



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE ÚSTRAŠICE

státní podnik

390 02 Tábor 2

Česká republika

BROILER FEEDING TEST No. 8/2025

XXXXX

XXXXX

23 September – 28 October 2025

Study Investigator:
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Aim of the project

The objective of the present study is to evaluate the effects of xxxxx on oocyst shedding, lesion scores and health performance parameters of *Eimeria acervulina*, *Eimeria tenella* and *Eimeria maxima* challenged broiler chicks.

Basic tests information

The basic dates

Beginning of the test: 23 September 2025

End of the test: 28 October 2025

Location of the test

Mezinárodní testování drůbeže s.p., Ústrašice

Material and methods

Material

In total there were 880 day old chicks (males) of xxxxx. Day old chicks were randomly distributed into 4 treatments (10 pens for sample).

Experimental treatments

Treat. No.	Treatment	Product	Replications
1	xxxxxx	xxxxxx	10
2	xxxxxx	xxxxxx	10
3	xxxxxx	xxxxxx	10
4	xxxxxx	xxxxxx	10

Origin of hatching eggs: Mezinárodní testování drůbeže s.p., Ústrašice

Housing system

Chickens were kept in the windowless chicken house with full climatic control, on deep litter. Drinking water was supplied ad libitum by nipple drinkers. Each pen was equipped with manually filled tube feeders. Bedding material was wood shaving.

Lighting programme

Day 1 – 7	23 hours of light + 1 hour of darkness
Day 8 – 32	18 hours of light + 6 hours of darkness
Day 33 – 35	23 hours of light + 1 hour of darkness

Veterinary precautions

The chicken house was disinfected by Virkon before the chick placement.

Feed

Feed was produced in Mezinárodní testování drůbeže, s.p.

Day 1 – 14	Starter (BR1)
Day 15 – 28	Grower (BR2)
Day 29 – 35	Finisher (BR3)

Diet formulas

Components (%)	Starter BR1	Grower BR2	Finisher BR3
Soybean meal	38.00	33.00	29.96
Maize	32.00	30.00	32.01
Wheat	21.39	27.62	30.00
Soybean oil	4.50	5.70	5.00
Limestone	1.30	0.84	0.85
MCP	1.06	1.13	0.60
L-lysine HCl	0.42	0.37	0.32
DL-methionine	0.32	0.29	0.24
L-threonine	0.11	0.16	0.12
Salt	0.25	0.25	0.25
Na ₂ CO ₃	0.15	0.15	0.15
Premix AMVBR1 Plus	0.50	-	-
Premix AMVBR2 Plus	-	0.50	-
Premix AMVBR3 Plus	-	-	0.50
Nutrient content			
Crude protein (g/kg)	217.72	198.80	188.16
ME (MJ/kg)	12.12	12.50	12.50
Lysine (g/kg)	14.94	13.35	12.27
Methionine (g/kg)	8.57	7.60	6.74
Met.+Cys. (g/kg)	12.26	11.07	10.11
Ca (g/kg)	9.50	7.49	6.50
P dig. (g/kg)	4.50	4.64	3.66
Na (g/kg)	2.02	1.94	1.90

Feed analyses for nutrient contents were performed at the laboratory of xxxxx

Nutrient content	Starter BR1	Grower BR2	Finisher BR3
Crude protein (g/kg)	221	205	197
Dry matter (%)	89.30	88.80	89.20
Fat (g/kg)	67.60	77.10	70.20
Ash (g/kg)	57.60	50.30	43.60
Starch (g/kg)	377	401	417
Reducing sugars (g/kg)	43.40	40.30	40.60
ME (MJ/kg)	12.60	13.00	12.90

Parameters recorded and methods applied

Live weight

Live weight was measured on days 1 (all the birds in each pen were weighed altogether). On day 3 each chicken was marked with a wing mark. Chick were individual weighed on days 3, 7, 14, 21, 28 and 35.

Weight gain

Weight gain per phase and average daily weight gains were calculated for the periods 3 – 7 days, 8 – 14 days, 15 – 21 days, 22 – 28 days, 29 – 35 days and for the overall experiment (3 – 35 days).

Feed conversion ratio

Feed consumption and feed conversion ratio to gain ratio were calculated for the periods 1 – 3 days, 4 – 7 days, 8 – 14 days, 15 – 21 days, 22 – 28 days, 29 – 35 days and for the overall experiment (1 – 35 days). The calculation was included weight of deaths.

Feed consumption

Feed consumption was measured per pen for the feed – starter (1 – 3 days, 4 – 7 days, 8 – 14 days), grower (15 – 21 days, 22 – 28 days) and finisher (29 – 35 days).

Mortality

All pens were checked twice a day to see if there were any dead or ill birds. Dead chickens were registered by date and reason of mortality on the day of death. Mortality was recorded for the periods 1 – 7 days, 8 – 14 days, 15 – 21 days, 22 – 28 days, 29 – 35 days and 1 – 35 days.

Statistical analyses

Performance results of live weight (on days 1, 3, 7, 14, 21, 28 and 35), daily weight gain and feed conversion ratio were statistically evaluated using the ANOVA single-factor model (Duncan test, Scheffe test).

Results

Tab. No.

