



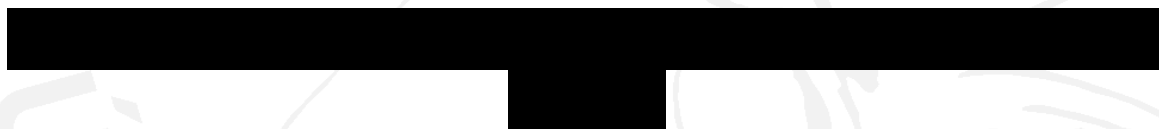
MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE ÚSTRAŠICE

státní podnik

390 02 Tábor 2

Česká republika

BROILER FEEDING TEST No. 1/2021



20 January – 23 February 2021

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Březen 2021**

Material and methods

Test term

Beginning of the test: 20 January 2021 (transfer to the chicken house)
End of the test: 23 February 2021

Birds

In total there were 1680 day old chicks (females) of [REDACTED]. Day-old chicks were randomly distributed into 2 dietary treatments with 24 replicates per treatment and 35 chicken per replicate.

Origin 1-day old chicks:

breeder company – [REDACTED]
[REDACTED]
age of the breeding flock - 36 weeks

Experimental treatments:

Tr. No.	Tr.	Description
1	T1	[REDACTED]
2	T2	[REDACTED]

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 [REDACTED]. 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: 13 broilers per square meter

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

Veterinary precautions

The chicken house was disinfected with [REDACTED] before the chick placement.

On days 1 and 13 the chicken were vaccinated with [REDACTED]. On the fourth day old chickens was applied the [REDACTED].

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	36.98	32.71	26.64
Wheat	30.00	35.00	42.40
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 bicarbonate	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
[REDACTED]	0.50	-	-
[REDACTED]	-	0.50	-
[REDACTED]	-	-	0.50
Nutrient content			
Crude protein (g/kg)	230.00	215.00	195.00
Fat (g/kg)	64.42	74.24	74.36
Lysine (g/kg)	14.01	12.97	11.64
Methionine (g/kg)	6.25	5.68	5.17
Ca (g/kg)	9.60	8.83	7.90
P (g/kg)	4.40	4.24	4.33
Vitamin A (IU/kg)	13500	10000	10000
Vitamin D3 (IU/kg)	5000	5000	5000
ME (MJ/kg)	12.22	12.51	12.61

Parameters recorded and methods applied

Live weight

Live weight was measured on day 1 (all the birds in each pen were weighed altogether). On days 10 and 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.

Carcass analysis

The carcass analysis was done in 2 birds per each pen on day 35. Breast muscles was weighed without skin and thigh muscles with skin.

Statistical analyses

Performance results of live weight, weight gain, feed conversion ration 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 per 1 kg of live weight
	2d Feed conversion per 1 kg of weight gain
	2e Feed consumption
	3 Carcass analysis
	4 Mortality
	5 Foot pad lesion scoring
	6 Litter quality – lab analysis
	7 Litter quality – fecal scoring
	8 Statistical analysis of body weight at the age of 35 days (average body weight, standard deviation, coefficient of variation)
	9-12 Statistical analyses of performance results
	13 Performance results per pen:
	13a Body weight
	13b Weight gain
	13c Feed conversion per 1 kg of live weight
	13d Feed conversion per 1 kg of weight gain
	13e Feed consumption
	14 Foot pad lesion scoring – per pen
	15 Litter quality – lab analysis – per pen
	16 Litter quality – fecal scoring – per pen

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	93.24	88.26	94.66	840	65.00	39.57
T2	2	93.22	88.26	94.68			39.68

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	840	39.57	837	271.81	828	1424.68	826	2001.50
T2	2	840	39.68	839	275.55	833	1422.65	831	2019.82

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	232.24	23.22	1152.87	64.05	576.83	82.40	1961.93	56.06
T2	2	235.87	23.59	1147.10	63.73	597.17	85.31	1980.14	56.58

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	1010.78	1442.96	1667.23
T2	2	970.52	1439.76	1645.31

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	1183.21	1544.96	2228.18	1701.26
T2	2	1133.99	1553.00	2137.20	1678.49

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	230.55	1480.21	1060.10	2770.86
T2	2	224.40	1487.32	1061.95	2773.67

