



# MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE ÚSTRAŠICE

státní podnik

390 02 Tábor 2

Česká republika

## Effects of reduced crude protein content with balanced aminoacid profil into broiler diets on live performance and slaughter parameters

**Trial No. xxxxx (No. 1233)**

### Vliv sníženého obsahu hrubých bílkovin s vyváženým aminokyselinovým profilem krmení brojlerů na užitkovost a parametry porážky

Test č. xxxxx (VT č. 1233)

**International Poultry Testing Station Ústrašice  
Mezinárodní testování drůbeže Ústrašice**

**Czech Republic  
Česká republika**

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Zpracovatel studie:

**Ing. Jan Tyl**

**Associate Investigator:**  
Spoluzpracovatel studie:

**Ing. Hana Horná  
Ing. Hana Koželuhová  
Ing. Markéta Krekulová**

**Study monitor:**  
Dohlížitel:

xxxxx

**Study sponsor :**  
Dohlížitel:

xxxxx

**December 2022  
Prosinec 2022**

## **Aim of the Project**

Effects of xxxxx on health status and live performance of broilers fed diets containing increased levels of rapeseed meal.

## **Study location**

The study was carried out on the test facility Mezinárodní testování drůbeže, s.p., (next MTD, s.p. only), Ústřašice, Czech Republic. Feed samples were sent for the contents of nutrients by xxxxx.

## **Trial period**

Beginning of the trial:	3 October 2022
End of the trial:	8 November 2022

## **Study responsibility**

Ing. Jan Tyl was the independent Study Director, responsible that the trial is conducted according to the protocol. Ing. Hana Horná was responsible for daily animal care at the test facility. Full details of study's responsibility are provided below.

## **Persons involved in the trial**

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## **Material and methods**

### **Birds**

In total there were 7800 day old chicks (males) of xxxxx. Day-old chicks were randomly distributed into 6 dietary treatments with 10 replicates per treatment and 130 chicken per replicate.

Origin 1-day old chicks:

breeder company – xxxxx

parent flock – xxxxx

age of the breeding flock – 47 weeks

### **Experimental treatments:**

<b>Tr. No.</b>	<b>Tr.</b>	<b>Description</b>	<b>No. of pen</b>	<b>No. of chick</b>
1	T1	xxxxx	130	1300
2	T2	xxxxx	130	1300
3	T3	xxxxx	130	1300
4	T4	xxxxx	130	1300
5	T5	xxxxx	130	1300
6	T6	xxxxx	130	1300

### **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 Manual of xxxxx. 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:

<u>Lighting programme:</u>	Day 1 - 7	23 hours of light + 1 hour of darkness
	Day 8 - 33	18 hours of light + 6 hours of darkness
	Day 34 - 36	23 hours of light + 1 hour of darkness
<u>Stocking density:</u>	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 Virkon before the chick placement.

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

### **Feeds and Diets**

Chickens were fed ad libitum according to three phase feeding programme. The test phases were 0-8 days of age for the starter BR1, 9-16 days of age for the grower BR2-1, 17-24 days of age for the grower BR2-2 and 25-36 days of age for the finisher BR3.

Feed was produced by International Poultry Testing Station Ústrašice. The composition of diets is shown in following tables.

## Composition of the feed

Ingredients (%)	T1-T6	T1	T2-T6	T1	T2, T3	T4, T5,T6
	Starter	Grower 1 20.5	Grower 1 19.5	Grower 2 20.0	Grower 2 19.0	Grower 2 18.0
Corn	40.80	46.72	50.89	37.10	40.93	44.76
Wheat	20.50	15.50	15.50	25.50	25.50	25.50
Soyabean meal	25.83	27.46	21.35	25.55	21.48	17.40
Soy Concentrate 60	3.00	-	-	-	-	-
Rapeseed meal	2.00	2.00	3.86	3.00	3.27	3.54
Rapeseed, full fat	2.00	2.69	2.00	3.00	3.00	3.00
Soyabean oil	1.39	1.35	1.00	2.30	1.65	1.00
Limestone	1.64	1.43	1.47	1.47	1.49	1.50
Salt	0.20	0.23	0.19	0.36	0.36	0.35
Rucana-Ca-Na-P	0.42	0.35	0.24	0.27	0.29	0.31
Potassium chloride	-	-	0.21	-	-	-
Monocalciumphosphate	-	-	0.14	-	-	-
xxxxx	1.71	1.77	2.67	0.95	1.54	2.14
AMV BR1 plus	0.50	-	-	-	-	-
AMV BR2 plus	-	0.50	0.50	0.50	0.50	0.50
AMV BR3 plus	-	-	-	-	-	-

Ingredients (%)	T1	T2	T3, T4	T5	T6
	Finisher 19.0	Finisher 18.5	Finisher 18.0	Finisher 17.5	Finisher 17.0
Corn	40.55	41.32	43.63	45.17	46.72
Wheat	25.50	25.50	25.50	25.50	25.50
Soyabean meal	21.28	20.32	17.45	15.53	13.62
Soy Concentrate 60	-	-	-	-	-
Rapeseed meal	3.50	3.67	4.17	4.51	4.84
Rapeseed, full fat	3.50	3.50	3.50	3.50	3.50
Soyabean oil	1.97	1.85	1.49	1.24	1.00
Limestone	1.53	1.53	1.52	1.51	1.50
Salt	0.36	0.36	0.35	0.35	0.35
Rucana-Ca-Na-P	0.20	0.21	0.26	0.28	0.31
xxxxx	1.11	1.24	1.64	1.90	2.17
AMV BR1 plus	-	-	-	-	-
AMV BR2 plus	-	-	-	-	-
AMV BR3 plus	0.50	0.50	0.50	0.50	0.50

## **Parameters recorded and methods applied**

### **Live weight**

Live weight was measured on day 1 and on day 8 (the birds in each pen were weighed altogether). On day 16 and 24 of age birds were weighed individually, without fasting. On day 36 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 – 8 days, 9 – 16 days, 17 – 24 days, 25 – 36 days and for the overall experiment (1 – 36 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 – 8 days, 9 – 16 days, 17 – 24 days, 25 – 36 days and for the overall experiment (1 – 36 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 – 8 days, 9 – 16 days, 17 – 24 days, 25 – 36 days and 1 – 36 days.

