.5	17.8	25.3	2.54	4.29	.35	0.79	3.40	4.57	5.75	.20	1.376
13	0	316.	300.	251.	2.2	16.4	27.0	16.6	24.2	2.53	4.31	.38	0.73	3.51	4.63	6.05	.22	1.639
14	0	344.	293.	226.	6.6	23.3	53.5	16.9	23.6	2.62	4.47	.33	0.76	3.15	4.27	5.19	.19	1.100
15	0	286.	255.	215.	10.3	17.4	27.8	19.9	25.3	2.88	4.93	.34	0.87	3.66	4.89	5.44	.34	0.886
16	0	332.	303.	254.	6.0	16.2	35.4	17.1	23.6	2.67	4.47	.28	0.75	3.34	4.39	5.50	.21	1.328
17	0	302.	276.	219.	8.6	20.9	40.6	16.4	22.6	2.51	4.20	.37	0.72	3.14	4.27	5.51	.19	1.427
18	0	346.	304.	266.	3.8	12.6	16.2	19.6	24.6	2.76	4.63	.34	0.85	3.69	4.89	5.83	.34	1.273
19	0	345.	296.	228.	11.1	23.5	47.5	16.8	23.8	2.46	4.06	.33	0.76	3.23	4.36	5.83	.18	1.655
20	0	346.	304.	251.	6.4	17.6	30.4	17.5	23.8	2.65	4.38	.32	0.77	3.41	4.53	5.69	.21	1.377
0	0	324.	291.	232.	6.9	20.5	39.9	17.5	24.2	2.66	4.48	.34	0.77	3.37	4.51	5.52	.23	1.236

Table 10-4D-III. - Egg Quality Data

Entry No.	Type Housing	% Loss (Down-grades)	% Inclusion (Break-out)				Candled Quality Percentages					Haugh Units					Shell Score (specific gravity)				
			Large Bloods	Small Bloods	Large Meats	Small Meats	A or Better	B	C	Chex & Cracks	Loss Eggs	Sept.	Dec.	Mar.	June	Average	Oct.	Jan.	April	July	Average
1	0	5.2	2.4	3.0	0.9	0.9	91.4	4.7	0.4	2.3	1.3	80.9	75.4	68.1	68.9	73.3	3.87	3.28	1.86	1.50	2.62
2	0	3.1	1.2	1.4	0.1	0.6	94.7	2.6	0.1	2.1	0.4	80.5	74.8	71.5	68.5	73.9	3.64	2.99	1.46	1.67	2.44
3	0	4.4	3.0	2.8	0.3	0.8	93.0	2.8	0.0	2.9	1.2	82.1	77.7	69.3	68.1	74.3	3.64	2.94	1.77	1.71	2.52
4	0	4.5	1.4	2.8	13.8	20.0	92.7	2.5	0.1	3.6	1.2	84.1	78.7	71.6	71.6	76.5	2.42	1.69	0.47	1.08	1.42
5	0	3.0	1.3	1.9	0.4	1.3	94.9	2.0	0.2	2.5	0.4	86.6	82.5	75.9	75.1	80.0	4.32	3.84	2.06	2.28	3.12
6	0	2.9	0.6	0.6	0.3	0.8	94.9	2.1	0.1	2.6	0.3	87.5	81.7	75.3	73.7	79.6	3.48	3.01	1.40	1.44	2.33
7	0	3.6	2.5	2.2	0.0	0.6	94.3	2.7	0.3	1.8	0.9	81.5	75.4	69.4	67.7	73.5	4.07	3.66	2.01	2.11	2.96
8	0	5.5	1.2	1.4	0.4	0.7	90.4	5.6	0.6	2.6	0.7	76.9	72.2	66.6	63.6	69.8	3.89	3.13	1.72	1.89	2.66
9	0	4.0	2.0	3.4	11.7	17.2	93.6	2.4	0.1	2.5	1.4	81.3	77.7	68.8	73.8	75.4	2.56	2.23	0.97	1.44	1.80
10	0	3.8	1.7	2.3	11.4	17.2	94.1	1.6	0.2	2.9	1.2	83.7	77.6	71.5	70.6	75.8	2.51	1.63	0.62	1.30	1.51
11	0	4.9	1.0	1.6	0.3	0.9	91.6	3.4	0.2	4.1	0.6	78.1	74.4	67.8	65.7	71.5	3.49	2.90	1.30	1.65	2.34
12	0	5.0	1.0	1.5	0.6	1.0	91.7	2.4	0.4	4.7	0.7	78.1	74.6	66.6	66.5	71.5	3.64	3.07	1.39	1.62	2.43
13	0	2.7	1.0	1.2	0.2	0.7	95.4	1.6	0.2	2.5	0.4	78.4	72.1	67.1	64.3	70.5	3.75	3.17	1.66	1.77	2.59
14	0	3.2	0.7	1.5	0.2	0.5	94.5	2.2	0.2	2.7	0.4	79.8	75.5	71.2	71.7	74.6	3.65	2.98	1.77	1.49	2.48
15	0	4.0	2.2	4.3	9.5	14.9	93.4	2.6	0.2	2.9	0.8	79.5	74.3	68.2	66.3	72.1	2.78	2.10	0.70	1.33	1.73
16	0	3.5	0.6	1.2	0.4	1.0	93.9	3.1	0.1	2.4	0.6	81.8	77.3	72.8	69.8	75.4	3.57	2.95	1.79	1.73	2.51
17	0	3.2	1.3	1.7	0.3	0.9	94.9	1.6	0.0	2.7	0.8	86.8	81.4	75.7	75.3	79.8	3.39	2.63	1.36	1.39	2.19
18	0	4.1	1.3	2.8	9.0	14.2	93.1	3.2	0.1	2.9	0.6	81.8	75.2	70.0	69.9	74.2	2.29	1.66	0.37	1.11	1.36
19	0	4.1	2.4	2.3	0.4	0.7	93.5	1.7	0.1	3.8	0.9	79.2	74.8	68.0	67.6	72.4	3.37	2.73	1.47	1.47	2.26
20	0	4.0	0.7	1.1	0.6	1.2	93.4	2.6	0.3	3.0	0.8	78.8	75.2	71.7	68.5	73.5	3.16	2.64	1.01	1.34	2.04
0	0	3.9	1.5	2.0	3.0	4.8	93.5	2.7	0.2	2.9	0.8	81.4	76.4	70.4	69.4	74.4	3.37	2.76	1.36	1.57	2.26