Results of carcass analysis

Tab. No. 3

Treatment	Tr. No.	Sex	Weight				Ratio of abd. fat to live weight	Breast muscles without skin			Thigh muscles with skin			Total muscles			Carcass	
			Total	Body	Gibl.	Abd. fat		Weight	Percentage		Weight	Percentage		Weight	Percentage		Value	Yield
									Total weight	Body carcass		Total weight	Body carcass		Total weight	Body carcass		
g	g	g	g	%	g	%	%	g	%	%	g	%	%	g	%	%	%	%
T1	1	♀	2102	1469	133	20	0.95	493	23.44	33.55	436	20.73	29.68	929	44.17	63.23	69.86	76.17
T2	2	♀	2112	1474	133	20	0.93	491	23.24	33.29	446	21.10	30.23	936	44.34	63.52	69.80	76.11

Mortality

Tab. No. 4

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
		birds	g	birds	g	birds	g	birds	g	%														
T1	1	4	590	8	5960	2	2160	14	8710	1.67									11	2		1		
T2	2	1	30	6	3822	2	3485	9	7337	1.07									5	3		1		

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

Foot pad lesions**Tab. No. 5**

Treatment	Tr. No.	Evaluation			
		day 28		day 35	
		right foot	left foot	right foot	left foot
T 1	1	0.84	0.86	1.01	1.00
T 2	2	0.81	0.87	1.04	1.05

Litter quality - lab analysis (day 35)**Tab. No. 6**

Treatment	Tr. No.	humidity % (variance $\pm 3\%$)
T 1	1	29.55
T 2	2	28.14

Litter quality-fecal scoring**Tab. No. 7**

Treatment	Tr. No.	Evaluation		
		day 10	day 28	day 35
T 1	1	1.42	2.38	2.46
T 2	2	1.75	2.50	2.46

Statistical analysis - Body weight at 35 days of age**Tab. No. 8**

Treatment	Tr. No.	Hens			
		No. of birds	Average body weight	Standard deviation	Coefficient of variation
			g/birds	g/birds	%
T1	1	826	2001.50	210.07	10.50
T2	2	831	2019.82	203.80	10.09

Statistical analyses of performance results

Performance results were statistically evaluated using the ANOVA single-factor model (Duncan test, Scheffe 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. 9a

Treatment	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	39.57	0.28		
T2	2	24	39.68	0.35	0.247779	o

Body weight - day 10

Tab. No. 9b

Treatment	Tr. No.	No. of birds	Average (g)	Standard deviation	Scheffe test	
					T1	T2
T1	1	837	271.81	36.51		
T2	2	839	275.55	40.99	0.048549	*

Body weight - day 28**Tab. No. 9c**

Treatment	Tr. No.	No. of birds	Average (g)	Standard deviation	Scheffe test	
					T1	T2
T1	1	828	1424.68	155.96	0.793045	o
T2	2	833	1422.65	158.83		

Body weight - day 35**Tab. No. 9d**

Treatment	Tr. No.	No. of birds	Average (g)	Standard deviation	Scheffe test	
					T1	T2
T1	1	826	2001.50	210.07	0.071817	o
T2	2	831	2019.82	203.80		

Daily weight gain (1-10 day)**Tab. No. 10a**

Treatment	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	23.22	1.42	0.337897	o
T2	2	24	23.59	1.17		

Daily weight gain (11-28 day)**Tab. No. 10b**

Treatment	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	64.05	2.09	0.670924	o
T2	2	24	63.73	3.02		

Daily weight gain (29-35 day)**Tab. No. 10c**

Treatment	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	82.48	7.96	0.252287	o
T2	2	24	85.33	9.00		

Daily weight gain (1-35 day)**Tab. No. 10d**

Treatment	Tr. No.	No. of box	Average (g)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	56.07	1.95	0.369368	o
T2	2	24	56.58	1.92		

FCR - day 10**Tab. No. 11a**

Treatment	Tr. No.	No. of box	Average (g/kg LW)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	1012.28	57.90	0.007495	* *
T2	2	24	970.50	44.44		

FCR - day 28**Tab. No. 11b**

Treatment	Tr. No.	No. of box	Average (g/kg LW)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	1443.74	65.81	0.925010	o
T2	2	24	1441.85	72.23		

