



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE  
státní podnik, ÚSTRAŠICE

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**1<sup>st</sup> part fattening test of the final product of 4th test  
of parents from of broilers**

**XXXXX**

**7. 12. 2023 - 10. 1. 2023**

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Ústrašice, February 2024

# 1 Basic tests information

## 1.1 The basic dates

setting in the hatchery:	14 November 2023
beginning of test:	7 December 2023 (day 1)
end of the test:	10 January 2024

## 1.2 Location of the test

Mezinárodní testování drůbeže, s.p. Ústrašice, Czech Republic

# 2 Material and methods

## 2.1 Material

There were 2 different samples in this test. Each sample consisted of 1080 hatching eggs of broilers xxxxx. There were 840 chicken in each sample, divided into 6 pens (140 broilers in each pen).

The parent flock is 33 weeks old at the time of hatching eggs collection.

xxxxx		xxxxx	
Box of fattening	Box of breeding	Box of fattening	Box of breeding
1	49	2	50
3	51	4	52
5	53	6	54
32	59	31	60
34	57	33	58
36	55	35	56

## 2.2 Housing system

Pullets were kept in windowless house with full control of the environment. They were kept in deep litter system. Manually filled tube feeders and nipple automatic drinkers were used.

## 2.3 Lighting programme

Pullets were kept in windowless house. All the birds were submitted to the following lighting programme.

Age	Hours of light	Hours of darkness
Day 1 – 7	23	1
Day 8 – 32	18	6
Day 33 – 35	23	1

## 2.4 Stocking density

17,2 broilers per square meter

## 2.5 Feeding

Feed was produced in xxxxx

Day 1 – 14 Starter (BR1)

Day 15 – 28 Grower (BR2)

Day 29 – 35 Grower (BR3)

### Diet formulas

	<b>Starter BR1</b>	<b>Grower BR2</b>	<b>Grower BR3</b>
Age	Days 1 - 14	Days 15 - 28	Day 29 - 35
<b>Components (%)</b>			
Wheat	43.48	50.95	58.08
Maize	15.00	13.00	10.00
Soybean extr.	32.25	30.95	26.65
Soybean extr. groats	3.00	-	
Fish meal	1.50	-	-
MCP – monocalciumphosphate	0.75	0.35	0.18
Calcium carbonate	1.24	1.08	0.98
Salt	0.21	0.23	0.23
Soybean oil	1.30	1.58	1.00
Animal fat	-	0.50	1.72
Sodium sulfate	0.11	0.12	0.11
Cholinchlorid	0.04	0.04	0.03
Premixes of amino acid	0.87	0.88	0.80
Vitamin and mineral supplement	0.25	0.32	0.22
<b>Nutrient content</b>			
Crude protein (g/kg)	229.06	208.75	194.55
Fat (g/kg)	38.63	39.55	45.23
Lysine (g/kg)	12.77	11.63	10.58
Methionine (g/kg)	6.38	5.78	5.27
Ca (g/kg)	9.32	7.79	6.91
P (g/kg)	4.85	4.01	3.60
Vitamin A (IU/kg)	15000	10000	10000
Vitamin D3 (IU/kg)	5000	5000	5000
ME (MJ/kg)	12.23	12.65	13.03

The feed was without coccidiostats. xxxxx (1 kg/tonne) was in every group of feed.

## 2.6 Veterinary precautions

The chicken house was disinfected by xxxxx before the chick placement. After the chicks hatched, a spray vaccination against coccidiosis (xxxxx) was applied. On the first days old chickens was applied to the water solution of permanganate. On days 1 and 12 chickens were vaccinated with xxxxx. On the third day, treatment with xxxxx was started due to higher mortality.

### **3 Parameters recorded**

#### **3.1 Live weight**

Live weight was measured on days 1 (all the birds in each pen were weighed altogether), 7 and 14 (20 % of the birds were weighed altogether, without fasting). On day 28 birds were weighed individually without fasting. On day 35 birds were weighed individually, after 12 hours of fasting.

#### **3.2 Feed conversion ratio (FCR)**

Feed conversion ratio was calculated as feed consumption per 1 kg of live weight for the periods 1 – 14 days, 1 – 28 days and 1 – 35 days.

#### **3.3 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 and reason of mortality on the day of death.

#### **3.4 Carcass analysis**

The carcass analysis was done on 3 cocks and 3 hens per each pen on day 35. Breast muscles was weighed without skin and thigh muscles with bone and skin.

#### **3.5 Statistical analyses**

Performance results of live weight at the age of 35 days were statistically evaluated.

