



# MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE ÚSTRAŠICE

státní podnik

390 02 Tábor 2

Česká republika

## BROILER FEEDING TEST No. 1222

XXXXXXXXXXXX

XXXXXXXXXXXX

8 September – 12 October 2021

**Study Investigator:**

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**November 2021**

Listopad 2021

## Material and methods

### Test term

**Beginning of the test:** 8 September 2021 (transfer to the chicken house)

**End of the test:** 12 October 2021

### Birds

In total there were 6240 day old chicks (males) of xxxxxxxx. Day-old chicks were randomly distributed into 8 dietary treatments with 6 replicates per treatment and 130 chicken per replicate.

Origin 1-day old chicks:

breeder company – xxxxxxxx

parent flock – xxxxxxxx

age of the breeding flock - 60 weeks

### Experimental treatments:

Tr. No.	Tr.	Description
1	T1	xxxxxxx
2	T2	xxxxxxx
3	T3	xxxxxxx
4	T4	xxxxxxx
5	T5	xxxxxxx
6	T6	xxxxxxx
7	T7	xxxxxxx
8	T8	xxxxxxx

### Housing system

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

Light was provided as follows during the experimental period:

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

Stocking density: 16 broilers per square meter

The conduct of the trial was conformed to the national welfare legislation.

### **Veterinary precautions**

The chicken house was disinfected with xxxxxxxx before the chick placement.

On days 1 and 12 the chicken were vaccinated with xxxxxxxx. On the first days old chickens was applied the water solution of permanganate.

## Feed

Feed was produced by International Poultry Testing Station Ústrašice

Day 1 - 10 Starter (BR 1)

Day 11- 28 Grower (BR2)

Day 29 - 35 Finisher (BR 3)

## Diet formulas:

Components (%)	Starter BR1	Grower BR2	Finisher BR3
Soybean extr. groats	36.99	32.71	26.64
Wheat	30.00	35.00	42.41
Maize	23.77	22.20	21.00
Soybean oil	5.00	6.00	6.00
Calcium carbonate	1.49	1.35	1.12
MCP - monocalciumphosphate	1.14	1.10	1.20
Salt	0.29	0.30	0.29
Sodium sulfate	0.12	0.15	0.15
L-lysine	0.40	0.39	0.39
L-threonin	0.20	0.20	0.20
DL-methionin	0.10	0.10	0.10
xxxxxxx	0.50	-	-
xxxxxxx	-	0.50	-
xxxxxxx	-	-	0.50
<b>Nutrient content</b>			
Crude protein (g/kg)	210.39	196.09	177.03
Fat (g/kg)	67.28	76.70	76.29
Lysine (g/kg)	15.08	13.91	12.40
Methionine (g/kg)	6.45	5.84	5.26
Ca (g/kg)	9.61	8.81	7.82
P (g/kg)	6.49	6.25	6.29
Vitamin A (IU/kg)	13500	10000	10000
Vitamin D3 (IU/kg)	5000	5000	5000
ME (MJ/kg)	11.94	12.27	12.43

## **Parameters recorded and methods applied**

### **Live weight**

Live weight was measured on day 1 and on day 10 (all the birds in each pen were weighed altogether). On day 28 of age birds were weighed individually, without fasting. On day 35 birds were weighed individually, after 12 hours of fasting.

### **Feed consumption**

Feed consumption was determined per pen for the feed – starter, grower and finisher.

### **Weight gain**

Weight gain per phase and average daily weight gains were calculated for the periods 1 – 10 days, 11 – 28 days, 29 – 35 days and for the overall experiment (1 – 35 days).

### **Feed conversion ratio**

Feed conversion ratio was calculated as feed consumption per 1 kg of live weight and per 1 kg of weight gain for the periods 1 – 10 days, 11 – 28 days, 29 – 35 days and for the overall experiment (1 – 35 days). The calculation was included weight of deaths.

### **Mortality**

All pens were checked three times a day to see if there were any dead or ill birds. Dead chickens were registered by date, weight and reason of mortality on the day of death. Mortality was recorded for the periods 1 – 10 days, 11 – 28 days, 29 – 35 days and 1 – 35 days.