1 Hatchability

2 Performance results:

2a Body weight

2b Weight gain

2c Feed conversion ratio per 1 kg of live weight

2d Feed consumption per 1 kg of weight gain

2e Feed consumption

3 Mortality

4 Litter scoring

5 Statistical analysis of body weight at the age of 35 days

(average body weight, standard deviation, coefficient of variation)

6 - 9 Statistical analyses of performance results

10 Performance results per pen:

10a Body weight

10b Weight gain

10c Feed conversion ratio per 1 kg of live weight

10d Feed consumption per 1 kg of weight gain

10e Feed consumption

10f Litter scoring

Results of incubation and hatching

Tab. No. 1

Treatment	Tr. No.	Fertility	Hatchability		Birds housed	Average weight	
			Set eggs	Fertile eggs		Hatching eggs	Day old chicks
		%	%	%		g	g
T1	1	95.75	84.55	88.30	220	67.60	41.82
T2	2				220		42.27
T3	3				220		42.05
T4	4				220		41.82

Body weight per phases

Tab. No. 2a

Treatment	Tr. No.	Day 1		Day 3		Day 7		Day 14		Day 21		Day 28		Day 35	
		Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
			g		g		g		g		g		g		g
T1	1	220	41.82	220	86.82	215	183.77	129	558.05	86	1059.84	82	1762.07	78	2723.46
T2	2	220	42.27	220	85.44	218	183.00	134	552.99	94	1046.28	91	1731.43	85	2638.36
T3	3	220	42.05	220	88.10	213	183.33	131	545.31	91	1044.97	89	1704.74	86	2603.02
T4	4	220	41.82	220	88.75	216	181.87	132	547.22	92	1046.58	88	1753.73	80	2675.95

Weight gain per phases**Tab. No. 2b**

Treatment	Tr. No.	Day 3 - 7	Day 8 - 14	Day 15 - 21	Day 22 - 28	Day 29 - 35	Day 3 - 35
		Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase
		g	g		g	g	g
T1	1	96.90	376.30	507.95	697.10	956.60	2639.40
T2	2	97.51	372.96	500.62	679.47	898.46	2554.26
T3	3	94.78	363.99	501.08	660.79	893.47	2515.44
T4	4	93.16	367.44	505.67	694.00	908.64	2588.54

Feed conversion ratio (Feed consumption per 1 kg of live weight)

Tab. No. 2c

Treatment	Tr. No.	Feed conversion ratio					
		Day 3	Day 7	Day 14	Day 21	Day 28	Day 35
		g/kg LW	g/kg LW	g/kg LW	g/kg LW	g/kg LW	g/kg LW
T1	1	511.52	975.29	1269.76	1169.54	1274.86	1214.70
T2	2	496.89	1006.71	1289.48	1190.04	1272.98	1238.24
T3	3	523.19	1081.63	1356.00	1215.75	1333.52	1270.49
T4	4	513.21	1035.67	1321.15	1199.06	1292.33	1237.48

Feed consumption per 1 kg of weight gain (WG)**Tab. No. 2d**

Treatment	Tr. No.	Feed consumption per 1 kg of weight gain						
		1-3 days	4-7 days	8-14 days	15-21 days	22-28 days	29-35 days	1-35 days
		g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG
T1	1	986.87	1400.20	1042.58	1440.32	1617.00	1475.93	1362.11
T2	2	983.47	1457.18	1051.76	1457.35	1522.74	1549.12	1377.63
T3	3	1000.89	1617.71	1081.21	1453.26	1696.42	1504.51	1416.43
T4	4	970.55	1542.13	1067.67	1443.64	1575.50	1524.83	1385.48

Feed consumption per phases

Tab. No. 2e

Treatment	Tr. No.	Feed consumption						
		Starter (day 1-3)	Starter (day 4-7)	Starter (day 8-14)	Grower (day 15-21)	Grower (day 22-28)	Finisher (day 29-35)	Total
		kg	kg	kg	kg	kg		kg
T1	1	9.77	29.19	81.52	94.08	91.32	108.95	414.83
T2	2	9.34	31.00	82.88	99.46	94.62	119.90	437.20
T3	3	10.14	32.66	82.36	95.18	99.78	116.15	436.27
T4	4	10.02	31.06	82.66	98.30	96.09	111.45	429.58

Mortality

Tab. No. 3

Treatment	Tr. No.	Mortality in the period													Mortality according causes														
		Day 1 – 7		Day 8 - 14		Day 15 - 21		Day 22- 28		Day 29 - 35		Day 1 - 35			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		birds	g	birds	g	birds	g	birds	g	birds	g	birds	g	%															
T1	1	5	436	6	1457	3	1167	4	3131	4	5878	22	12069	10.00										2	13		7		130
T2	2	2	177	4	845	0	0	3	2928	6	10698	15	14648	6.82										1	11		3		130
T3	3	7	521	2	225	0	0	2	2188	3	5063	14	7997	6.36											7		7		130
T4	4	4	381	4	895	0	0	4	2947	8	13342	20	17565	9.09											15		5		130

Causes:	1 – Viral diseases	6 – Wounds	11 – Sudden death syndrome
	2 – Bacterial diseases	7 – Digestive track diseases	12 – Cannibalism
	3 – Moulds diseases	8 – Respiratory tract diseases	13 – Yolk sac. infam.
	4 – Parasitary diseases	9 – Reproduction tract diseases	14 – Culling and other causes
	5 – Tumors	10 – Locomotion apparatus diseases	15 – Sampling (excluded of calculation)