### **Foot pad lesions**

One third of the animals were recorded at the end of the feeding trial according the scale.

### **Statistical analyses**

Performance results of live weight (on days 1, 8, 16, 24 and 36) and feed conversion ratio were statistically evaluated using the ANOVA single-factor model (Duncan test, Scheffe test) or nonparametric method (Kruskal-Wallis test).

## **Results**

Tab. No.	<b>1 Hatchability</b>
	<b>2 Performance results:</b>
	<b>2a Body weight</b>
	<b>2b Weight gain</b>
	<b>2c Feed conversion per 1 kg of live weight</b>
	<b>2d Feed conversion per 1 kg of weight gain</b>
	<b>2e Feed consumption</b>
	<b>3 Mortality</b>
	<b>4 Carcass analysis</b>
	<b>5 Foot pad lesions</b>
	<b>6 Statistical analysis of body weight at the age of 36 days</b> (average body weight, standard deviation, coefficient of variation)
	<b>7 - 8 Statistical analyses of performance results</b>
	<b>9 Performance results per pen:</b>
	<b>9a Body weight</b>
	<b>9b Weight gain</b>
	<b>9c Feed conversion per 1 kg of live weight</b>
	<b>9d Feed conversion per 1 kg of weight gain</b>
	<b>9e Feed consumption</b>
	<b>9f Foot pad lesions</b>



**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	85.60	81.70	95.50	1300	63.00	41.85
T2	2				1300		41.77
T3	3				1300		42.15
T4	4				1300		42.00
T5	5				1300		41.77
T6	6				1300		41.89

**Body weight per phases**

**Tab. No. 2a**

Treatment	Tr. No.	Day 1		Day 8		Day 16		Day 24		Day 36	
		Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
			g		g		g		g		
T1	1	1300	41.85	1300	168.85	1296	455.11	1287	941.91	1245	1893.70
T2	2	1300	41.77	1300	172.11	1296	443.87	1285	931.73	1239	1818.06
T3	3	1300	42.15	1300	170.08	1297	451.50	1287	934.83	1250	1845.10
T4	4	1300	42.00	1300	169.12	1297	452.81	1286	926.66	1233	1806.99
T5	5	1300	41.77	1300	168.69	1296	450.40	1288	915.44	1236	1789.09
T6	6	1300	41.89	1300	171.38	1296	443.06	1288	898.77	1249	1740.70

**Weight gain per phases**

**Tab. No. 2b**

Treatment	Tr. No.	Day 1 - 8		Day 9 - 16		Day 17 - 24		Day 25 - 36		Day 1 - 36	
		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	Weight gain per phase	Daily weight gain
		g	g	g	g	g	g	g	g	g	g
T1	1	127.00	15.88	286.26	35.78	486.80	60.85	951.79	79.32	1851.86	51.44
T2	2	130.34	16.29	271.77	33.97	487.85	60.98	886.34	73.86	1776.30	49.34
T3	3	127.92	15.99	281.42	35.18	483.33	60.42	910.28	75.86	1802.95	50.08
T4	4	127.12	15.89	283.69	35.46	473.85	59.23	880.33	73.36	1764.99	49.03
T5	5	126.92	15.87	281.71	35.21	465.04	58.13	873.65	72.80	1747.32	48.54
T6	6	129.50	16.19	271.68	33.96	455.70	56.96	841.93	70.16	1698.81	47.19

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

**Tab. No. 2c**

Treatment	Tr. No.	Feed conversion ratio			
		Day 8	Day 16	Day 24	Day 36
		g/kg live weight	g/kg live weight	g/kg live weight	g/kg live weight
T1	1	1032.35	1178.58	1222.62	1503.22
T2	2	1016.81	1201.66	1197.51	1505.13
T3	3	1060.61	1192.99	1195.06	1475.07
T4	4	1053.90	1183.48	1194.49	1488.02
T5	5	1038.30	1202.60	1218.65	1487.99
T6	6	1047.13	1190.13	1219.35	1512.64

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

**Tab. No. 2d**

Treatment	Tr. No.	Feed conversion ratio				
		Day 1-8	Day 9-16	Day 17-24	Day 25-36	Day 1-36
		g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain
T1	1	1372.49	1265.06	1264.16	1791.72	1538.07
T2	2	1342.64	1319.03	1193.69	1843.26	1541.57
T3	3	1410.08	1273.08	1197.02	1772.74	1510.35
T4	4	1402.11	1260.88	1205.13	1813.46	1524.61
T5	5	1380.00	1301.23	1234.32	1784.31	1524.64
T6	6	1385.81	1280.61	1248.00	1836.71	1550.81

Feed consumption per phases

Tab. No. 2e

Treatment	Tr. No.	Feed consumption				
		Starter (d 1-8)	Grower (d 9-16)	Grower (d 17-24)	Finisher (d 25-36)	Total (d 1-36)
		kg	kg	kg	kg	kg
T1	1	226.60	469.55	791.90	2121.00	3609.05
T2	2	227.50	464.80	747.90	2016.80	3457.00
T3	3	234.50	465.25	744.70	2015.50	3459.95
T4	4	231.70	464.10	733.10	1956.70	3385.60
T5	5	227.70	475.30	739.30	1919.50	3361.80
T6	6	233.30	451.00	731.60	1930.20	3346.10

**Mortality**

**Tab. No. 3**

Treatment	Tr. No.	Mortality in the period											Mortality according causes														
		Day 1 - 8		Day 9 - 16		Day 17 - 24		Day 25 - 36		Day 1 - 36			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	%															
T1	1	0	0	4	849	9	4006	42	38357	55	43212	4.23	3									30	8			14	
T2	2	0	0	4	861	11	4533	46	38836	61	44230	4.69										36	9			16	
T3	3	0	0	3	963	10	4599	37	33682	50	39244	3.85										29	8			13	
T4	4	0	0	3	636	11	3927	53	42650	67	47213	5.15										46	4			17	
T5	5	0	0	4	849	8	3582	52	43534	64	47965	4.92										44	7			13	
T6	6	0	0	4	767	8	2820	39	34383	51	37970	3.92										36	4			11	