Table 10-4D-IV. - Causes of Mortality

Entry No.	Type Housing	Marek's		Lymphoid Leukosis		Other Neop.		Internal Parasites		Kidney Disorders		Canni-balism		Reproductive Disorders	Cholera	Misc.		No Visible Lesions		No Autopsy		Total	
		Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Lay	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay	Gro.	Lay
1	0	1.9	13.6	5.3	2.8	-	0.4	0.9	0.3	-	0.8	-	0.7	1.1	0.9	1.9	7.8	2.5	0.4	2.5	1.4	15.0	30.2
2	0	0.3	3.7	0.6	0.7	-	0.4	0.3	-	-	-	-	1.0	4.7	4.1	1.0	4.0	0.6	1.0	1.3	0.7	4.2	20.2
3	0	2.1	7.2	2.4	1.8	-	1.1	-	0.3	-	0.6	0.6	-	1.7	1.4	1.2	2.4	1.5	1.0	2.1	1.0	9.8	18.5
4	0	0.3	4.9	0.9	2.0	-	0.3	-	-	0.6	1.0	-	2.7	4.0	1.0	0.6	6.2	0.6	0.3	1.1	1.0	4.0	23.4
5	0	2.0	9.2	2.0	1.1	0.3	-	1.2	-	-	-	-	2.7	2.0	2.5	0.3	4.1	0.3	0.7	0.9	1.7	7.0	23.9
6	0	0.3	5.4	2.3	1.8	-	-	-	-	-	-	-	-	1.8	3.2	1.0	2.5	-	1.0	0.9	0.4	4.6	16.0
7	0	1.2	8.6	1.8	2.4	-	0.3	0.9	0.4	-	0.3	-	0.3	0.7	0.7	1.8	6.8	1.8	0.4	0.9	0.3	8.5	21.2
8	0	0.9	6.9	1.7	2.7	-	0.7	-	0.3	-	-	0.9	3.1	5.3	1.3	0.9	3.9	1.2	-	1.2	1.3	6.8	25.6
9	0	-	4.4	-	0.8	-	0.4	0.4	-	-	0.4	-	0.4	1.6	2.9	2.0	5.7	0.4	2.0	0.8	0.4	3.5	19.0
10	0	0.3	4.9	0.6	2.6	0.3	0.7	-	-	0.3	0.3	-	-	0.3	0.7	0.9	4.0	0.9	0.3	0.3	0.3	3.6	14.2
11	0	1.2	5.5	1.7	2.8	-	-	1.2	1.1	0.3	1.0	0.3	4.3	2.3	2.8	1.4	4.4	0.3	0.7	2.3	0.7	8.6	25.6
12	0	0.6	7.6	2.2	2.9	-	-	1.3	-	-	0.8	-	1.7	3.3	1.2	-	4.6	1.3	1.5	2.3	0.7	7.7	24.3
13	0	0.3	3.4	0.3	2.3	-	-	0.3	-	-	0.7	-	0.7	1.7	1.3	-	5.7	0.6	0.3	0.6	0.3	2.2	16.4
14	0	0.9	8.6	3.9	4.2	-	-	0.9	-	-	1.0	0.3	0.3	1.0	2.2	0.9	4.7	0.6	0.7	0.6	0.7	8.3	23.3
15	0	0.4	5.9	0.4	1.3	-	-	1.3	-	-	0.6	-	-	2.0	2.5	1.2	4.2	0.7	-	1.2	0.8	5.3	17.4
16	0	1.5	6.7	1.2	1.0	-	-	0.3	-	-	-	-	-	2.0	1.0	0.3	3.3	0.9	0.3	1.8	2.0	6.0	16.2
17	0	1.3	5.6	0.7	1.8	2.3	0.7	-	-	-	0.7	-	0.4	3.7	2.2	2.0	3.2	0.7	1.9	1.6	0.7	8.6	20.9
18	0	0.3	1.6	-	0.3	-	-	0.9	-	0.3	-	0.3	-	0.7	6.0	0.6	2.6	0.9	0.3	0.3	1.0	3.8	12.6
19	0	3.2	8.0	1.7	2.2	0.3	-	0.6	0.3	-	0.3	0.6	-	3.0	4.4	1.2	3.4	1.7	1.0	1.8	0.7	11.1	23.5
20	0	1.2	6.3	2.0	0.3	-	0.3	0.3	-	0.3	-	-	1.0	1.3	4.7	1.2	2.0	0.3	0.3	1.2	1.3	6.4	17.6
0	0	1.0	6.4	1.6	1.9	0.2	0.3	0.5	0.1	0.1	0.4	0.2	1.0	2.2	2.4	1.0	4.3	0.9	0.7	1.3	0.9	6.7	20.5