### **Statistical analyses**

Performance results of live weight (on days 1, 10, 28 and 35) were statistically evaluated using the ANOVA single-factor model (Duncan test) or nonparametric method (Kruskal-Wallis test).

## **Results**

Tab. No. **1 Hatchability**

**2 Performance results:**

**2a Body weight**

**2b Weight gain**

**2c Feed conversion per 1 kg of live weight**

**2d Feed conversion per 1 kg of weight gain**

**2e Feed consumption**

**3 Mortality**

**4 Statistical analysis of body weight at the age of 35 days**

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

**5 Statistical analyses of performance results**

**6 Performance results per pen:**

**6a Body weight**

**6b Weight gain**

**6c Feed conversion per 1 kg of live weight**

**6d Feed conversion per 1 kg of weight gain**

**6e Feed consumption**

**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	73.50	69.00	93.88	780	69.00	46.35
T2	2				780		46.35
T3	3				780		46.35
T4	4				780		46.35
T5	5				780		46.41
T6	6				780		46.35
T7	7				780		46.35
T8	8				780		46.28

**Body weight per phases**

**Tab. No. 2a**

Treatment	Tr. No.	Day 1		Day 10		Day 28		Day 35	
		Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
			g		g		g		g
T1	1	780	46.35	780	321.73	756	1810.16	753	2486.12
T2	2	780	46.35	780	317.76	755	1724.38	747	2384.87
T3	3	780	46.35	780	318.85	761	1809.20	750	2434.51
T4	4	780	46.35	780	319.29	760	1879.29	754	2507.63
T5	5	780	46.41	780	320.13	757	1889.97	746	2528.69
T6	6	780	46.35	780	319.94	744	1810.55	727	2461.03
T7	7	780	46.35	780	318.91	752	1738.16	741	2356.48
T8	8	780	46.28	780	320.45	750	1732.60	741	2377.45



Weight gain per phases

Tab. No. 2b

Treatment	Tr. No.	Day 1 - 10		Day 11 - 28		Day 29 - 35		Day 1 – 35	
		Weight gain per phase	Daily weight gain	Weight gain per phase	Daily weight gain	Weight gain per phase	Daily weight gain	Weight gain per phase	Daily weight gain
		g	g	g	g	g	g	g	g
T1	1	275.38	27.54	1488.43	82.69	675.96	84.50	2439.78	69.71
T2	2	271.41	27.14	1406.63	78.15	660.49	82.56	2338.53	66.82
T3	3	272.50	27.25	1490.35	82.80	625.31	78.16	2388.16	68.23
T4	4	272.95	27.29	1559.99	86.67	628.34	78.54	2461.28	70.32
T5	5	273.72	27.37	1569.85	87.21	638.71	79.84	2482.28	70.92
T6	6	273.59	27.36	1490.62	82.81	650.48	81.31	2414.69	68.99
T7	7	272.56	27.26	1419.25	78.85	618.31	77.29	2310.13	66.00
T8	8	274.17	27.42	1412.15	78.45	644.85	80.61	2331.17	66.60

**Feed conversion per 1 kg of live weight**

**Tab. No. 2c**

Treatment	Tr. No.	Feed conversion ratio		
		Day 10	Day 28	Day 35
		g/kg live weight	g/kg live weight	g/kg live weight
T1	1	1017.13	1331.06	1524.02
T2	2	1002.42	1377.10	1577.62
T3	3	1027.74	1329.66	1545.66
T4	4	990.97	1285.88	1518.09
T5	5	1015.62	1267.63	1477.34
T6	6	1016.43	1337.34	1560.34
T7	7	1016.68	1387.30	1606.49
T8	8	1031.21	1398.92	1589.99

**Feed conversion per 1 kg of weight gain**

**Tab. No. 2d**

Treatment	Tr. No.	Feed conversion ratio			
		Day 1-10	Day 11-28	Day 29-35	Day 1-35
		g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain
T1	1	1188.31	1149.18	2056.30	1553.42
T2	2	1173.59	1191.05	2122.77	1609.51
T3	3	1202.54	1148.17	2198.97	1576.10
T4	4	1159.23	1116.55	2233.16	1547.09
T5	5	1187.82	1094.71	2130.70	1505.50
T6	6	1188.61	1155.61	2227.58	1591.26
T7	7	1189.56	1198.96	2255.33	1639.52
T8	8	1205.28	1206.15	2128.47	1622.36