FCR - day 35**Tab. No. 11c**

Treatment	Tr. No.	No. of box	Average (g/kg LW)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	1668.21	63.65	0.281195	o
T2	2	24	1646.41	74.41		

FCR - day 1-10**Tab. No. 12a**

Treatment	Tr. No.	No. of box	Average (g/kg weight gain)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	1185.89	73.89	0.008389	* *
T2	2	24	1134.91	52.20		

FCR - day 11-28**Tab. No. 12b**

Treatment	Tr. No.	No. of box	Average (g/kg weight gain)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	1546.47	85.82	0.696875	o
T2	2	24	1556.49	91.02		

FCR - day 29-35**Tab. No. 12c**

Treatment	Tr. No.	No. of box	Average (g/kg weight gain)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	2243.62	206.20	0.177279	o
T2	2	24	2155.87	236.34		

FCR - day 1-35**Tab. No. 12d**

Treatment	Tr. No.	No. of box	Average (g/kg weight gain)	Standard deviation	Duncan test	
					T1	T2
T1	1	24	1702.30	65.45	0.278817	o
T2	2	24	1679.78	76.47		

Performance results per replicate

Body weight per phases

Tab. No. 13a (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	35	39.43	35	257.43	35	1394.00	35	1990.71
		3	35	39.71	35	254.60	35	1408.06	35	1975.34
		5	35	40.00	35	278.54	35	1490.46	35	2090.20
		7	35	39.71	35	246.69	35	1407.06	35	1984.89
		9	35	39.43	35	260.11	35	1457.71	35	1945.57
		11	35	39.43	35	261.49	35	1442.34	35	1969.66
		13	35	39.71	35	244.71	35	1363.00	35	1940.34
		15	35	39.71	34	278.82	33	1423.21	33	2065.03
		17	35	39.43	35	281.17	34	1495.35	32	2118.09
		19	35	39.43	34	270.03	34	1426.85	34	2057.12
		21	35	40.00	35	273.26	35	1430.63	35	2104.11
		23	35	39.43	35	265.89	34	1434.06	34	1941.65
		26	35	40.29	35	282.54	34	1466.12	34	2060.06
		28	35	39.43	35	274.09	34	1406.91	34	1912.88
		30	35	39.43	35	282.23	35	1372.06	35	1936.26
		32	35	39.14	35	272.40	35	1441.94	35	2029.69
		34	35	39.43	35	258.60	35	1402.71	35	1862.97
		36	35	39.71	35	272.63	35	1328.46	35	1933.97
		38	35	39.14	35	284.34	34	1440.85	34	2065.24
		40	35	39.43	34	276.76	34	1421.68	34	2010.38
42	35	40.00	35	296.60	35	1419.80	35	2062.80		
44	35	39.43	35	290.83	35	1473.06	35	1955.11		
46	35	39.43	35	297.40	34	1484.12	34	2070.29		
48	35	39.43	35	262.49	33	1363.36	33	1968.55		

Body weight per phases

Tab. No. 13a (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
T2	2	2	35	39.71	35	267.80	34	1382.21	34	1971.88
		4	35	39.14	35	251.51	35	1412.60	35	1977.60
		6	35	40.00	35	274.60	35	1449.34	35	2112.77
		8	35	40.00	35	261.43	35	1418.34	35	2006.51
		10	35	40.00	35	276.86	34	1445.79	34	2077.09
		12	35	40.29	35	253.17	35	1424.14	35	2033.86
		14	35	39.14	35	280.63	34	1422.65	33	2038.67
		16	35	39.71	35	279.91	34	1432.03	34	2100.71
		18	35	39.14	35	270.69	35	1308.11	35	2042.89
		20	35	39.71	34	281.59	34	1400.62	34	2041.00
		22	35	39.71	35	278.71	34	1428.26	34	2079.26
		24	35	39.14	35	284.03	35	1513.31	35	2137.26
		25	35	40.00	35	303.20	35	1436.31	35	2027.97
		27	35	39.43	35	272.03	35	1443.49	35	1919.63
		29	35	39.43	35	268.91	34	1490.00	34	1926.38
		31	35	40.00	35	273.77	35	1380.29	35	1884.71
		33	35	39.71	35	273.71	35	1397.20	35	1970.00
		35	35	39.71	35	274.17	35	1308.97	35	1948.43
		37	35	39.71	35	296.34	35	1488.69	35	2058.23
		39	35	39.43	35	267.00	35	1475.63	34	2040.97
41	35	40.29	35	272.11	35	1474.00	35	2051.17		
43	35	40.00	35	287.03	35	1314.00	35	1911.66		
45	35	39.43	35	277.63	35	1440.20	35	2065.29		
47	35	39.43	35	286.51	35	1458.69	35	2055.69		