Table 10-4D-V. - Duncan Range Test and Range Groups

Range	Entry	Eggs Per Pullet Housed	Duncan Test
1	6	218.2	
1	13	218.0	
1	11	217.8	
1	2	216.9	
1	10	214.0	
1	19	213.5	
1	18	212.8	
1	12	212.1	
2	20	208.6	
3	17	200.0	
3	16	199.7	
3	15	198.4	
3	5	197.3	
3	7	196.7	
3	3	191.5	
3	4	191.3	
3	14	188.1	
3	9	185.6	
4	8	183.6	
4	1	166.6	

Range	Entry	% Prod. After 50%	Duncan Test
1	11	75.0	
1	12	74.0	
1	19	72.7	
1	6	72.7	
2	13	71.3	
2	10	70.1	
2	5	69.9	
2	2	69.4	
2	14	69.1	
2	17	68.9	
3	18	67.9	
3	7	67.6	
3	20	67.2	
3	16	66.4	
3	8	66.1	
4	15	65.6	
4	1	65.5	
4	3	65.3	
4	4	64.5	
4	9	62.8	

Range	Entry	Feed per lb. eggs	Duncan Test
1	19	2.46	
1	6	2.49	
1	17	2.51	
1	13	2.53	
1	12	2.54	
2	11	2.58	
2	5	2.60	
2	7	2.61	
2	2	2.61	
2	14	2.62	
2	4	2.63	
2	20	2.65	
3	8	2.67	
3	16	2.67	
3	10	2.68	
3	3	2.73	
3	18	2.76	
4	15	2.88	
4	19	2.92	
4	1	3.04	

Range	Entry	Days Lost to Mortality	Duncan Test
1	18	16.2	
1	10	25.0	
1	13	27.0	
1	15	27.8	
2	20	30.4	
2	2	31.5	
2	6	32.5	
2	9	34.4	
2	16	35.4	
2	3	39.7	
3	4	40.0	
3	17	40.6	
3	7	42.1	
3	11	47.4	
3	19	47.9	
4	5	51.5	
4	12	51.5	
4	8	52.8	
4	14	53.5	
4	1	70.0	