Litter scoring**Tab. No. 4**

Treatment	Tr. No.	Day 14	Day 21	Day 28	Day 35
T1	1	2.60	3.70	3.90	4.00
T2	2	3.10	3.90	3.70	4.00
T3	3	2.70	3.50	3.60	4.00
T4	4	2.70	3.60	3.60	4.00

Bedding: day 21 and 29

Statistical analysis - Body weight at 35 days of age**Tab. No. 5**

Treatment	Tr. No.	Cocks			
		Number of birds	Average body weight	Standard deviation	Coefficient of variation
			g/birds	g/birds	%
T1	1	78	2723.46	348.73	12.80
T2	2	85	2638.36	417.08	15.81
T3	3	86	2603.02	331.95	12.75
T4	4	80	2675.95	327.08	12.22

Statistical analyses of performance results

Performance results were statistically evaluated using the ANOVA single-factor model (Duncan test, Scheffe test) or nonparametric method Kruskal-Wallis test.

The following symbols are used for levels of significance:

$p \leq 0,001$ * * * - differences are very high significant

$p \leq 0,01$ * * - differences are high significant

$p \leq 0,05$ * - differences are significant

$p > 0,05$ o - differences are not significant

Body weight - day 1

Tab. No. 6a

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	41.82	1.17		o	o	o
T2	2	10	42.27	1.17	0.423559		o	o
T3	3	10	42.05	1.20	0.669323	0.669323		o
T4	4	10	41.82	1.17	1.000000	0.440140	0.688735	

Body weight - day 3

Tab. No. 6b

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	220	86.82	9.44		o	o	*
T2	2	220	85.44	9.24	0.117079		**	***
T3	3	220	88.10	9.09	0.146118	0.003569		o
T4	4	220	88.75	9.10	0.036854	0.000331	0.459528	

Body weight - day 7**Tab. No. 6c**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	215	183.77	20.65		o	o	o
T2	2	218	183.00	21.26	0.983978		o	o
T3	3	213	183.33	19.41	0.996920	0.998725		o
T4	4	216	181.87	19.30	0.811574	0.952288	0.905433	

Body weight - day 14**Tab. No. 6d**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	129	558.05	71.37		o	o	o
T2	2	134	552.99	71.43	0.943244		o	o
T3	3	131	545.31	60.95	0.490397	0.825875		o
T4	4	132	547.22	59.37	0.625155	0.916987	0.996595	

Body weight - day 21**Tab. No. 6e**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	86	1059.84	130.35		o	o	o
T2	2	94	1046.28	159.95	0.934813		o	o
T3	3	91	1044.97	119.67	0.917946	0.999930		o
T4	4	92	1046.58	142.68	0.939570	0.999999	0.999873	

Body weight - day 28**Tab. No. 6f**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	82	1762.07	187.25		o	o	o
T2	2	91	1731.43	256.36	0.822073		o	o
T3	3	89	1704.74	182.41	0.368371	0.867734		o
T4	4	88	1753.73	204.95	0.995500	0.918410	0.495403	

Body weight - day 35**Tab. No. 6g**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	78	2723.46	348.73		o	o	o
T2	2	85	2638.36	417.08	0.515220		o	o
T3	3	86	2603.02	331.95	0.204548	0.937006		o
T4	4	80	2675.95	327.08	0.874711	0.929067	0.634229	

Average weight gain (day 3-7)**Tab. No. 7a**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	215	96.90	15.12		o	o	o
T2	2	218	97.51	14.91	0.979193		o	*
T3	3	213	94.78	14.29	0.520024	0.286979		o
T4	4	216	93.16	14.04	0.069848	0.022162	0.723561	

Average weight gain (day 8-14)**Tab. No. 7b**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	129	376.30	54.97		o	o	o
T2	2	134	372.96	53.60	0.961999		o	o
T3	3	131	363.99	45.83	0.275198	0.551698		o
T4	4	132	367.44	46.31	0.568215	0.849319	0.958427	

Average weight gain (day 15-21)**Tab. No. 7c**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	86	507.95	81.12		o	o	o
T2	2	94	500.62	100.80	0.959989		o	o
T3	3	91	501.08	77.92	0.967425	0.999989		o
T4	4	92	505.67	96.23	0.998718	0.985556	0.989321	

Average weight gain (day 22-28)**Tab. No. 7d**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	82	697.10	89.59		o	o	o
T2	2	91	679.47	139.39	0.804410		o	o
T3	3	89	660.79	98.27	0.248165	0.763349		o
T4	4	88	694.00	129.04	0.998628	0.874201	0.310282	

Average weight gain (day 29-35)**Tab. No. 7e**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	78	956.60	243.26		o	o	o
T2	2	85	898.46	247.33	0.471575		o	o
T3	3	86	893.47	219.77	0.393683	0.999274		o
T4	4	80	908.64	221.84	0.644133	0.994280	0.981441	

Average weight gain (day 3-35)**Tab. No. 7f**

Treatment	Treat. No.	Birds	Average (g)	Standard deviation	Scheffe test			
					T1	T2	T3	T4
T1	1	78	2639.40	346.12		o	o	o
T2	2	85	2554.26	412.94	0.508834		o	o
T3	3	86	2515.44	331.04	0.177448	0.917108		o
T4	4	80	2588.54	325.46	0.848150	0.943921	0.627304	