**Feed consumption per phases**

**Tab. No. 2e**

Treatment	Tr. No.	Feed consumption			
		Starter (day 1-10)	Grower (day 11-28)	Finisher (day 29-35)	Total (day 1-35)
		kg	kg	kg	kg
T1	1	255.25	1610.60	1044.95	2910.80
T2	2	248.45	1588.35	1041.50	2878.30
T3	3	255.60	1614.90	1022.75	2893.25
T4	4	246.80	1625.25	1055.75	2927.80
T5	5	253.60	1603.50	1001.90	2859.00
T6	6	253.65	1610.80	1037.90	2902.35
T7	7	252.90	1607.80	1021.90	2882.60
T8	8	257.75	1610.55	1008.65	2876.95

**Mortality**

**Tab. No. 3**

Treat.	Tr. No.	Mortality in the period									Mortality according causes														
		Day 1 - 10		Day 11 - 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	%															
T1	1	0	0	12	11286	3	4601	15	15887	1.92											15				12
T2	2	0	0	13	11119	8	11043	21	22162	2.69											21				12
T3	3	0	0	7	7826	11	16025	18	23851	2.31											18				12
T4	4	0	0	8	4852	6	10270	14	15122	1.79											14				12
T5	5	0	0	11	11655	11	14532	22	26187	2.82											21			1	12
T6	6	0	0	24	25284	17	23811	41	49095	5.26											41				12
T7	7	0	0	16	13129	11	14054	27	27183	3.46									1	25			1	12	
T8	8	0	0	18	15258	9	11645	27	26903	3.46											27				12

**Causes:**

- 1 - Viral diseases
- 2 - Bacterial diseases
- 3 - Fungal diseases
- 4 - Parasitary diseases
- 5 - Tumors

- 6 - Injuries
- 7 - Digestive tract diseases
- 8 - Respiratory tract diseases
- 9 - Reproduction tract diseases
- 10 - Locomotion apparatus diseases

- 11 - Sudden death syndrome
- 12 - Cannibalism
- 13 - Diverticulus inflammation
- 14 - Culling and other causes
- 15 - Sampling (excluded of calculation)

**Statistical analysis - Body weight at 35 days of age**

**Tab. No. 4**

Treatment	Tr. No.	Cocks			
		No. of birds	Average body weight	Standard deviation	Coefficient of variation
			g/birds	g/birds	%
T1	1	753	2486.12	370.38	14.90
T2	2	747	2384.87	394.03	16.52
T3	3	750	2434.51	344.72	14.16
T4	4	754	2507.63	307.04	12.24
T5	5	746	2528.69	315.37	12.47
T6	6	727	2461.03	336.07	13.66
T7	7	741	2356.48	386.01	16.38
T8	8	741	2377.45	371.31	15.62

## Statistical analyses of performance results

Performance results were statistically evaluated using the ANOVA single-factor model (Duncan 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. 5a

Treat.	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test							
					T1	T2	T3	T4	T5	T6	T7	T8
T1	1	6	46.35	0.40		o	o	o	o	o	o	o
T2	2	6	46.35	0.40	1.000000		o	o	o	o	o	o
T3	3	6	46.35	0.40	1.000000	1.000000		o	o	o	o	o
T4	4	6	46.35	0.40	1.000000	1.000000	1.000000		o	o	o	o
T5	5	6	46.41	0.47	0.792920	0.819155	0.823787	0.822760		o	o	o
T6	6	6	46.35	0.40	1.000000	1.000000	1.000000	1.000000	0.813310		o	o
T7	7	6	46.35	0.40	1.000000	1.000000	1.000000	1.000000	0.805854	1.000000		o
T8	8	6	46.28	0.47	0.823787	0.813310	0.792920	0.805854	0.657988	0.819155	0.822760	