Weight gain per phases (WG) and daily weight gain

Tab. No. 13b (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	218.00	21.80	1136.57	63.14	596.71	85.24	1951.29	55.75
		3	214.89	21.49	1153.46	64.08	567.29	81.04	1935.63	55.30
		5	238.54	23.85	1211.91	67.33	599.74	85.68	2050.20	58.58
		7	206.97	20.70	1160.37	64.47	577.83	82.55	1945.17	55.58
		9	220.69	22.07	1197.60	66.53	487.86	69.69	1906.14	54.46
		11	222.06	22.21	1180.86	65.60	527.31	75.33	1930.23	55.15
		13	205.00	20.50	1118.29	62.13	577.34	82.48	1900.63	54.30
		15	239.11	23.91	1144.39	63.58	641.82	91.69	2025.32	57.87
		17	241.74	24.17	1214.18	67.45	622.74	88.96	2078.67	59.39
		19	230.60	23.06	1156.82	64.27	630.26	90.04	2017.69	57.65
		21	233.26	23.33	1157.37	64.30	673.49	96.21	2064.11	58.97
		23	226.46	22.65	1168.17	64.90	507.59	72.51	1902.22	54.35
		26	242.26	24.23	1183.57	65.75	593.94	84.85	2019.77	57.71
		28	234.66	23.47	1132.83	62.93	505.97	72.28	1873.45	53.53
		30	242.80	24.28	1089.83	60.55	564.20	80.60	1896.83	54.20
		32	233.26	23.33	1169.54	64.97	587.74	83.96	1990.54	56.87
		34	219.17	21.92	1144.11	63.56	460.26	65.75	1823.54	52.10
		36	232.91	23.29	1055.83	58.66	605.51	86.50	1894.26	54.12
		38	245.20	24.52	1156.51	64.25	624.38	89.20	2026.09	57.89
		40	237.34	23.73	1144.91	63.61	588.71	84.10	1970.95	56.31
42	256.60	25.66	1123.20	62.40	643.00	91.86	2022.80	57.79		
44	251.40	25.14	1182.23	65.68	482.06	68.87	1915.69	54.73		
46	257.97	25.80	1186.72	65.93	586.18	83.74	2030.87	58.02		
48	223.06	22.31	1100.88	61.16	605.18	86.45	1929.12	55.12		

Weight gain per phases (WG) and daily weight gain

Tab. No. 13b (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
T2	2	2	228.09	22.81	1114.41	61.91	589.68	84.24	1932.17	55.20
		4	212.37	21.24	1161.09	64.50	565.00	80.71	1938.46	55.38
		6	234.60	23.46	1174.74	65.26	663.43	94.78	2072.77	59.22
		8	221.43	22.14	1156.91	64.27	588.17	84.02	1966.51	56.19
		10	236.86	23.69	1168.94	64.94	631.29	90.18	2037.09	58.20
		12	212.89	21.29	1170.97	65.05	609.71	87.10	1993.57	56.96
		14	241.49	24.15	1142.02	63.45	616.02	88.00	1999.52	57.13
		16	240.20	24.02	1152.12	64.01	668.68	95.53	2060.99	58.89
		18	231.54	23.15	1037.43	57.63	734.77	104.97	2003.74	57.25
		20	241.87	24.19	1119.03	62.17	640.38	91.48	2001.29	57.18
		22	239.00	23.90	1149.55	63.86	651.00	93.00	2039.55	58.27
		24	244.89	24.49	1229.29	68.29	623.94	89.13	2098.11	59.95
		25	263.20	26.32	1133.11	62.95	591.66	84.52	1987.97	56.80
		27	232.60	23.26	1171.46	65.08	476.14	68.02	1880.20	53.72
		29	229.49	22.95	1221.09	67.84	436.38	62.34	1886.95	53.91
		31	233.77	23.38	1106.51	61.47	504.43	72.06	1844.71	52.71
		33	234.00	23.40	1123.49	62.42	572.80	81.83	1930.29	55.15
		35	234.46	23.45	1034.80	57.49	639.46	91.35	1908.71	54.53
		37	256.63	25.66	1192.34	66.24	569.54	81.36	2018.51	57.67
		39	227.57	22.76	1208.63	67.15	565.34	80.76	2001.54	57.19
41	231.83	23.18	1201.89	66.77	577.17	82.45	2010.89	57.45		
43	247.03	24.70	1026.97	57.05	597.66	85.38	1871.66	53.48		
45	238.20	23.82	1162.57	64.59	625.09	89.30	2025.86	57.88		
47	247.09	24.71	1172.17	65.12	597.00	85.29	2016.26	57.61		