FCR 3**Tab. No. 8a**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	512.04	71.65		o	o	o
T2	2	10	495.71	62.10	0.643894		o	o
T3	3	10	522.58	69.03	0.750481	0.463685		o
T4	4	10	511.07	88.51	0.976697	0.643011	0.744753	

FCR 7**Tab. No. 8b**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	977.72	107.14		o	*	o
T2	2	10	1008.25	118.56	0.498231		o	o
T3	3	10	1083.37	101.67	0.035130	0.119747		o
T4	4	10	1035.59	62.56	0.229231	0.543878	0.291362	

FCR 14**Tab. No. 8c**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1271.42	77.09		o	*	o
T2	2	10	1291.10	67.01	0.628566		o	o
T3	3	10	1366.16	137.50	0.036527	0.085932		o
T4	4	10	1321.97	56.19	0.245020	0.448817	0.280371	

FCR 21**Tab. No. 8d**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1169.76	48.05		o	o	o
T2	2	10	1192.14	55.64	0.376222		o	o
T3	3	10	1220.11	71.95	0.072172	0.298997		o
T4	4	10	1200.14	43.54	0.259427	0.750962	0.429391	

FCR 28**Tab. No. 8e**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1275.28	60.36		o	*	o
T2	2	10	1276.67	60.72	0.959596		*	o
T3	3	10	1337.92	66.01	0.040847	0.039278		o
T4	4	10	1295.63	56.39	0.487870	0.491452	0.129751	

FCR 35**Tab. No. 8f**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1214.30	56.89		o	o	o
T2	2	10	1243.69	62.66	0.326766		o	o
T3	3	10	1273.92	54.70	0.056083	0.284374		o
T4	4	10	1243.19	72.91	0.306071	0.985720	0.305174	

FCR weight gain - day 1-3**Tab. No. 9a**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	989.38	138.24		o	o	o
T2	2	10	984.82	105.54	0.939362		o	o
T3	3	10	1000.29	116.93	0.855420	0.808790		o
T4	4	10	967.48	163.54	0.731954	0.772311	0.620761	

FCR weight gain - day 4-7**Tab. No. 9b**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1407.80	227.38		o	*	o
T2	2	10	1464.95	217.71	0.547695		o	o
T3	3	10	1624.91	230.10	0.040078	0.116458		o
T4	4	10	1542.51	158.59	0.185155	0.415475	0.387316	

FCR weight gain - day 8-14**Tab. No. 9c**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1043.18	70.60		o	o	o
T2	2	10	1052.49	68.11	0.787981		o	o
T3	3	10	1089.11	110.48	0.231642	0.322755		o
T4	4	10	1068.00	42.27	0.502090	0.654698	0.542982	

FCR weight gain - day 15-21**Tab. No. 9d**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1440.93	93.44		o	o	o
T2	2	10	1471.07	139.20	0.602319		o	o
T3	3	10	1455.95	96.10	0.787707	0.772312		o
T4	4	10	1452.49	128.08	0.824886	0.738991	0.947279	

FCR weight gain - day 22-28**Tab. No. 9e**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1629.90	198.59		o	o	o
T2	2	10	1541.50	187.55	0.342686		o	o
T3	3	10	1717.25	213.33	0.319339	0.069899		o
T4	4	10	1596.47	171.60	0.701405	0.529210	0.195865	

FCR weight gain – day29-35**Tab. No. 9f**

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1485.25	154.54		o	o	o
T2	2	10	1571.75	175.44	0.450128		o	o
T3	3	10	1531.63	276.34	0.665650	0.708509		o
T4	4	10	1574.68	308.94	0.451429	0.978300	0.706815	

FCR weight gain - day 1-35

Tab. No. 9g

Treatment	Treat. No.	No. of box	Average (g/kg live weight)	Standard deviation	Duncan test			
					T1	T2	T3	T4
T1	1	10	1362.22	62.73		o	o	o
T2	2	10	1384.08	71.16	0.516403		o	o
T3	3	10	1420.44	63.18	0.118795	0.311641		o
T4	4	10	1394.06	96.14	0.375328	0.766614	0.434155	

Body weight (BW) per box

Tab. No. 10a (page 1)