**Body weight - day 10**

**Tab. No. 5b**

Treat.	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test								
					T1	T2	T3	T4	T5	T6	T7	T8	
T1	1	6	321.73	2.36		o	o	o	o	o	o	o	o
T2	2	6	317.76	3.22	0.088299		o	o	o	o	o	o	o
T3	3	6	318.85	3.25	0.211094	0.581234		o	o	o	o	o	o
T4	4	6	319.29	4.40	0.276741	0.481652	0.831456		o	o	o	o	o
T5	5	6	320.13	2.77	0.447022	0.297663	0.566981	0.692378		o	o	o	o
T6	6	6	319.94	3.80	0.411705	0.330444	0.618233	0.745335	0.922392		o	o	o
T7	7	6	318.91	3.57	0.215627	0.583891	0.974176	0.845454	0.577516	0.626325		o	o
T8	8	6	320.45	3.37	0.516702	0.243047	0.481483	0.597727	0.870960	0.807769	0.492081		o

**Body weight - day 28**

**Tab. No. 5c**

Treat.	Tr. No.	No. of birds	Average (g)	Standard deviation	Kruskal-Wallis test								
					T1	T2	T3	T4	T5	T6	T7	T8	
T1	1	756	1810.16	243.28		***	o	***	***	o	***	***	***
T2	2	755	1724.38	249.08	0.000000		***	***	***	***	o	o	o
T3	3	761	1809.20	247.52	1.000000	0.000000		***	***	o	***	***	***
T4	4	760	1879.29	230.35	0.000005	0.000000	0.000001		o	***	***	***	***
T5	5	757	1889.97	250.60	0.000000	0.000000	0.000000	1.000000		***	***	***	***
T6	6	744	1810.55	223.39	1.000000	0.000000	1.000000	0.000000	0.000000		***	***	***
T7	7	752	1738.16	239.50	0.000000	1.000000	0.000000	0.000000	0.000000	0.000001		o	o
T8	8	750	1732.60	237.54	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	1.000000		o



**Body weight - day 35**

**Tab. No. 5d**

Treat.	Tr. No.	No. of birds	Average (g)	Standard deviation	Kruskal-Wallis test							
					T1	T2	T3	T4	T5	T6	T7	T8
T1	1	753	2486.12	370.38		***	*	o	o	o	***	***
T2	2	747	2384.87	394.03	0.000000		o	***	***	o	o	o
T3	3	750	2434.51	344.72	0.033905	0.377915		***	***	o	**	*
T4	4	754	2507.63	307.04	1.000000	0.000000	0.000320		o	***	***	***
T5	5	746	2528.69	315.37	0.820784	0.000000	0.000002	1.000000		***	***	***
T6	6	727	2461.03	336.07	0.175735	0.061302	1.000000	0.002533	0.000022		***	**
T7	7	741	2356.48	386.01	0.000000	1.000000	0.001563	0.000000	0.000000	0.000131		o
T8	8	741	2377.45	371.31	0.000000	1.000000	0.040456	0.000000	0.000000	0.005269	1.000000	

**Performance results per replicate**

**Body weight per phases**

**Tab. No. 6a (page 1)**

Treatment	Tr. No.	Pen	Day 1		Day 10		Day 28		Day 35	
			Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
				g		g		g		g
T1	1	1	130	46.92	130	325.00	125	1704.00	125	2378.32
		9	130	46.54	130	320.77	128	1858.44	128	2504.92
		17	130	46.15	130	321.54	127	1771.18	127	2448.11
		38	130	45.77	130	320.77	125	1796.24	123	2493.25
		46	130	46.54	130	318.46	125	1898.56	125	2555.04
		54	130	46.15	130	323.85	126	1831.83	125	2537.36
T2	2	2	130	46.92	130	315.00	126	1731.43	123	2436.18
		10	130	46.54	130	321.54	127	1685.35	125	2404.40
		18	130	46.15	130	315.00	125	1620.72	123	2257.56
		37	130	45.77	130	319.62	127	1802.60	127	2499.69
		45	130	46.54	130	314.62	126	1831.83	125	2396.72
		53	130	46.15	130	320.77	124	1672.42	124	2311.05
T3	3	3	130	46.92	130	320.77	126	1677.30	125	2274.08
		11	130	46.54	130	323.85	127	1784.88	126	2361.98
		19	130	46.15	130	318.85	127	1811.50	125	2563.76
		36	130	45.77	130	314.23	126	1796.35	121	2443.88
		44	130	46.54	130	317.31	127	1937.48	126	2546.51
		52	130	46.15	130	318.08	128	1846.25	127	2417.09
T4	4	4	130	46.92	130	323.46	124	1893.79	124	2512.10
		12	130	46.54	130	315.00	128	1869.53	126	2453.65
		20	130	46.15	130	313.08	127	1836.22	127	2441.65
		35	130	45.77	130	319.23	127	1809.61	125	2500.40
		43	130	46.54	130	321.54	127	2003.07	126	2587.06
		51	130	46.15	130	323.46	127	1863.94	126	2551.43