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

Tab. No.13c (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	1009.99	1438.61	1619.52
		3	1071.71	1362.36	1604.64
		5	1041.13	1372.35	1582.08
		7	1001.85	1370.44	1619.24
		9	1081.94	1393.38	1671.05
		11	1185.53	1421.10	1676.72
		13	1050.79	1458.76	1692.48
		15	982.14	1393.80	1601.40
		17	932.70	1339.25	1556.89
		19	984.91	1537.53	1728.77
		21	1014.22	1499.64	1716.23
		23	1063.83	1363.77	1703.88
		26	950.55	1327.66	1556.31
		28	959.03	1445.17	1764.70
		30	976.92	1480.36	1758.77
		32	996.43	1462.11	1631.36
		34	1060.66	1528.47	1801.12
		36	1068.96	1540.78	1695.11
		38	989.75	1528.14	1706.29
		40	1003.10	1469.68	1650.42
42	982.56	1522.15	1672.35		
44	923.47	1447.72	1689.93		
46	999.14	1468.27	1660.67		
48	963.32	1478.20	1677.08		

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

Tab. No.13c (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
T2	2	2	949.54	1573.71	1777.06
		4	1011.02	1425.13	1610.32
		6	1019.66	1482.25	1630.09
		8	967.21	1418.36	1665.43
		10	939.11	1395.54	1546.05
		12	919.76	1390.51	1565.78
		14	926.49	1422.61	1589.83
		16	990.10	1414.69	1597.68
		18	976.36	1546.61	1666.55
		20	895.46	1426.05	1635.75
		22	1025.12	1455.92	1655.47
		24	990.85	1423.74	1703.25
		25	961.18	1421.50	1672.47
		27	961.03	1378.81	1667.14
		29	934.98	1315.88	1647.37
		31	1033.19	1480.23	1721.52
		33	1049.06	1532.86	1800.00
		35	995.21	1551.05	1690.15
		37	891.82	1436.74	1679.81
		39	925.63	1320.70	1536.49
41	934.48	1366.74	1547.69		
43	1010.35	1561.43	1761.52		
45	962.23	1485.11	1613.20		
47	1022.14	1378.15	1533.17		

Feed conversion per 1 kg of weight gain

Tab. No. 13d (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	1192.66	1535.70	2042.14	1652.24
		3	1269.78	1426.52	2205.99	1637.56
		5	1215.71	1448.48	2103.28	1612.94
		7	1194.09	1448.80	2225.08	1652.30
		9	1275.25	1461.02	2500.73	1705.61
		11	1396.04	1473.26	2375.92	1710.97
		13	1254.36	1548.03	2244.27	1727.85
		15	1150.06	1494.67	2072.71	1634.32
		17	1082.53	1433.87	2146.93	1588.17
		19	1155.63	1662.51	2174.62	1763.48
		21	1188.14	1614.25	2176.31	1749.49
		23	1249.05	1433.42	2677.02	1739.92
		26	1108.62	1419.24	2129.35	1587.94
		28	1120.18	1566.55	2656.51	1802.84
		30	1135.56	1610.74	2435.81	1795.33
		32	1163.65	1570.58	2046.57	1663.44
		34	1251.47	1634.20	2632.07	1840.06
		36	1251.23	1662.61	2033.69	1730.64
		38	1147.75	1664.42	2119.74	1740.11
		40	1170.08	1575.77	2108.31	1684.29
42	1135.73	1664.63	2004.00	1705.42		
44	1068.30	1576.68	2430.06	1724.71		
46	1151.84	1587.95	2155.04	1693.52		
48	1133.60	1601.50	2150.62	1712.07		