Treatment	Tr. No.	Box No.	Day 1		Day 3		Day 7		Day 14		Day 21		Day 28		Day 35	
			Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
				g		g		g		g		g		g		g
T1	1	1	22	43.18	22	82.91	22	183.64	14	544.64	10	1020.60	10	1741.40	9	2790.00
		2	22	40.91	22	85.77	22	191.32	14	584.93	9	1085.67	8	1735.00	7	2521.57
		9	22	40.91	22	86.18	20	188.10	11	593.82	7	1138.86	7	1878.14	7	2808.00
		10	22	40.91	22	87.95	21	180.90	12	572.25	8	1068.13	7	1770.00	7	2871.57
		17	22	40.91	22	85.95	21	177.81	13	530.85	9	1022.11	8	1690.13	8	2573.50
		18	22	40.91	22	81.91	22	167.82	13	500.92	8	1031.63	8	1705.38	8	2736.13
		25	22	43.18	22	89.36	21	190.43	12	567.50	8	1086.13	8	1848.88	7	2828.43
		26	22	43.18	22	95.00	22	195.18	13	588.92	9	1094.56	8	1910.50	8	2821.25
		33	22	43.18	22	85.64	22	181.32	14	538.57	10	1023.80	10	1703.20	10	2651.10
		34	22	40.91	22	87.50	22	181.50	13	565.85	8	1052.75	8	1673.50	7	2650.71
T2	2	3	22	43.18	22	88.18	22	194.77	14	597.79	10	1179.10	10	1926.60	10	2965.00
		4	22	43.18	22	74.05	22	167.73	13	520.77	9	1021.67	9	1702.33	7	2465.86
		11	22	43.18	22	95.45	22	200.91	13	620.92	9	1187.78	9	1954.67	9	2950.67
		12	22	40.91	22	80.86	22	169.82	13	489.38	9	876.89	8	1421.13	8	2114.13
		19	22	40.91	22	80.64	21	171.57	13	537.54	9	1062.22	9	1778.11	8	2905.75
		20	22	40.91	22	82.82	22	166.27	14	513.71	10	1018.90	10	1624.60	9	2581.33
		27	22	43.18	22	87.32	22	187.27	14	558.43	10	1023.00	10	1728.60	10	2452.20
		28	22	43.18	22	89.50	22	197.14	13	563.38	9	979.33	7	1641.71	7	2537.43
		35	22	40.91	22	86.05	21	185.86	13	553.15	9	997.00	9	1706.67	8	2661.25
		36	22	43.18	22	89.55	22	188.27	14	572.50	10	1101.60	10	1762.50	9	2647.67

Body weight (BW) per box

Tab. No. 10a (page 2)

Treatment	Tr. No.	Box No.	Day 1		Day 3		Day 7		Day 14		Day 21		Day 28		Day 35	
			Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
				g		g		g		g		g		g		g
T3	3	5	22	40.91	22	82.82	20	186.95	12	546.25	8	1012.63	8	1643.88	8	2540.63
		6	22	43.18	22	90.36	21	190.67	13	566.46	9	1105.56	9	1748.89	9	2610.33
		13	22	43.18	22	90.36	22	192.36	14	597.79	10	1105.50	10	1827.80	10	2797.90
		14	22	43.18	22	91.32	22	191.77	14	580.14	10	1066.70	8	1650.63	6	2343.33
		21	22	43.18	22	90.36	21	184.57	13	563.46	9	1090.56	9	1746.89	8	2735.13
		22	22	40.91	22	77.86	20	160.70	12	465.25	8	935.13	8	1571.75	8	2453.63
		29	22	40.91	22	87.50	21	180.81	13	545.77	9	1049.89	9	1689.22	9	2505.67
		30	22	40.91	22	89.82	22	177.73	14	490.43	10	935.70	10	1571.60	10	2462.50
		37	22	43.18	22	88.68	22	177.77	13	524.77	9	1035.33	9	1752.33	9	2670.44
		38	22	40.91	22	91.86	22	188.50	13	564.15	9	1099.89	9	1818.00	9	2809.22
T4	4	7	22	40.91	22	85.95	22	181.14	14	556.14	10	1104.80	10	1805.90	10	2771.90
		8	22	40.91	22	87.82	22	175.05	13	564.77	9	1124.89	9	1719.78	7	2448.14
		15	22	40.91	22	84.23	22	178.32	13	520.08	9	1028.00	9	1763.22	8	2758.63
		16	22	43.18	22	84.95	21	176.43	12	543.33	8	984.50	8	1670.75	7	2502.71
		23	22	43.18	22	92.91	22	189.91	14	587.79	10	1134.80	9	1855.11	7	2885.14
		24	22	40.91	22	89.32	21	187.05	13	535.92	9	963.56	8	1605.25	7	2537.86
		31	22	43.18	22	95.95	21	195.29	12	583.58	8	1091.88	8	1799.88	8	2675.00
		32	22	43.18	22	88.77	21	184.10	13	526.54	9	909.89	7	1723.00	6	2640.33
		39	22	40.91	22	87.00	22	176.27	14	534.43	10	1061.40	10	1826.20	10	2862.00
		40	22	40.91	22	90.55	22	175.86	14	521.29	10	1042.70	10	1729.60	10	2580.90

Weight gain per phases per box

Tab. No. 10b (page 1)

Treatment	Tr. No.	Box No.	Day 3 - 7	Day 8 - 14	Day 15 - 21	Day 22 - 28	Day 29 - 35	Day 3 - 35
			Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase
			g	g	g	g	g	g
T1	1	1	100.73	364.14	493.10	720.80	1034.56	2708.56
		2	105.55	394.86	514.00	638.13	771.00	2435.86
		9	101.00	402.45	552.86	739.29	929.86	2722.14
		10	93.29	383.75	505.00	724.43	1101.57	2786.57
		17	92.14	358.08	507.56	653.38	883.38	2491.13
		18	85.91	337.08	501.13	673.75	1030.75	2657.50
		25	100.71	377.92	522.25	762.75	976.71	2737.57
		26	100.18	397.15	516.33	765.50	910.75	2732.63
		33	95.68	365.43	492.60	679.40	947.90	2570.40
		34	94.00	387.23	486.13	620.75	967.43	2566.71
T2	2	3	106.59	404.07	574.00	747.50	1038.40	2876.20
		4	93.68	354.54	506.44	680.67	774.00	2393.29
		11	105.45	421.46	581.00	766.89	996.00	2857.22
		12	88.95	324.85	405.11	551.25	693.00	2039.00
		19	90.86	369.62	545.22	715.89	1118.38	2826.00
		20	83.45	349.43	508.50	605.70	880.22	2500.33
		27	99.95	374.50	476.00	705.60	723.60	2367.70
		28	107.64	367.62	406.33	623.86	895.71	2447.14
		35	99.62	371.46	476.00	709.67	976.88	2581.25
		36	98.73	390.07	519.20	660.90	874.33	2555.78