**Body weight per phases**

**Tab. No. 6a (page 2)**

Treatment	Tr. No.	Pen	Day 1		Day 10		Day 28		Day 35	
			Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
				g		g		g		g
T5	5	5	130	46.92	130	320.00	123	1908.62	121	2542.98
		13	130	46.54	130	320.38	124	1842.66	120	2448.92
		21	130	46.15	130	320.38	127	1854.80	126	2494.05
		34	130	45.77	130	321.92	127	1787.09	124	2428.87
		42	130	46.92	130	323.08	128	1915.78	127	2561.34
		50	130	46.15	130	315.00	128	2029.06	128	2688.36
T6	6	6	130	46.92	130	314.62	124	1803.95	123	2528.21
		14	130	46.54	130	320.77	123	1865.28	120	2464.67
		22	130	46.15	130	323.08	126	1797.54	124	2367.66
		33	130	45.77	130	320.77	124	1739.68	122	2411.15
		41	130	46.54	130	324.23	126	1769.13	122	2420.16
		49	130	46.15	130	316.15	121	1890.99	116	2581.29
T7	7	7	130	46.92	130	321.15	126	1690.40	124	2268.15
		15	130	46.54	130	314.62	128	1779.69	125	2391.04
		23	130	46.15	130	318.08	125	1676.00	123	2290.89
		32	130	45.77	130	323.08	127	1693.46	125	2307.36
		40	130	46.54	130	315.00	124	1757.66	122	2421.72
		48	130	46.15	130	321.54	122	1834.34	122	2462.05
T8	8	8	130	46.92	130	323.46	125	1717.04	123	2415.20
		16	130	46.54	130	320.00	127	1731.50	125	2327.28
		24	130	46.15	130	323.85	123	1732.28	120	2310.58
		31	130	45.77	130	318.46	125	1673.44	125	2314.88
		39	130	46.54	130	321.92	126	1737.46	124	2441.53
		47	130	45.77	130	315.00	124	1804.44	124	2454.27

Weight gain per phases (WG) and daily weight gain

Tab. No. 6b (page 1)

Treatment	Tr. No.	Box	Day 1 - 10		Day 11 - 28		Day 29 - 35		Day 1 - 35	
			WG	DWG	WG	DWG	WG	DWG	WG	DWG
			g	g	g	g	g	g	g	g
T1	1	1	278.08	27.81	1379.00	76.61	674.32	84.29	2331.40	66.61
		9	274.23	27.42	1537.67	85.43	646.48	80.81	2458.38	70.24
		17	275.38	27.54	1449.64	80.54	676.93	84.62	2401.96	68.63
		38	275.00	27.50	1475.47	81.97	697.01	87.13	2447.48	69.93
		46	271.92	27.19	1580.10	87.78	656.48	82.06	2508.50	71.67
		54	277.69	27.77	1507.98	83.78	705.53	88.19	2491.21	71.18
T2	2	2	268.08	26.81	1416.43	78.69	704.75	88.09	2389.26	68.26
		10	275.00	27.50	1363.82	75.77	719.05	89.88	2357.86	67.37
		18	268.85	26.88	1305.72	72.54	636.84	79.61	2211.41	63.18
		37	273.85	27.38	1482.98	82.39	697.09	87.14	2453.92	70.11
		45	268.08	26.81	1517.21	84.29	564.89	70.61	2350.18	67.15
		53	274.62	27.46	1351.65	75.09	638.63	79.83	2264.89	64.71
T3	3	3	273.85	27.38	1356.53	75.36	596.78	74.60	2227.16	63.63
		11	277.31	27.73	1461.04	81.17	577.10	72.14	2315.45	66.16
		19	272.69	27.27	1492.65	82.92	752.26	94.03	2517.61	71.93
		36	268.46	26.85	1482.12	82.34	647.54	80.94	2398.12	68.52
		44	270.77	27.08	1620.17	90.01	609.03	76.13	2499.97	71.43
		52	271.92	27.19	1528.17	84.90	570.84	71.35	2370.93	67.74
T4	4	4	276.54	27.65	1570.33	87.24	618.31	77.29	2465.17	70.43
		12	268.46	26.85	1554.53	86.36	584.12	73.01	2407.11	68.77
		20	266.92	26.69	1523.14	84.62	605.43	75.68	2395.50	68.44
		35	273.46	27.35	1490.38	82.80	690.79	86.35	2454.63	70.13
		43	275.00	27.50	1681.53	93.42	583.99	73.00	2540.53	72.59
		51	277.31	27.73	1540.48	85.58	687.49	85.94	2505.27	71.58