**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)

Results of carcass analysis in 36 days

Tab. No. 4

Treatment	Tr. No.	Weight				Ratio of abd. fat to live weight	Breast meat without skin			Thigh meat with bone and skin			Breast meat and thighs			Carcass	
		Total	Body	Gibl.	Abd. fat		weight	percentage		weight	percentage		weight	percentage		value	quality
								total weight	body carcass		total weight	body carcass		total weight	body carcass		
		g	g	g	g		%	g	%	%	g	%	%	g	%	%	%
T1	1	1920	1297	123	16	0.83	402	31.00	20.94	418	32.23	21.77	820	63.22	42.70	67.54	73.93
T2	2	1889	1270	125	16	0.86	379	29.86	20.07	412	32.48	21.83	792	62.34	41.90	67.21	73.84
T3	3	1946	1303	123	18	0.94	392	30.06	20.13	424	32.52	21.78	815	62.58	41.91	66.97	73.29
T4	4	1893	1243	126	17	0.88	370	29.78	19.56	414	33.30	21.87	784	63.08	41.43	65.67	72.33
T5	5	1869	1230	124	18	0.99	353	28.73	18.91	404	32.85	21.62	757	61.58	40.52	65.81	72.42
T6	6	1867	1239	119	17	0.92	362	29.24	19.40	407	32.83	21.78	769	62.07	41.18	66.34	72.73



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

<b>Treatment</b>	<b>Tr. No.</b>	<b>Evaluation</b>	
		<b>right foot</b>	<b>left foot</b>
T1	1	1.24	1.33
T2	2	1.23	1.37
T3	3	1.24	1.23
T4	4	0.95	1.02
T5	5	1.20	1.18
T6	6	0.86	0.92

Statistical analysis - Body weight at 36 days of age

Tab. No. 6

Treatment	Tr. No.	Cocks			
		No. of birds	Average body weight	Standard deviation	Coefficient of variation
			g/birds	g/birds	%
T1	1	1245	1893.70	294.32	15.54
T2	2	1239	1818.06	309.97	17.05
T3	3	1250	1845.10	310.08	16.81
T4	4	1233	1806.99	319.14	17.66
T5	5	1236	1789.09	305.12	17.05
T6	6	1249	1740.70	293.90	16.88

### 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. 7a**

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test					
					T1	T2	T3	T4	T5	T6
T1	1	10	41.85	0.67		o	o	o	o	o
T2	2	10	41.77	0.64	0.805021		o	o	o	o
T3	3	10	42.15	0.66	0.348800	0.259851		o	o	o
T4	4	10	42.00	0.72	0.625654	0.490344	0.604662		o	o
T5	5	10	41.77	0.45	0.796922	0.994697	0.253801	0.483070		o
T6	6	10	41.89	0.76	0.892276	0.719383	0.397547	0.699570	0.713337	

**Body weight - day 8**

**Tab. No. 7b**

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test					
					T1	T2	T3	T4	T5	T6
T1	1	10	168.85	2.86		*	o	o	o	o
T2	2	10	172.11	2.76	0.036211		o	*	*	o
T3	3	10	170.08	2.79	0.403634	0.168264		o	o	o
T4	4	10	169.12	4.19	0.845216	0.049573	0.486390		o	o
T5	5	10	168.69	3.11	0.911203	0.030907	0.365551	0.774253		o
T6	6	10	171.38	2.37	0.096089	0.600314	0.344734	0.123724	0.084606	

**Body weight - day 16**

**Tab. No. 7c**

Treatment	Treat. No.	No. of birds	Average (g)	Standard deviation	Scheffe test					
					T1	T2	T3	T4	T5	T6
T1	1	1296	455.11	67.82		**	o	o	o	**
T2	2	1296	443.87	72.28	0.007123		o	o	o	o
T3	3	1297	451.50	70.69	0.895587	0.197373		o	o	o
T4	4	1297	452.81	73.80	0.984658	0.073469	0.998922		o	*
T5	5	1296	450.40	72.86	0.731718	0.372061	0.999552	0.981283		o
T6	6	1296	443.06	72.48	0.002617	0.999898	0.110366	0.035206	0.236811	

**Body weight - day 24**

**Tab. No. 7d**

Treatment	Treat. No.	No. of birds	Average (g)	Standard deviation	Kruskal-Wallis test					
					T1	T2	T3	T4	T5	T6
T1	1	1287	941.91	157.65		o	o	o	***	***
T2	2	1285	931.73	176.03	0.208226		o	o	o	***
T3	3	1287	934.83	158.60	1.000000	1.000000		o	o	***
T4	4	1286	926.66	168.95	0.069265	1.000000	1.000000		o	***
T5	5	1288	915.44	157.68	0.000144	0.735228	0.077261	1.000000		o
T6	6	1288	898.77	144.51	0.000000	0.000047	0.000001	0.000271	0.106595	

**Body weight - day 36**

**Tab. No. 7e**

Treatment	Treat. No.	No. of birds	Average (g)	Standard deviation	Kruskal-Wallis test					
					T1	T2	T3	T4	T5	T6
T1	1	1245	1893.70	294.32		***	***	***	***	***
T2	2	1239	1818.06	309.97	0.000000		o	o	o	***
T3	3	1250	1845.10	310.08	0.000756	0.505309		*	***	***
T4	4	1233	1806.99	319.14	0.000000	1.000000	0.035197		o	***
T5	5	1236	1789.09	305.12	0.000000	0.123307	0.000026	1.000000		**
T6	6	1249	1740.70	293.90	0.000000	0.000000	0.000000	0.000000	0.001457	