Weight gain per phases per box

Tab. No. 10b (page 2)

Treatment	Tr. No.	Box No.	Day 3 - 7	Day 8 - 14	Day 15 - 21	Day 22 - 28	Day 29 - 35	Day 3 - 35
			Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase	Weight gain per phase
			g	g	g	g	g	g
T3	3	5	101.45	363.67	457.13	631.25	896.75	2454.13
		6	99.71	378.54	535.67	643.33	861.44	2518.44
		13	102.00	407.79	518.30	722.30	970.10	2710.90
		14	100.45	386.50	486.30	589.75	685.33	2248.83
		21	94.19	385.23	535.78	656.33	950.25	2647.25
		22	82.40	310.92	473.00	636.63	881.88	2379.88
		29	93.57	365.62	510.67	639.33	816.44	2417.22
		30	87.91	317.14	452.40	635.90	890.90	2377.00
		37	89.09	349.08	506.00	717.00	918.11	2582.11
		38	96.64	369.85	532.67	718.11	991.22	2716.22
T4	4	7	95.18	378.71	555.50	701.10	966.00	2689.70
		8	87.23	388.69	549.89	594.89	698.00	2360.00
		15	94.09	350.08	530.11	735.22	1024.00	2680.25
		16	91.43	365.92	454.63	686.25	848.57	2419.86
		23	97.00	396.71	533.30	715.56	982.29	2788.57
		24	98.33	350.46	432.11	627.25	851.57	2449.57
		31	99.19	384.33	521.38	708.00	875.13	2581.13
		32	95.05	350.54	413.44	708.71	884.00	2555.00
		39	89.27	362.36	521.90	764.80	1035.80	2774.40
		40	85.32	346.64	527.70	686.90	851.30	2489.50

Feed conversion ratio (Feed consumption per 1 kg of live weight) per box

Tab. No. 10c (page 1)

Treatment	Tr. No.	Box No.	Feed conversion ratio					
			Day 3	Day 7	Day 14	Day 21	Day 28	Day 35
			g/kg LW	g/kg LW	g/kg LW	g/kg LW	g/kg LW	g/kg LW
T1	1	1	383.77	995.05	1167.82	1129.54	1209.44	1211.91
		2	657.13	921.83	1286.24	1202.58	1359.98	1309.91
		9	527.43	889.80	1207.76	1106.65	1154.49	1120.82
		10	475.45	878.45	1223.12	1096.64	1247.18	1122.91
		17	507.67	1220.21	1320.86	1227.69	1295.19	1211.37
		18	554.94	1110.51	1450.48	1231.42	1331.49	1226.55
		25	483.21	940.25	1295.90	1176.21	1264.78	1212.14
		26	459.33	926.87	1258.10	1153.57	1291.70	1255.69
		33	552.02	947.61	1244.62	1167.60	1279.11	1229.26
		34	519.48	946.66	1259.32	1205.67	1319.42	1242.45
T2	2	3	515.46	1059.51	1197.22	1129.15	1246.91	1169.31
		4	380.60	785.91	1229.25	1141.95	1246.58	1210.87
		11	504.76	963.80	1254.79	1126.43	1217.28	1179.62
		12	584.60	1038.54	1323.50	1281.63	1401.95	1343.20
		19	462.23	1212.62	1357.89	1183.39	1301.69	1217.42
		20	570.80	1142.70	1367.05	1234.33	1337.08	1281.54
		27	447.68	985.44	1393.95	1271.14	1262.36	1285.19
		28	548.50	1023.75	1225.24	1195.16	1306.66	1334.51
		35	475.44	923.85	1286.25	1161.70	1200.19	1210.82
		36	467.01	946.40	1275.83	1196.56	1246.04	1204.41

Feed conversion ratio (Feed consumption per 1 kg of live weight) per box

Tab. No. 10c (page 2)