Weight gain per phases (WG) and daily weight gain

Tab. No. 6b (page 2)

Treatment	Tr. No.	Box	Day 1 - 10		Day 11 - 28		Day 29 - 35		Day 1 - 35	
			WG	DWG	WG	DWG	WG	DWG	WG	DWG
			g	g	g	g	g	g	g	g
T5	5	5	273.08	27.31	1588.62	88.26	634.36	79.29	2496.05	71.32
		13	273.85	27.38	1522.28	84.57	606.26	75.78	2402.38	68.64
		21	274.23	27.42	1534.42	85.25	639.24	79.91	2447.89	69.94
		34	276.15	27.62	1465.16	81.40	641.78	80.22	2383.10	68.09
		42	276.15	27.62	1592.70	88.48	645.56	80.69	2514.42	71.84
		50	268.85	26.88	1714.06	95.23	659.30	82.41	2642.21	75.49
T6	6	6	267.69	26.77	1489.34	82.74	724.26	90.53	2481.29	70.89
		14	274.23	27.42	1544.52	85.81	599.38	74.92	2418.13	69.09
		22	276.92	27.69	1474.46	81.91	570.12	71.27	2321.51	66.33
		33	275.00	27.50	1418.91	78.83	671.47	83.93	2365.38	67.58
		41	277.69	27.77	1444.90	80.27	651.04	81.38	2373.63	67.82
		49	270.00	27.00	1574.84	87.49	690.30	86.29	2535.14	72.43
T7	7	7	274.23	27.42	1369.24	76.07	577.75	72.22	2221.22	63.46
		15	268.08	26.81	1465.07	81.39	611.35	76.42	2344.50	66.99
		23	271.92	27.19	1357.92	75.44	614.89	76.86	2244.74	64.14
		32	277.31	27.73	1370.39	76.13	613.90	76.74	2261.59	64.62
		40	268.46	26.85	1442.66	80.15	664.06	83.01	2375.18	67.86
		48	275.38	27.54	1512.81	84.04	627.70	78.46	2415.90	69.03
T8	8	8	276.54	27.65	1393.58	77.42	698.16	87.27	2368.28	67.67
		16	273.46	27.35	1411.50	78.42	595.78	74.47	2280.74	65.16
		24	277.69	27.77	1408.43	78.25	578.31	72.29	2264.43	64.70
		31	272.69	27.27	1354.98	75.28	641.44	80.18	2269.11	64.83
		39	275.38	27.54	1415.54	78.64	704.07	88.01	2394.99	68.43
		47	269.23	26.92	1489.44	82.75	649.84	81.23	2408.50	68.81

Feed conversion ratio (Feed consum. per 1 kg of live weight)

Tab. No. 6c (page 1)