**FCR - day 8**

**Tab. No. 8a**

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test					
					T1	T2	T3	T4	T5	T6
T1	1	10	1032.34	90.32		o	o	o	o	o
T2	2	10	1017.29	48.93	0.647720		o	o	o	o
T3	3	10	1060.72	80.53	0.448871	0.254109		o	o	o
T4	4	10	1054.61	52.77	0.542478	0.318854	0.852692		o	o
T5	5	10	1039.06	76.72	0.838159	0.536036	0.553632	0.658626		o
T6	6	10	1047.53	80.33	0.666042	0.407921	0.707681	0.829641	0.797107	

**FCR - day 16**

**Tab. No. 8b**

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test					
					T1	T2	T3	T4	T5	T6
T1	1	10	1178.81	33.41		o	o	o	o	o
T2	2	10	1204.41	66.33	0.445672		o	o	o	o
T3	3	10	1195.86	77.54	0.602667	0.771942		o	o	o
T4	4	10	1185.91	71.25	0.809812	0.572085	0.752124		o	o
T5	5	10	1204.90	79.53	0.445179	0.986897	0.774533	0.571812		o
T6	6	10	1191.74	53.48	0.681691	0.687601	0.888686	0.843217	0.688004	

FCR - day 24

Tab. No. 8c

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test					
					T1	T2	T3	T4	T5	T6
T1	1	10	1225.05	65.03		o	o	o	o	o
T2	2	10	1203.50	84.63	0.582560		o	o	o	o
T3	3	10	1199.06	71.78	0.517980	0.899957		o	o	o
T4	4	10	1198.02	76.90	0.508824	0.884744	0.976427		o	o
T5	5	10	1222.06	78.72	0.937413	0.599280	0.542120	0.539679		o
T6	6	10	1222.80	91.15	0.949069	0.609000	0.544915	0.537674	0.983408	

FCR - day 36

Tab. No. 8d

Treatment	Treat. No.	No. of box	Average (g)	Standard deviation	Duncan test					
					T1	T2	T3	T4	T5	T6
T1	1	10	1503.99	38.11		o	o	o	o	o
T2	2	10	1507.23	53.98	0.880387		o	o	o	o
T3	3	10	1475.38	36.64	0.231168	0.193123		o	o	o
T4	4	10	1489.98	58.92	0.516551	0.454072	0.526170		o	o
T5	5	10	1488.87	52.09	0.511870	0.443050	0.531819	0.959027		o
T6	6	10	1514.40	43.61	0.651575	0.739751	0.116656	0.307306	0.297833	

**Performance results per replicate**

**Body weight per phases**

**Tab. No. 9a (page 1)**

Treatment	Tr. No.	Pen	Day 1		Day 8		Day 16		Day 24		Day 36	
			Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
				g		g		g		g		
T1	1	1	130	41.92	130	168.08	130	451.77	130	971.69	123	1915.45
		7	130	40.77	130	171.92	130	449.46	129	1015.74	127	1755.28
		13	130	41.92	130	166.92	130	441.69	130	895.54	123	1887.97
		19	130	42.31	130	166.92	129	464.57	129	1004.65	127	1917.17
		25	130	42.69	130	167.31	130	487.85	127	964.57	124	1937.66
		36	130	41.15	130	170.38	129	474.88	128	924.45	123	1959.19
		42	130	42.31	130	167.31	130	432.15	129	903.57	129	1799.69
		48	130	42.69	130	167.31	130	443.38	130	926.62	122	1875.25
		54	130	41.54	130	175.38	129	459.46	128	917.50	128	1951.72
		60	130	41.15	130	166.92	129	446.05	127	894.33	119	1944.79
T2	2	2	130	41.92	130	174.62	129	425.27	129	997.75	126	1834.52
		8	130	41.15	130	166.15	130	458.85	129	1054.19	123	1882.85
		14	130	41.15	130	168.46	130	433.46	127	878.43	123	1698.94
		20	130	41.92	130	172.69	129	442.17	128	955.86	124	1799.76
		26	130	41.15	130	173.85	130	465.00	129	921.09	124	1892.58
		35	130	41.92	130	174.62	130	434.62	130	885.15	127	1884.80
		41	130	41.15	130	171.85	130	402.23	128	776.25	124	1615.00
		47	130	43.08	130	173.08	129	443.49	127	908.90	122	1779.02
		53	130	41.92	130	173.85	129	459.30	129	932.33	121	1876.12
		59	130	42.31	130	171.92	130	474.31	129	1005.50	125	1914.72
T3	3	3	130	42.69	130	170.00	130	482.46	130	1007.23	126	1862.78
		9	130	41.92	130	174.62	130	457.62	129	1041.47	125	1851.44
		15	130	42.31	130	170.77	130	437.69	130	936.77	129	1791.86
		21	130	42.69	130	166.92	130	463.38	130	896.77	126	1803.25
		27	130	41.15	130	171.92	127	475.75	122	960.49	117	1919.57
		34	130	42.69	130	170.00	130	420.92	130	857.62	126	1819.76
		40	130	42.69	130	164.62	130	443.62	130	962.46	125	1913.68
		46	130	42.69	130	171.54	130	455.31	130	922.77	127	1801.26
		52	130	41.15	130	171.54	130	414.62	129	847.83	124	1788.95
		58	130	41.54	130	168.85	130	464.15	127	916.14	125	1905.60



Performance results per replicate

Body weight per phases

Tab. No. 9a (page 2)