Feed conversion per 1 kg of weight gain

Tab. No. 13d (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
T2	2	2	1114.87	1727.90	2256.97	1814.50
		4	1197.36	1514.84	2073.32	1642.84
		6	1193.52	1590.38	1953.06	1661.54
		8	1141.94	1520.30	2261.25	1699.31
		10	1097.71	1503.65	1900.86	1576.68
		12	1093.81	1492.29	1975.16	1597.42
		14	1076.67	1548.11	1984.57	1621.91
		16	1153.80	1521.39	1990.32	1629.35
		18	1141.41	1695.40	1880.08	1699.11
		20	1046.99	1558.86	2096.63	1669.17
		22	1195.46	1562.60	2098.58	1688.39
		24	1149.22	1523.77	2381.17	1735.03
		25	1107.25	1544.67	2281.73	1706.12
		27	1123.94	1475.82	2541.25	1702.10
		29	1095.62	1400.54	2803.80	1682.23
		31	1209.97	1590.84	2381.76	1758.85
		33	1227.11	1650.73	2451.62	1837.03
		35	1163.78	1698.33	1974.89	1725.32
		37	1029.84	1572.17	2315.14	1712.86
		39	1086.00	1407.97	2107.23	1566.87
41	1096.87	1464.60	2009.80	1578.69		
43	1173.95	1715.45	2201.45	1799.17		
45	1121.51	1609.98	1908.31	1644.59		
47	1185.25	1465.17	1911.94	1563.15		

Feed consumption per phases

Tab. No. 13e (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	9.10	61.09	42.65	112.84
		3	9.55	57.59	43.80	110.94
		5	10.15	61.44	44.15	115.74
		7	8.65	58.84	45.00	112.49
		9	9.85	61.24	42.70	113.79
		11	10.85	60.89	43.85	115.59
		13	9.00	60.59	45.35	114.94
		15	9.35	57.24	43.90	110.49
		17	9.30	58.79	41.00	109.09
		19	9.20	65.39	46.60	121.19
		21	9.70	65.39	51.30	126.39
		23	9.90	57.44	46.20	113.54
		26	9.40	57.79	43.00	110.19
		28	9.20	60.19	45.70	115.09
		30	9.65	61.44	48.10	119.19
		32	9.50	64.29	42.10	115.89
		34	9.60	65.44	42.40	117.44
		36	10.20	61.44	43.10	114.74
		38	9.85	65.44	45.00	120.29
		40	9.70	61.34	42.20	113.24
42	10.20	65.44	45.10	120.74		
44	9.40	65.24	41.00	115.64		
46	10.40	64.79	42.95	118.14		
48	8.85	61.44	42.95	113.24		

Feed consumption per phases

Tab. No. 13e (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
T2	2	2	8.90	65.56	45.25	119.71
		4	8.90	61.56	41.00	111.46
		6	9.80	65.39	45.35	120.54
		8	8.85	61.56	46.55	116.96
		10	9.10	61.51	40.80	111.41
		12	8.15	61.16	42.15	111.46
		14	9.10	60.11	40.90	110.11
		16	9.70	59.31	45.25	114.26
		18	9.25	61.56	48.35	119.16
		20	8.60	59.31	45.65	113.56
		22	10.00	61.56	46.45	118.01
		24	9.85	65.56	52.00	127.41
		25	10.20	61.26	47.25	118.71
		27	9.15	60.51	42.35	112.01
		29	8.80	59.31	41.60	109.71
		31	9.90	61.61	42.05	113.56
		33	10.05	64.91	49.15	124.11
		35	9.55	61.51	44.20	115.26
		37	9.25	65.61	46.15	121.01
		39	8.65	59.56	41.15	109.36
41	8.90	61.61	40.60	111.11		
43	10.15	61.66	46.05	117.86		
45	9.35	65.51	41.75	116.61		
47	10.25	60.11	39.95	110.31		