Treatment	Tr. No.	Box	Feed conversion ratio		
			Day 10	Day 28	Day 35
			g/kg live weight	g/kg live weight	g/kg live weight
T1	1	1	998.82	1420.46	1599.29
		9	1040.77	1330.53	1494.67
		17	1022.73	1354.10	1547.21
		38	1059.95	1356.06	1531.14
		46	971.01	1223.67	1472.22
		54	1009.50	1312.62	1505.47
T2	2	2	1042.74	1378.18	1577.81
		10	1033.49	1341.56	1529.22
		18	1056.17	1427.38	1647.71
		37	957.88	1373.74	1508.00
		45	992.67	1362.54	1624.00
		53	932.85	1382.98	1587.60
T3	3	3	990.41	1379.13	1614.14
		11	1019.00	1278.19	1537.49
		19	989.14	1363.81	1486.70
		36	1046.51	1371.25	1598.30
		44	1075.15	1282.13	1500.97
		52	1047.16	1311.09	1546.79
T4	4	4	972.65	1272.18	1523.36
		12	1035.41	1285.49	1533.66
		20	1049.14	1308.52	1541.83
		35	985.54	1337.67	1534.57
		43	933.01	1215.40	1471.70
		51	972.65	1303.15	1506.26

**Feed conversion per 1 kg of live weight**

**Tab. No. 6c (page 2)**

Treatment	Tr. No.	Box	Feed conversion ratio		
			Day 10	Day 28	Day 35
			g/kg live weight	g/kg live weight	g/kg live weight
T5	5	5	1021.63	1240.89	1477.12
		13	1044.42	1312.90	1484.42
		21	1026.41	1311.91	1500.19
		34	974.91	1331.14	1563.72
		42	1007.14	1253.26	1448.17
		50	1019.54	1169.16	1401.42
T6	6	6	926.65	1304.08	1490.10
		14	1045.56	1310.03	1563.13
		22	1019.05	1350.96	1617.60
		33	1020.38	1400.07	1596.54
		41	998.81	1370.99	1578.54
		49	1087.59	1293.16	1522.21
T7	7	7	1077.84	1451.54	1637.97
		15	1009.78	1307.53	1559.83
		23	1003.63	1463.29	1675.95
		32	990.48	1418.82	1648.49
		40	996.34	1381.92	1582.44
		48	1021.53	1311.66	1542.17
T8	8	8	1027.35	1399.59	1551.12
		16	1062.50	1388.07	1608.05
		24	1027.32	1410.05	1647.84
		31	1014.49	1467.17	1646.38
		39	1013.14	1370.96	1536.41
		47	1042.74	1361.88	1557.36

**Feed conversion per 1 kg of weight gain**

**Tab. No. 6d (page 1)**

Treatment	Tr. No.	Box	Feed conversion ratio			
			Day 1-10	Day 11-28	Day 29-35	Day 1-35
			g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain
T1	1	1	1167.36	1228.17	2064.30	1632.09
		9	1217.39	1151.15	1974.02	1523.07
		17	1194.13	1167.91	2062.35	1577.22
		38	1236.36	1164.93	2002.19	1560.44
		46	1137.20	1058.80	2209.97	1500.09
		54	1177.29	1133.51	2029.34	1533.85
T2	2	2	1225.25	1187.05	2095.98	1609.57
		10	1208.39	1143.47	1991.41	1560.04
		18	1237.48	1219.80	2237.25	1683.03
		37	1117.98	1203.76	1862.65	1536.36
		45	1164.99	1191.03	2498.23	1656.63
		53	1089.64	1201.80	2141.68	1620.72
T3	3	3	1160.11	1188.25	2298.39	1648.78
		11	1190.01	1093.73	2370.68	1568.64
		19	1156.56	1189.47	1795.38	1514.37
		36	1224.93	1187.26	2284.96	1629.70
		44	1259.94	1105.83	2222.21	1529.22
		52	1224.89	1130.89	2331.86	1577.11
T4	4	4	1137.69	1102.86	2313.81	1553.16
		12	1214.90	1111.23	2350.67	1563.51
		20	1230.55	1128.57	2261.02	1571.87
		35	1150.49	1163.14	2076.04	1563.72
		43	1090.91	1065.02	2369.33	1498.93
		51	1134.54	1133.91	2074.40	1534.36