Treatment	Tr. No.	Box No.	Feed conversion ratio					
			Day 3	Day 7	Day 14	Day 21	Day 28	Day 35
			g/kg LW	g/kg LW	g/kg LW	g/kg LW	g/kg LW	g/kg LW
T3	3	5	570.80	1109.67	1393.34	1249.18	1415.12	1314.77
		6	472.84	980.63	1306.12	1160.45	1341.85	1247.72
		13	472.84	978.26	1203.15	1163.78	1229.25	1182.36
		14	537.58	1156.67	1258.74	1182.28	1319.37	1354.05
		21	412.47	1105.78	1356.18	1126.83	1289.13	1184.84
		22	431.99	1197.14	1678.64	1349.88	1462.96	1298.79
		29	581.82	959.96	1271.43	1179.98	1335.63	1297.50
		30	607.29	966.75	1353.80	1264.83	1296.84	1296.43
		37	574.06	1206.85	1506.74	1311.59	1369.94	1285.96
		38	564.08	1171.93	1333.47	1212.25	1319.11	1276.81
T4	4	7	475.94	993.73	1257.61	1143.72	1220.96	1156.10
		8	496.89	986.76	1242.44	1167.79	1290.46	1285.25
		15	485.70	1091.00	1386.66	1127.33	1251.82	1142.83
		16	438.74	1072.46	1301.52	1243.42	1388.96	1327.37
		23	606.65	1153.66	1315.53	1244.89	1314.96	1208.72
		24	396.95	1058.91	1385.74	1232.37	1351.40	1273.64
		31	653.72	939.21	1296.06	1186.48	1289.88	1259.18
		32	634.92	994.92	1330.81	1243.67	1354.86	1368.24
		39	449.32	1057.25	1409.64	1221.21	1262.81	1220.21
		40	471.89	1008.01	1293.70	1190.49	1230.20	1190.32

Feed consumption per 1 kg of weight gain (WG) per box

Tab. No. 10d (page 1)

Treatment	Tr. No.	Box No.	Feed consumption per 1 kg of weight gain						
			1-3 days	4-7 days	8-14 days	15-21 days	22-28 days	29-35 days	1-35 days
			g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG
T1	1	1	800.92	1498.19	922.14	1434.37	1420.64	1592.47	1340.49
		2	1256.33	1136.95	1101.80	1506.95	2017.24	1737.52	1474.50
		9	1004.02	1230.77	1001.58	1373.06	1317.87	1467.20	1262.52
		10	888.89	1272.08	1061.92	1270.79	1781.62	1193.10	1271.15
		17	968.72	1919.09	977.62	1504.50	1536.05	1400.88	1360.06
		18	1108.65	1640.21	1179.91	1364.38	1647.50	1321.85	1369.09
		25	935.04	1364.49	1079.60	1446.20	1527.37	1535.99	1366.36
		26	842.11	1370.24	1034.98	1434.71	1734.44	1605.82	1401.28
		33	1113.49	1301.66	1026.02	1459.35	1592.58	1461.12	1364.53
		34	975.61	1344.29	1046.19	1615.02	1723.72	1536.50	1412.27
T2	2	3	1010.10	1509.59	940.76	1365.04	1575.92	1324.15	1299.48
		4	913.11	1106.26	1089.95	1392.52	1547.50	1552.00	1353.07
		11	921.74	1379.31	1033.56	1328.70	1486.53	1439.09	1306.19
		12	1183.16	1451.20	1050.45	1770.95	1844.97	1632.40	1502.31
		19	938.22	1911.76	1016.99	1344.98	1642.09	1408.92	1366.20
		20	1127.98	1710.24	1089.12	1429.55	1650.98	1545.25	1426.57
		27	885.68	1455.21	1198.48	1533.90	1238.66	1782.75	1415.69
		28	1059.86	1418.92	993.69	1614.75	1721.26	1897.93	1487.52
		35	906.34	1325.76	1063.26	1417.74	1312.04	1656.61	1345.77
		36	901.96	1381.22	1048.67	1512.61	1395.07	1478.37	1338.02

Feed consumption per 1 kg of weight gain (WG) per box

Tab. No. 10d (page 2)

Treatment	Tr. No.	Box No.	Feed consumption per 1 kg of weight gain						
			1-3 days	4-7 days	8-14 days	15-21 days	22-28 days	29-35 days	1-35 days
			g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG	g/kg WG
T3	3	5	1127.98	1592.14	1113.44	1514.67	1964.36	1359.07	1446.20
		6	905.59	1463.41	1070.30	1373.33	1930.92	1393.01	1395.08
		13	905.59	1426.02	979.47	1481.28	1414.92	1432.84	1315.45
		14	1019.83	1719.46	950.32	1477.19	1883.20	2207.40	1504.97
		21	789.98	1804.36	1047.07	1232.82	1811.41	1222.83	1311.60
		22	910.21	1993.92	1334.57	1457.82	1806.40	1311.13	1472.15
		29	1092.68	1329.27	1041.10	1474.56	1824.82	1646.71	1450.79
		30	1115.24	1334.02	1154.18	1567.04	1383.87	1627.57	1426.81
		37	1118.88	1836.73	1166.71	1549.11	1527.97	1512.77	1449.38
		38	1016.95	1749.76	1033.93	1431.70	1624.63	1602.96	1431.95
T4	4	7	908.17	1461.32	1037.36	1330.94	1440.59	1294.00	1271.49
		8	930.23	1479.94	1019.72	1434.88	1722.08	2022.29	1457.76
		15	944.39	1632.85	1066.63	1215.14	1604.96	1183.80	1269.69
		16	892.27	1678.61	1030.64	1614.57	1832.42	1695.19	1505.67
		23	1133.46	1677.60	1032.70	1541.38	1538.22	1317.80	1353.90
		24	732.39	1690.96	1108.41	1508.28	1764.23	1484.66	1425.14
		31	1188.63	1228.41	1071.33	1476.84	1622.53	1671.19	1419.98
		32	1236.29	1348.77	1079.19	1624.89	1732.59	2130.28	1557.49
		39	848.13	1649.69	1159.42	1372.10	1367.68	1467.46	1352.32
		40	860.81	1576.98	1074.56	1405.93	1339.35	1480.09	1327.14