Treatment	Tr. No.	Pen	Day 1		Day 8		Day 16		Day 24		Day 36	
			Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight	Birds	Average body weight
				g		g		g		g		
T4	4	4	130	42.69	130	162.69	130	449.46	130	998.38	124	1808.55
		10	130	41.54	130	165.38	130	453.85	125	1050.08	118	1768.98
		16	130	41.54	130	168.85	129	444.19	128	934.84	121	1718.18
		22	130	42.31	130	171.92	130	461.00	130	895.92	124	1850.65
		28	130	42.69	130	173.85	130	493.23	128	928.59	127	1947.56
		33	130	40.77	130	165.77	129	418.91	129	856.12	126	1764.29
		39	130	42.69	130	170.38	130	454.15	130	923.15	122	1926.64
		45	130	41.92	130	172.69	130	438.23	129	864.26	122	1720.90
		51	130	42.69	130	174.62	130	434.85	129	875.66	125	1719.28
		57	130	41.15	130	165.00	129	480.08	128	943.28	124	1839.44
T5	5	5	130	41.54	130	173.46	129	471.55	127	980.31	122	1713.69
		11	130	41.54	130	168.08	129	404.34	127	805.51	117	1776.75
		17	130	41.92	130	171.54	129	445.50	127	972.83	122	1736.15
		23	130	41.54	130	165.00	130	469.38	130	892.38	126	1810.48
		29	130	41.92	130	172.69	130	458.00	130	943.69	121	1810.50
		32	130	42.31	130	165.00	130	440.46	129	890.47	124	1864.60
		38	130	41.15	130	168.08	130	476.38	130	971.46	125	1824.72
		44	130	41.54	130	167.31	130	441.00	130	876.46	128	1733.44
		50	130	42.69	130	165.77	130	464.08	129	953.95	125	1791.12
		56	130	41.54	130	170.00	129	432.95	129	867.36	126	1827.78
T6	6	6	130	41.54	130	170.38	129	429.07	129	1009.38	128	1755.70
		12	130	41.54	130	172.31	130	424.23	129	856.59	123	1706.67
		18	130	41.54	130	172.69	129	432.95	128	935.47	124	1634.03
		24	130	42.69	130	172.31	130	441.46	130	901.15	126	1756.98
		30	130	42.69	130	175.77	130	487.31	130	875.31	126	1845.16
		31	130	43.08	130	166.92	130	439.69	129	875.81	126	1788.17
		37	130	41.15	130	172.69	130	442.46	130	896.46	121	1806.86
		43	130	42.31	130	171.15	129	421.09	128	858.13	127	1668.03
		49	130	41.54	130	170.00	130	448.54	130	860.77	126	1683.81
		55	130	40.77	130	169.62	129	463.64	125	919.68	122	1762.70

Weight gain per phases (WG) and daily weight gain (DWG)

Tab. No. 9b (page 1)

Treatment	Tr. No.	Box	Day 1 - 8		Day 9 - 16		Day 17 - 24		Day 25 - 36		Day 1 - 36	
			WG	DWG	WG	DWG	WG	DWG	WG	DWG	WG	DWG
			g	g	g	g	g	g	g	g	g	g
T1	1	1	126.16	15.77	283.69	35.46	519.92	64.99	943.75	78.65	1873.53	52.04
		7	131.15	16.39	277.54	34.69	566.27	70.78	739.54	61.63	1714.51	47.63
		13	125.00	15.63	274.77	34.35	453.85	56.73	992.43	82.70	1846.05	51.28
		19	124.61	15.58	297.65	37.21	540.08	67.51	912.51	76.04	1874.86	52.08
		25	124.62	15.58	320.54	40.07	476.72	59.59	973.09	81.09	1894.97	52.64
		36	129.23	16.15	304.50	38.06	449.57	56.20	1034.73	86.23	1918.04	53.28
		42	125.00	15.62	264.85	33.11	471.41	58.93	896.12	74.68	1757.38	48.82
		48	124.62	15.58	276.08	34.51	483.23	60.40	948.63	79.05	1832.56	50.90
		54	133.84	16.73	284.07	35.51	458.04	57.26	1034.22	86.18	1910.18	53.06
		60	125.77	15.72	279.12	34.89	448.28	56.04	1050.46	87.54	1903.64	52.88
T2	2	2	132.70	16.59	250.66	31.33	572.48	71.56	836.77	69.73	1792.60	49.79
		8	125.00	15.63	292.69	36.59	595.34	74.42	828.66	69.05	1841.70	51.16
		14	127.31	15.91	265.00	33.13	444.96	55.62	820.52	68.38	1657.79	46.05
		20	130.77	16.35	269.48	33.68	513.69	64.21	843.90	70.32	1757.84	48.83
		26	132.70	16.59	291.15	36.39	456.09	57.01	971.50	80.96	1851.43	51.43
		35	132.70	16.59	260.00	32.50	450.54	56.32	999.65	83.30	1842.88	51.19
		41	130.70	16.34	230.38	28.80	374.02	46.75	838.75	69.90	1573.85	43.72
		47	130.00	16.25	270.41	33.80	465.41	58.18	870.12	72.51	1735.94	48.22
		53	131.93	16.49	285.46	35.68	473.02	59.13	943.79	78.65	1834.20	50.95
		59	129.61	16.20	302.38	37.80	531.20	66.40	909.22	75.77	1872.41	52.01
T3	3	3	127.31	15.91	312.46	39.06	524.77	65.60	855.55	71.30	1820.09	50.56
		9	132.70	16.59	283.00	35.38	583.86	72.98	809.97	67.50	1809.52	50.26
		15	128.46	16.06	266.92	33.37	499.08	62.38	855.09	71.26	1749.55	48.60
		21	124.23	15.53	296.46	37.06	433.38	54.17	906.48	75.54	1760.56	48.90
		27	130.77	16.35	303.82	37.98	484.74	60.59	959.08	79.92	1878.42	52.18
		34	127.31	15.91	250.92	31.37	436.69	54.59	962.15	80.18	1777.07	49.36
		40	121.93	15.24	279.00	34.88	518.85	64.86	951.22	79.27	1870.99	51.97
		46	128.85	16.11	283.77	35.47	467.46	58.43	878.49	73.21	1758.57	48.85
		52	130.39	16.30	243.08	30.38	433.21	54.15	941.12	78.43	1747.80	48.55
		58	127.31	15.91	295.31	36.91	451.99	56.50	989.46	82.45	1864.06	51.78

Weight gain per phases (WG) and daily weight gain (DWG)

Tab. No. 9b (page 2)