**Feed conversion per 1 kg of weight gain**

**Tab. No. 6d (page 2)**

Treatment	Tr. No.	Box	Feed conversion ratio			
			Day 1-10	Day 11-28	Day 29-35	Day 1-35
			g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain
T5	5	5	1197.18	1066.70	2231.60	1505.82
		13	1221.91	1129.31	2062.74	1514.27
		21	1199.16	1134.32	2067.92	1528.84
		34	1136.49	1155.05	2260.03	1594.46
		42	1178.27	1083.61	2038.19	1475.33
		50	1194.56	1010.97	2127.03	1426.00
T6	6	6	1089.08	1141.03	1972.44	1518.90
		14	1223.00	1126.60	2421.74	1594.50
		22	1188.89	1167.23	2515.63	1650.42
		33	1190.21	1209.42	2136.65	1628.41
		41	1166.20	1186.83	2181.80	1610.28
		49	1273.50	1107.57	2231.76	1551.46
T7	7	7	1262.27	1245.04	2206.95	1673.29
		15	1185.08	1129.25	2332.69	1591.19
		23	1173.97	1271.09	2296.79	1711.42
		32	1153.95	1228.72	2312.31	1682.52
		40	1169.05	1201.16	2146.21	1614.39
		48	1192.74	1128.23	2242.10	1572.70
T8	8	8	1201.67	1205.25	1947.36	1582.57
		16	1243.32	1191.17	2269.22	1641.28
		24	1198.06	1213.46	2416.98	1682.94
		31	1184.77	1271.89	2126.47	1680.27
		39	1184.36	1181.43	1967.97	1567.08
		47	1220.00	1177.44	2118.39	1587.65

**Feed consumption per phases**

**Tab. No. 6e (page 1)**

Treatment	Tr. No.	Box	Feed consumption			
			Starter (D 1-10)	Grower (D 11-28)	Finisher (D 29-35)	Total (D 1-35)
			kg	kg	kg	kg
T1	1	1	42.20	269.15	174.00	485.35
		9	43.40	278.15	163.35	484.90
		17	42.75	267.80	177.30	487.85
		38	44.20	269.05	171.90	485.15
		46	40.20	257.85	181.35	479.40
		54	42.50	268.60	177.05	488.15
T2	2	2	42.70	264.85	180.20	487.75
		10	43.20	249.05	176.15	468.40
		18	43.25	253.80	174.00	471.05
		37	39.80	281.45	164.90	486.15
		45	40.60	281.55	176.65	498.80
		53	38.90	257.65	169.60	466.15
T3	3	3	41.30	256.75	170.60	468.65
		11	42.90	254.05	171.40	468.35
		19	41.00	279.35	167.90	488.25
		36	42.75	275.50	175.35	493.60
		44	44.35	277.85	169.45	491.65
		52	43.30	271.40	168.05	482.75
T4	4	4	40.90	266.05	177.40	484.35
		12	42.40	270.05	173.55	486.00
		20	42.70	267.45	173.85	484.00
		35	40.90	272.20	176.70	489.80
		43	39.00	275.85	175.25	490.10
		51	40.90	273.65	179.00	493.55

Feed consumption per phases

Tab. No. 6e (page 2)

Treatment	Tr. No.	Box	Feed consumption			
			Starter (D 1-10)	Grower (D 11-28)	Finisher (D 29-35)	Total (D 1-35)
			kg	kg	kg	kg
T5	5	5	42.50	259.95	170.30	472.75
		13	43.50	267.25	144.80	455.55
		21	42.75	272.70	164.90	480.35
		34	40.80	267.25	174.70	482.75
		42	42.30	269.85	167.70	479.85
		50	41.75	266.50	179.50	487.75
T6	6	6	37.90	264.85	176.60	479.35
		14	43.60	267.45	169.50	480.55
		22	42.80	271.55	173.80	488.15
		33	42.55	269.55	173.25	485.35
		41	42.10	270.95	171.40	484.45
		49	44.70	266.45	173.35	484.50
T7	7	7	45.00	270.95	157.40	473.35
		15	41.30	261.25	176.20	478.75
		23	41.50	274.05	169.65	485.20
		32	41.60	268.50	174.85	484.95
		40	40.80	270.75	172.10	483.65
		48	42.70	262.30	171.70	476.70
T8	8	8	43.20	267.55	165.35	476.10
		16	44.20	267.05	169.30	480.55
		24	43.25	266.60	164.20	474.05
		31	42.00	273.15	170.50	485.65
		39	42.40	263.95	168.60	474.95
		47	42.70	272.25	170.70	485.65