Feed consumption per box

Tab. No. 10e (page 1)

Treatment	Tr. No.	Box No.	Feed consumption						
			Starter (day 1-3)	Starter (day 4-7)	Starter (day 8-14)	Grower (day 15-21)	Grower (day 22-28)	Finisher (day 29-35)	Total
			kg	kg	kg	kg	kg	kg	kg
T1	1	1	0.70	3.32	7.26	10.24	10.24	13.70	45.46
		2	1.24	2.64	9.34	10.08	9.36	9.40	42.06
		9	1.00	2.48	7.60	8.48	6.82	9.55	35.93
		10	0.92	2.52	7.82	8.10	8.86	9.20	37.42
		17	0.96	3.70	7.34	10.36	7.84	9.90	40.10
		18	1.00	3.10	8.48	8.38	8.88	10.90	40.74
		25	0.95	2.89	8.30	9.14	9.32	10.50	41.10
		26	0.96	3.02	8.64	10.02	10.62	11.70	44.96
		33	1.04	2.74	8.36	10.16	10.82	13.85	46.97
		34	1.00	2.78	8.38	9.12	8.56	10.25	40.09
T2	2	3	1.00	3.54	8.02	11.02	11.78	13.75	49.11
		4	0.62	2.28	7.84	9.38	9.48	9.70	39.30
		11	1.06	3.20	8.84	9.94	10.26	12.90	46.20
		12	1.04	2.84	7.60	9.34	8.14	9.05	38.01
		19	0.82	3.64	7.78	9.70	10.58	12.60	45.12
		20	1.04	3.14	8.20	10.46	10.00	11.90	44.74
		27	0.86	3.20	9.80	10.34	8.74	12.90	45.84
		28	1.08	3.36	7.56	8.76	8.04	11.90	40.70
		35	0.90	2.80	8.32	9.54	8.38	12.90	42.84
		36	0.92	3.00	8.92	10.98	9.22	12.30	45.34

Feed consumption per box

Tab. No. 10e (page 2)

Treatment	Tr. No.	Box No.	Feed consumption						
			Starter (day 1-3)	Starter (day 4-7)	Starter (day 8-14)	Grower (day 15-21)	Grower (day 22-28)	Finisher (day 29-35)	Total
			kg	kg	kg	kg	kg	kg	kg
T3	3	5	1.04	3.24	7.98	8.62	9.92	9.75	40.55
		6	0.94	3.06	8.48	9.34	11.18	10.80	43.80
		13	0.94	3.20	8.54	11.16	10.22	13.90	47.96
		14	1.08	3.80	7.90	10.20	8.90	9.60	41.48
		21	0.82	3.56	8.52	8.52	10.70	9.45	41.57
		22	0.74	3.28	8.60	8.26	9.20	9.25	39.33
		29	1.12	2.62	7.98	9.62	10.50	12.10	43.94
		30	1.20	2.58	8.04	10.04	8.80	14.50	45.16
		37	1.12	3.60	8.58	9.62	9.86	12.50	45.28
		38	1.14	3.72	7.74	9.80	10.50	14.30	47.20
T4	4	7	0.90	3.06	8.44	10.40	10.10	12.50	45.40
		8	0.96	2.84	8.12	10.08	9.22	9.80	41.02
		15	0.90	3.38	8.34	8.54	10.62	9.50	41.28
		16	0.82	3.28	7.30	9.40	10.06	10.40	41.26
		23	1.24	3.58	8.78	11.36	9.68	9.50	44.14
		24	0.78	3.48	8.22	8.84	8.80	9.00	39.12
		31	1.38	2.56	8.02	9.66	9.19	11.70	42.51
		32	1.24	2.68	8.04	9.40	8.76	11.25	41.37
		39	0.86	3.24	9.20	10.24	10.46	15.20	49.20
		40	0.94	2.96	8.20	10.38	9.20	12.60	44.28

Litter scoring

Tab. No. 10f (page 1)

Treatment	Tr. No.	Box No.	Day 14	Day 21	Day 28	Day 35
T1	1	1	3	4	4	4
		2	3	4	4	4
		9	3	4	4	4
		10	3	3	3	4
		17	2	4	4	4
		18	2	3	4	4
		25	2	3	4	4
		26	2	4	4	4
		33	3	4	4	4
		34	3	4	4	4
T2	2	3	4	4	4	4
		4	4	4	4	4
		11	3	4	4	4
		12	3	4	4	4
		19	2	3	3	4
		20	2	4	4	4
		27	3	4	4	4
		28	4	4	4	4
		35	3	4	3	4
		36	3	4	3	4

Litter scoring

Tab. No. 10f (page 2)

Treatment	Tr. No.	Box No.	Day 14	Day 21	Day 28	Day 35
T3	3	5	3	3	4	4
		6	3	3	4	4
		13	3	4	4	4
		14	3	4	4	4
		21	3	4	4	4
		22	3	4	4	4
		29	2	4	3	4
		30	3	3	3	4
		37	2	3	3	4
		38	2	3	3	4
T4	4	7	2	4	4	4
		8	3	4	4	4
		15	2	3	3	4
		16	2	3	3	4
		23	4	4	4	4
		24	3	4	4	4
		31	3	3	4	4
		32	3	4	4	4
		39	2	3	3	4
		40	3	4	3	4