Treatment	Tr. No.	Box	Day 1 - 8		Day 9 - 16		Day 17 - 24		Day 25 - 36		Day 1 - 36	
			WG	DWG	WG	DWG	WG	DWG	WG	DWG	WG	DWG
			g	g	g	g	g	g	g	g	g	g
T4	4	4	120.00	15.00	286.77	35.85	548.92	68.62	810.16	67.51	1765.86	49.05
		10	123.84	15.48	288.46	36.06	596.23	74.53	718.90	59.91	1727.44	47.98
		16	127.31	15.91	275.34	34.42	490.66	61.33	783.34	65.28	1676.64	46.57
		22	129.61	16.20	289.08	36.13	434.92	54.37	954.72	79.56	1808.34	50.23
		28	131.16	16.39	319.38	39.92	435.36	54.42	1018.97	84.91	1904.87	52.91
		33	125.00	15.62	253.15	31.64	437.21	54.65	908.16	75.68	1723.52	47.88
		39	127.69	15.96	283.77	35.47	469.00	58.63	1003.49	83.62	1883.95	52.33
		45	130.77	16.35	265.54	33.19	426.03	53.25	856.64	71.39	1678.98	46.64
		51	131.93	16.49	260.23	32.53	440.81	55.10	843.62	70.30	1676.59	46.57
		57	123.85	15.48	315.08	39.38	463.20	57.90	896.15	74.68	1798.29	49.95
T5	5	5	131.92	16.49	298.09	37.26	508.76	63.60	733.37	61.11	1672.15	46.45
		11	126.54	15.82	236.26	29.53	401.17	50.15	971.24	80.94	1735.21	48.20
		17	129.62	16.20	273.97	34.25	527.33	65.92	763.31	63.61	1694.23	47.06
		23	123.46	15.43	304.38	38.05	423.00	52.88	918.09	76.51	1768.94	49.14
		29	130.77	16.35	285.31	35.66	485.69	60.71	866.80	72.23	1768.58	49.13
		32	122.69	15.34	275.46	34.43	450.00	56.25	974.13	81.18	1822.29	50.62
		38	126.93	15.87	308.31	38.54	495.08	61.88	853.26	71.10	1783.57	49.54
		44	125.77	15.72	273.69	34.21	435.46	54.43	856.98	71.41	1691.90	47.00
		50	123.08	15.38	298.31	37.29	489.88	61.23	837.17	69.76	1748.43	48.57
		56	128.46	16.06	262.95	32.87	434.42	54.30	960.41	80.03	1786.24	49.62
T6	6	6	128.84	16.11	258.69	32.34	580.31	72.54	746.32	62.19	1714.16	47.62
		12	130.77	16.35	251.92	31.49	432.36	54.04	850.08	70.84	1665.13	46.25
		18	131.15	16.39	260.25	32.53	502.52	62.82	698.56	58.21	1592.49	44.24
		24	129.62	16.20	269.15	33.64	459.69	57.46	855.83	71.32	1714.29	47.62
		30	133.08	16.63	311.54	38.94	388.00	48.50	969.85	80.82	1802.47	50.07
		31	123.84	15.48	272.77	34.10	436.12	54.52	912.36	76.03	1745.09	48.47
		37	131.54	16.44	269.77	33.72	454.00	56.75	910.40	75.87	1765.71	49.05
		43	128.84	16.11	249.93	31.24	437.04	54.63	809.91	67.49	1625.72	45.16
		49	128.46	16.06	278.54	34.82	412.23	51.53	823.04	68.59	1642.27	45.62
		55	128.85	16.11	294.03	36.75	456.04	57.00	843.02	70.25	1721.93	47.83

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

**Tab. No. 9c (page 1)**

Treatment	Tr. No.	Box	Feed conversion ratio			
			Day 8	Day 16	Day 24	Day 36
			g/kg live weight	g/kg live weight	g/kg live weight	g/kg live weight
T1	1	1	1212.81	1198.71	1210.42	1515.49
		7	997.76	1111.59	1062.28	1544.56
		13	889.40	1185.13	1253.65	1483.29
		19	1096.77	1209.21	1184.95	1508.45
		25	997.70	1128.19	1226.32	1502.43
		36	1029.35	1211.40	1282.90	1493.37
		42	928.74	1195.27	1248.30	1575.57
		48	1085.06	1171.93	1236.51	1511.70
		54	1035.09	1183.87	1258.77	1441.31
		60	1050.69	1192.83	1286.42	1463.74
T2	2	2	938.33	1244.70	1155.22	1546.13
		8	1106.48	1157.59	1080.78	1486.15
		14	995.43	1198.76	1230.70	1528.83
		20	1042.32	1213.19	1158.30	1548.84
		26	995.58	1142.27	1254.79	1486.06
		35	964.76	1241.59	1264.01	1469.99
		41	1034.02	1345.38	1351.59	1585.39
		47	1013.33	1196.10	1275.99	1558.07
		53	1013.27	1202.52	1147.94	1426.14
		59	1069.35	1102.01	1115.67	1436.74
T3	3	3	1045.25	1092.16	1141.74	1516.43
		9	977.97	1143.89	1073.11	1488.88
		15	1054.05	1232.86	1163.16	1498.11
		21	1041.47	1121.35	1210.76	1490.95
		27	1042.51	1137.94	1188.47	1447.08
		34	1235.29	1355.08	1269.62	1509.76
		40	1042.06	1200.80	1142.50	1409.57
		46	1165.92	1188.55	1227.49	1506.05
		52	973.09	1258.81	1312.12	1452.51
		58	1029.61	1227.21	1261.65	1434.43

