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GROWTH AND FEED STANDARDS for BROILERS — 1973

By

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GROWTH and FEED STANDARDS for BROILERS—1973

By D. A. Whittaker, J. E. Holmes and W. C. Skoglund*

The commercial broiler grower is interested in comparing his flock against a recognized standard for growth, feed consumption and feed conversion at different age levels.

The Department of Animal Sciences at the University of New Hampshire previously has published standards in 1953, 1959 and 1963. Ten years has elapsed since the last standards were published and it seems worthwhile to bring them up to date using the present day strains of broilers and the currently available poultry feeds.

Data were obtained from three commercially available broiler crosses during spring and fall of 1973. The birds were assigned randomly by strain to pens of 100 birds each at the rate of one bird per square foot. Six replicates for each strain were used in each trial, or a total of 3600 birds in the two trials. Two replicates of each sex and two replicates of combined sexes were reared. Body weights for each strain were an average of all six replicates while the feed consumption figures were obtained in the sex separated pens. The data for each strain were averaged for each trial and final tables are an average of the two trials. The chicks were brooded by a central hot water heating system using fin type radiation. One hanging waterer and two hanging feeders were used in each pen. A commercial broiler feed in crumble form was fed the first three weeks and pellets were fed for the remainder of the trial.

Table I presents the average weekly weights and gains for the males, females and mixed sexes.

Table II presents the weekly and cumulative feed consumption for each sex and for mixed sexes.

Table III indicates the weekly and cumulative feed conversion for each sex and mixed sexes.

Table IV shows the comparative broiler weight, feed consumption and conversion for 1953, 1959, 1963 and 1973.

* Mr. Whittaker is UNH Poultry Farm Superintendent. Mr. Holmes is an Undergraduate in Animal Science. Mr. Skoglund is Professor of Animal Sciences, New Hampshire Agricultural Experiment Station.

Table I — Weekly Average Weight and Gain for Broilers — 1973

Week	MALES				FEMALES				MIXED SEXES			
	Avg. Wgt.		Gain/Week		Avg. Wgt.		Gain/Week		Avg. Wgt.		Gain/Week	
	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos
Initial	.10	.05	—	—	.09	.04	—	—	.10	.05	—	—
1	.27	.12	.17	.07	.26	.12	.17	.08	.27	.12	.17	.07
2	.63	.29	.36	.17	.59	.27	.33	.15	.61	.28	.34	.16
3	1.11	.50	.48	.21	1.00	.45	.41	.18	1.06	.48	.45	.20
4	1.72	.78	.61	.28	1.47	.67	.47	.22	1.60	.73	.54	.25
5	2.36	1.07	.71	.29	2.04	.93	.57	.26	2.20	1.00	.64	.27
6	3.16	1.43	.80	.36	2.67	1.21	.63	.28	2.92	1.32	.72	.32
7	3.99	1.81	.83	.38	3.31	1.50	.64	.29	3.65	1.66	.73	.34
8	4.86	2.20	.87	.39	3.94	1.79	.63	.29	4.40	2.00	.75	.34

Table II — Weekly and Cumulative Feed Consumption for Broilers — 1973

Week	MALES				FEMALES				MIXED SEXES			
	Weekly		Cumulative		Weekly		Cumulative		Weekly		Cumulative	
	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos	Lbs.	Kilos
1	.22	.10	.22	.10	.21	.10	.21	.10	.22	.10	.22	.10
2	.54	.24	.76	.34	.50	.23	.71	.33	.52	.24	.74	.34
3	.78	.35	1.54	.69	.69	.31	1.40	.64	.74	.34	1.48	.68
4	1.13	.51	2.67	1.20	.95	.43	2.35	1.07	1.04	.47	2.52	1.15
5	1.48	.67	4.15	1.87	1.27	.58	3.62	1.65	1.38	.63	3.90	1.78
6	1.80	.82	5.95	2.69	1.47	.67	5.09	2.32	1.63	.74	5.53	2.52
7	1.94	.88	7.89	3.57	1.65	.75	6.74	3.07	1.80	.82	7.33	3.34
8	2.18	.99	10.07	4.56	1.81	.82	8.55	3.89	2.00	.91	9.33	4.25

Table III – Weekly and Cumulative Feed Conversion* for Broilers – 1973

Week	MALES		FEMALES		MIXED SEXES	
	Weekly	Cumulative	Weekly	Cumulative	Weekly	Cumulative
1	.81	.81	.81	.81	.81	.81
2	1.50	1.21	1.52	1.20	1.53	1.21
3	1.63	1.39	1.68	1.40	1.64	1.40
4	1.85	1.55	2.02	1.60	1.93	1.58
5	2.08	1.76	2.23	1.77	2.16	1.77
6	2.25	1.88	2.33	1.91	2.26	1.89
7	2.34	1.98	2.58	2.04	2.47	2.01
8	2.51	2.07	2.87	2.17	2.67	2.12

* Pounds of feed required to produce one pound of live weight,
or
Kilos of feed required to produce one kilo of live weight.

Table IV – Comparative Figures 1953¹, 1959², 1963³ and 1973, for Broiler Weights, Feed Consumption and Conversion.

Week	Average Body Weight For Mixed Sexes				Cumulative Feed Consumption				Cumulative Feed Conversion			
	1953 Lbs	1959 Lbs	1963 Lbs	1973 Lbs	1953 Lbs	1959 Lbs	1963 Lbs	1973 Lbs	1953 Lbs	1959 Lbs	1963 Lbs	1973 Lbs
Initial	.10	.09	.09	.10	—	—	—	—	—	—	—	—
1	—	.19	.23	.27	—	.14	.16	.22	—	.74	.70	.81
2	.37	.37	.47	.61	.47	.44	.52	.74	1.26	1.19	1.11	1.21
3	—	.65	.82	1.06	—	.93	1.12	1.48	—	1.43	1.37	1.40
4	.91	1.04	1.23	1.60	1.65	1.61	1.94	2.52	1.81	1.55	1.58	1.58
5	—	1.51	1.72	2.20	—	2.53	2.95	3.90	—	1.68	1.72	1.77
6	1.51	1.99	2.29	2.92	3.38	3.59	4.23	5.53	2.24	1.80	1.85	1.89
7	—	2.50	2.92	3.65	—	4.84	5.67	7.33	—	1.94	1.94	2.01
8	2.35	3.01	3.52	4.40	5.71	6.28	7.31	9.33	2.43	2.09	2.08	2.12
9	—	3.57	4.13	—	—	7.84	9.09	—	—	2.20	2.20	—
10	3.26	4.05	—	—	8.70	9.39	—	—	2.67	2.32	—	—
11	3.60	—	—	—	10.15	—	—	—	2.82	—	—	—
12	3.99	—	—	—	11.76	—	—	—	2.95	—	—	—
13	4.47	—	—	—	13.89	—	—	—	3.11	—	—	—

¹ Potter, L. M., and R. C. Ringrose, 1953. Growth and Feed Standards for New Hampshire, Station Bulletin 401, New Hampshire Agricultural Experiment Station.

² Reed, Willis S., and W. C. Skoglund, 1959. Growth and Feed Standards for Broilers—1959. Station Bulletin 466, New Hampshire Agricultural Experiment Station.

³ Wabeck, C. J., and W. C. Skoglund, 1963. Growth and Feed Standards for Broilers—1963. Station Bulletin 478, New Hampshire Agricultural Experiment Station.

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