Treatment	Tr. No.	Box	Evaluation			
			day 28		day 35	
			right foot	left foot	right foot	left foot
T1	1	1	1.17	1.09	1.63	1.89
		3	0.97	0.89	1.31	1.37
		5	1.77	1.94	1.91	2.09
		7	0.46	0.49	0.80	1.09
		9	0.86	1.03	1.74	1.71
		11	1.37	1.43	2.26	2.31
		13	0.91	1.11	0.89	0.77
		15	0.82	0.76	0.39	0.36
		17	0.94	0.91	0.50	0.44
		19	0.47	0.44	0.06	0.06
		21	0.49	0.43	0.11	0.17
		23	0.97	0.94	0.74	0.74
		26	0.53	0.53	0.97	0.74
		28	0.85	1.12	1.18	1.00
		30	0.46	0.63	0.69	0.51
		32	0.49	0.37	0.49	0.29
		34	0.26	0.17	0.23	0.11
		36	1.89	2.03	2.17	1.91
		38	0.32	0.41	0.35	0.35
		40	1.65	1.38	2.29	2.24
42	0.23	0.26	0.40	0.51		
44	0.74	0.71	1.09	1.14		
46	0.94	1.00	1.09	1.29		
48	0.70	0.67	0.94	0.88		

Treatment	Tr. No.	Box	Evaluation			
			day 28		day 35	
			right foot	left foot	right foot	left foot
T2	2	2	0.56	0.79	1.26	1.65
		4	1.46	1.74	1.89	2.14
		6	0.17	0.29	0.69	0.74
		8	0.80	1.00	1.03	1.31
		10	0.91	0.79	1.41	1.35
		12	1.54	1.69	2.43	2.46
		14	1.56	1.50	1.24	1.21
		16	1.41	1.35	1.00	0.94
		18	0.83	0.97	0.51	0.60
		20	0.53	0.62	0.18	0.24
		22	0.44	0.50	0.38	0.44
		24	0.37	0.31	0.51	0.34
		25	0.31	0.43	0.86	0.80
		27	1.17	1.31	1.77	1.40
		29	1.35	1.50	1.38	1.32
		31	0.43	0.46	0.66	0.69
		33	0.40	0.46	0.60	0.40
		35	1.00	0.97	0.89	0.63
		37	0.37	0.34	0.54	0.54
		39	1.54	1.54	2.41	2.44
41	1.31	1.09	1.74	1.80		
43	0.34	0.34	0.46	0.54		
45	0.11	0.29	0.34	0.53		
47	0.51	0.54	0.83	0.80		

Litter quality - lab analysis (day 35) – per pen**Tab. No. 15**

Treatment	Tr. No.	Box No.	humidity % (variance $\pm 3\%$)
T1	1	1	25.40
		3	32.00
		5	26.60
		7	28.70
		9	33.30
		11	28.40
		13	29.20
		15	26.00
		17	33.50
		19	31.60
		21	32.60
		23	27.40
T2	2	25	29.80
		27	26.70
		29	29.50
		31	29.80
		33	24.70
		35	28.70
		37	28.40
		39	27.30
		41	29.00
		43	28.90
		45	27.40
		47	27.30

Treatment	Tr. No.	Box	Evaluation		
			day 10	day 28	day 35
T1	1	1	2	2	2
		3	1	2	2
		5	1	2	2
		7	1	2	2
		9	1	2	2
		11	2	2	3
		13	1	3	3
		15	2	3	2
		17	1	2	2
		19	2	2	3
		21	2	2	3
		23	2	2	2
		26	1	2	2
		28	1	3	3
		30	1	3	2
		32	2	2	2
		34	1	3	2
		36	1	4	3
		38	2	2	3
		40	2	2	3
42	1	3	3		
44	2	2	3		
46	1	3	2		
48	1	2	3		

Treatment	Tr. No.	Box	Evaluation		
			day 10	day 28	day 35
T2	2	2	2	2	2
		4	2	2	2
		6	1	3	2
		8	1	3	3
		10	2	3	2
		12	2	3	3
		14	2	2	3
		16	2	3	3
		18	2	3	2
		20	2	2	2
		22	1	3	3
		24	2	4	3
		25	2	2	2
		27	1	3	2
		29	2	2	3
		31	2	3	3
		33	2	3	2
		35	2	2	2
		37	1	2	2
		39	2	2	3
41	2	2	3		
43	1	2	2		
45	2	2	3		
47	2	2	2		