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

**Tab. No. 9c (page 2)**

Treatment	Tr. No.	Box	Feed conversion ratio			
			Day 8	Day 16	Day 24	Day 36
			g/kg live weight	g/kg live weight	g/kg live weight	g/kg live weight
T4	4	4	1073.29	1198.87	1137.61	1543.26
		10	1093.02	1173.73	1060.88	1580.67
		16	1034.17	1210.55	1128.48	1509.57
		22	1033.56	1120.47	1205.03	1431.79
		28	1048.67	1119.00	1260.49	1436.95
		33	1160.09	1360.46	1333.99	1543.42
		39	1002.26	1211.89	1188.65	1417.54
		45	966.59	1171.67	1254.91	1527.81
		51	1052.86	1173.71	1210.86	1482.05
		57	1081.59	1118.71	1199.26	1426.77
T5	5	5	966.74	1089.31	1115.47	1553.73
		11	993.14	1274.74	1297.27	1499.81
		17	1040.36	1230.23	1169.36	1531.58
		23	1100.23	1129.96	1189.98	1414.35
		29	993.32	1139.57	1150.55	1432.07
		32	1216.78	1364.83	1361.77	1530.95
		38	1070.94	1203.78	1170.72	1478.28
		44	956.32	1230.59	1266.89	1552.85
		50	1030.16	1164.43	1203.57	1454.82
		56	1022.62	1221.53	1294.99	1440.30
T6	6	6	1020.32	1207.19	1066.32	1542.67
		12	1053.57	1235.72	1278.21	1542.72
		18	962.14	1179.53	1116.36	1564.41
		24	1017.86	1229.31	1186.09	1472.50
		30	1124.73	1134.18	1340.63	1455.95
		31	1235.02	1253.50	1322.74	1518.16
		37	971.05	1146.56	1240.35	1479.10
		43	1006.74	1265.90	1241.91	1558.84
		49	1027.15	1146.46	1288.20	1551.84
		55	1056.69	1119.02	1147.16	1457.80

Feed conversion per 1 kg of weight gain

Tab. No. 9d (page 1)

Treatment	Tr. No.	Box	Feed conversion ratio				
			Day 1-8	Day 9-16	Day 17-24	Day 25-36	Day 1-36
			g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain
T1	1	1	1615.81	1190.35	1220.59	1846.26	1550.28
		7	1307.93	1182.10	1022.84	2223.20	1581.84
		13	1187.66	1364.78	1320.34	1700.86	1517.86
		19	1469.16	1272.91	1164.06	1874.51	1543.20
		25	1339.48	1196.30	1329.21	1780.43	1536.97
		36	1357.10	1313.56	1359.40	1692.80	1526.70
		42	1243.10	1363.64	1297.35	1906.57	1613.74
		48	1456.76	1224.58	1295.77	1801.45	1548.28
		54	1356.34	1276.29	1334.53	1604.47	1473.04
		60	1394.45	1278.46	1381.76	1625.86	1497.18
T2	2	2	1234.75	1460.59	1088.69	2023.10	1582.95
		8	1470.72	1186.60	1021.11	2033.74	1520.41
		14	1317.18	1328.01	1262.57	1863.04	1568.13
		20	1376.44	1323.43	1110.57	2011.67	1586.95
		26	1304.31	1229.85	1370.45	1714.38	1519.93
		35	1269.54	1427.51	1285.64	1657.31	1503.91
		41	1359.58	1577.63	1358.38	1809.55	1627.96
		47	1349.14	1313.39	1353.92	1872.56	1598.55
		53	1335.25	1318.43	1094.72	1718.83	1459.99
		59	1418.42	1120.58	1127.98	1808.67	1470.12
T3	3	3	1395.75	1117.68	1187.34	1976.13	1552.68
		9	1286.93	1246.26	1017.33	2043.05	1524.03
		15	1401.22	1347.26	1102.03	1869.56	1534.55
		21	1399.35	1166.32	1306.35	1776.37	1527.65
		27	1370.55	1192.58	1240.84	1724.83	1481.09
		34	1649.52	1436.24	1187.25	1730.01	1546.59
		40	1406.91	1294.46	1092.66	1692.65	1442.49
		46	1552.21	1202.22	1265.43	1804.74	1542.98
		52	1280.20	1460.44	1363.60	1583.96	1487.59
		58	1365.58	1340.19	1298.00	1598.50	1467.27

Feed conversion per 1 kg of weight gain

Tab. No. 9d (page 2)

Treatment	Tr. No.	Box	Feed conversion ratio				
			Day 1-8	Day 9-16	Day 17-24	Day 25-36	Day 1-36
			g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain	g/kg weight gain
T4	4	4	1455.10	1270.12	1087.44	2071.73	1581.52
		10	1459.65	1220.00	970.74	2403.04	1621.04
		16	1371.62	1319.61	1053.24	1997.48	1548.66
		22	1370.94	1172.17	1294.66	1657.43	1466.33
		28	1390.00	1157.27	1423.56	1600.41	1469.70
		33	1538.47	1492.38	1308.51	1747.48	1580.77
		39	1337.33	1337.76	1166.15	1643.22	1450.85
		45	1276.44	1305.04	1341.33	1820.59	1567.34
		51	1393.56	1254.80	1247.82	1774.16	1520.66
		57	1440.95	1138.26	1283.85	1676.76	1460.47
T5	5	5	1271.15	1161.19	1140.18	2182.03	1594.12
		11	1319.16	1476.92	1320.42	1685.16	1538.28
		17	1376.82	1349.94	1116.88	2019.96	1571.05
		23	1470.42	1146.07	1256.59	1640.38	1448.18
		29	1311.73	1228.09	1160.91	1762.75	1467.28
		32	1636.39	1453.50	1358.77	1691.57	1567.33
		38	1418.14	1276.20	1138.91	1845.03	1513.14
		44	1272.19	1398.26	1303.66	1849.56	1591.25
		50	1387.47	1239.04	1240.84	1752.37	1491.10
		56	1353.31	1350.44	1368.67	1574.24	1474.33
T6	6	6	1349.27	1331.16	961.80	2192.42	1580.44
		12	1388.25	1360.31	1320.36	1819.76	1582.19
		18	1266.88	1325.38	1061.40	2187.60	1606.41
		24	1353.09	1364.68	1144.58	1784.52	1509.79
		30	1485.52	1139.51	1599.92	1563.49	1491.04
		31	1664.64	1264.81	1393.35	1710.23	1556.32
		37	1274.82	1258.91	1331.75	1736.52	1515.18
		43	1337.34	1444.45	1218.46	1898.88	1600.12
		49	1359.30	1219.28	1442.43	1836.37	1591.71
		55	1391.05	1155.15	1176.91	1811.37	1493.84

Feed consumption per phases

Tab. No. 8e (page 1)

Treatment	Tr. No.	Box	Feed consumption				
			Starter (D 1-8)	Grower (D 9-16)	Grower (D 17-24)	Finisher (D 24-36)	Total (D 1-36)
			kg	kg	kg	kg	kg
T1	1	1	26.50	43.90	82.50	215.10	368.00
		7	22.30	42.65	74.70	207.70	347.35
		13	19.30	48.75	77.90	209.00	354.95
		19	23.80	48.75	81.10	214.80	368.45
		25	21.70	49.85	80.40	219.10	371.05
		36	22.80	51.85	78.30	213.00	365.95
		42	20.20	46.95	78.80	220.40	366.35
		48	23.60	43.95	81.40	206.10	355.05
		54	23.60	46.85	78.50	212.40	361.35
		60	22.80	46.05	78.30	203.40	350.55
T2	2	2	21.30	47.05	80.40	213.50	362.25
		8	23.90	45.15	78.40	205.40	352.85
		14	21.80	45.75	71.30	187.50	326.35
		20	23.40	46.05	73.10	208.90	351.45
		26	22.50	46.55	80.60	207.10	356.75
		35	21.90	48.25	75.30	209.70	355.15
		41	23.10	47.25	65.00	189.00	324.35
		47	22.80	46.05	79.90	195.80	344.55
		53	22.90	48.65	66.80	196.90	335.25
		59	23.90	44.05	77.10	203.00	348.05
T3	3	3	23.10	45.40	81.00	210.90	360.40
		9	22.20	45.85	76.80	206.90	351.75
		15	23.40	46.75	71.50	205.30	346.95
		21	22.60	44.95	73.60	203.30	344.45
		27	23.30	46.55	73.50	193.70	337.05
		34	27.30	46.85	67.40	210.30	351.85
		40	22.30	46.95	73.70	199.80	342.75
		46	26.00	44.35	76.90	201.90	349.15
		52	21.70	46.15	76.10	185.60	329.55
		58	22.60	51.45	74.20	197.80	346.05



**Feed consumption per phases**

**Tab. No. 8e (page 2)**

Treatment	Tr. No.	Box	Feed consumption				
			Starter (D 1-8)	Grower (D 9-16)	Grower (D 17-24)	Finisher (D 24-36)	Total (D 1-36)
			kg	kg	kg	kg	kg
T4	4	4	22.70	47.35	77.60	206.40	354.05
		10	23.50	45.75	71.70	201.80	342.75
		16	22.70	46.85	66.00	187.40	322.95
		22	23.10	44.05	73.20	194.00	334.35
		28	23.70	48.05	79.20	206.90	357.85
		33	25.00	48.85	73.80	198.50	346.15
		39	22.20	49.35	71.10	200.00	342.65
		45	21.70	45.05	73.60	189.80	330.15
		51	23.90	42.45	70.90	186.70	323.95
		57	23.20	46.35	76.00	185.20	330.75
T5	5	5	21.80	44.65	73.60	191.10	331.15
		11	21.70	44.95	67.20	190.00	323.85
		17	23.20	47.75	74.70	186.60	332.25
		23	23.60	45.35	69.10	188.90	326.95
		29	22.30	45.55	73.30	184.10	325.25
		32	26.10	52.05	79.00	205.60	362.75
		38	23.40	51.15	73.30	195.40	343.25
		44	20.80	49.75	73.80	203.10	347.45
		50	22.20	48.05	78.60	183.00	331.85
		56	22.60	46.05	76.70	191.70	337.05
T6	6	6	22.60	44.45	72.00	209.60	348.65
		12	23.60	44.55	73.40	192.40	333.95
		18	21.60	44.35	68.20	189.00	323.15
		24	22.80	47.75	68.40	191.90	330.85
		30	25.70	46.15	80.70	190.80	343.35
		31	26.80	44.85	78.10	197.00	346.75
		37	21.80	44.15	78.60	187.70	332.25
		43	22.40	46.65	68.00	195.30	332.35
		49	22.70	44.15	77.30	190.40	334.55
		55	23.30	43.95	66.90	186.10	320.25

Foot pad lesions

Tab. No. 9f (page 1)

Treatment	Tr. No.	Box	Evaluation	
			right foot	left foot
T1	1	1	1.33	1.48
		7	0.93	1.03
		13	1.20	1.18
		19	0.85	0.90
		25	1.23	1.33
		36	1.10	1.31
		42	1.25	1.28
		48	1.08	1.23
		54	1.40	1.53
		60	2.03	2.10
T2	2	2	1.50	1.60
		8	0.88	1.15
		14	1.48	1.58
		20	1.08	1.13
		26	1.30	1.35
		35	1.28	1.50
		41	0.93	1.25
		47	1.08	1.23
		53	1.20	1.55
		59	1.58	1.35
T3	3	3	1.25	1.38
		9	1.05	0.93
		15	1.23	1.23
		21	1.03	1.05
		27	1.23	1.28
		34	0.80	1.03
		40	1.60	1.18
		46	1.10	1.13
		52	1.28	1.30
		58	1.88	1.78

Treatment	Tr. No.	Box	Evaluation	
			right foot	left foot
T4	4	4	0.78	0.83
		10	0.88	0.95
		16	0.98	1.08
		22	1.18	1.03
		28	1.25	1.30
		33	0.90	1.03
		39	0.70	0.90
		45	0.98	1.15
		51	0.78	0.65
		57	1.05	1.25
T5	5	5	0.80	0.83
		11	1.18	1.03
		17	1.05	1.23
		23	0.98	1.08
		29	1.20	1.23
		32	1.75	1.75
		38	0.95	0.83
		44	1.30	1.35
		50	1.30	1.15
		56	1.48	1.33
T6	6	6	0.80	0.85
		12	1.05	1.13
		18	0.85	0.90
		24	0.93	1.00
		30	1.28	1.15
		31	0.90	0.93
		37	0.40	0.53
		43	0.75	0.88
		49	0.70	0.90
		55	0.98	0.98