### **4 Results**

Tab. No.	1	Hatchability
	2a	Broiler results at the age of 7 days
	2b	Broiler results at the age of 14 days
	2c	Broiler results at the age of 28 days
	2d	Broiler results at the age of 35 days
	3	Mortality during growing period at the age of 35 days
	4	Results of carcass analysis
	5	Statistical analysis
	6	Performance results per pen
	6a	Broiler results at the age of 7 days
	6b	Broiler results at the age of 14 days
	6c	Broiler results at the age of 28 days
	6d	Broiler results at the age 35 days

**Hatchability****Tab. No. 1**

<b>Cross</b>	<b>Sample</b>	<b>Fertility</b>	<b>Hatchability</b>		<b>Birds housed</b>	<b>Average weight</b>	
			Set	Fert.		hatch. eggs	1-day
		%	%	%		g	g
XXXXX	1	99.63	90.93	91.26	840	59.89	41.76
XXXXX	2	99.44	91.20	91.72	840	59.73	41.50

**Broiler results at the age of 7 days****Tab. No. 2a**

Cross	Sample	Mortality		Live weight	
		Birds	%	Birds	g
XXXXX	1	20	2.38	820	201.11
XXXXX	2	11	1.31	829	195.83

**Broiler results at the age of 14 days****Tab. No. 2b**

Cross	Sample	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
XXXXX	1	27	3.21	813	518.89	1003.93
XXXXX	2	19	2.26	821	514.44	1018.59

**Broiler results at the age of 28 days****Tab. No. 2c**

Cross	Sample	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
XXXXX	1	39	4.64	777	1634.86	1398.33
XXXXX	2	24	2.86	792	1584.22	1414.50

**Broiler results at the age of 35 days**

**Tab. No. 2d**

Cross	Sample	Male		Female		Average		FCR	IEV
		birds	live weight	birds	live weight	birds	live weight		
			g		g		g		
xxxxx	1	394	2520.91	378	2183.86	772	2355.88	1516.16	446
xxxxx	2	401	2428.23	389	2119.02	790	2275.97	1529.42	437

**The fattening efficiency index (IEV)** means the level of fattening and is characterized mainly by its length, feed consumption per 1 kg live weight, achieved live weight and percentage of chicken deaths.

Calculation:

$$\text{IEV} = \frac{\% \text{ live} \times \text{average weight at slaughter (kg)}}{\text{fattening length (days)} \times \text{feed consumption (kg / bw)}} \times 100$$

**Mortality during the masts in 35 days**

**Tab. No. 3**

Cross	Sample	Mortality in the period							Mortality according causes														
		1 - 7	7 - 14	15 - 28	29 - 35	1 - 35			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		birds	birds	birds	birds	birds	g	%															
xxxxx	1	20	7	12	5	44	19226	5.24		15								4	16		6	3	24
xxxxx	2	11	8	5	2	26	10178	3.10		11									7		2	6	24

- 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) |



Results of carcass analysis in 35 days

Tab. No. 4

Cross	Sample	Sex	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	%	%	%
xxxxx	1	♂	2525	1807	144	22	0.86	615	24.37	34.05	561	22.21	31.03	1176	46.57	65.08	71.56	77.28
		♀	2268	1611	134	21	0.93	554	24.42	34.39	486	21.45	30.20	1040	45.86	64.59	71.01	76.92
		♂	<b>2397</b>	<b>1709</b>	<b>139</b>	<b>21</b>	<b>0.89</b>	<b>585</b>	<b>24.39</b>	<b>34.21</b>	<b>524</b>	<b>21.85</b>	<b>30.64</b>	<b>1108</b>	<b>46.24</b>	<b>64.85</b>	<b>71.30</b>	<b>77.11</b>
xxxxx	2	♂	2494	1776	145	19	0.78	598	23.97	33.66	551	22.10	31.03	1149	46.07	64.69	71.22	77.05
		♀	2173	1562	130	19	0.89	538	24.76	34.44	470	21.62	30.08	1008	46.38	64.52	71.89	77.89
		♂	<b>2334</b>	<b>1669</b>	<b>138</b>	<b>19</b>	<b>0.83</b>	<b>568</b>	<b>24.34</b>	<b>34.02</b>	<b>511</b>	<b>21.88</b>	<b>30.58</b>	<b>1078</b>	<b>46.21</b>	<b>64.61</b>	<b>71.53</b>	<b>77.44</b>

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

**Tab. No. 5**

Cross	Sample	Cocks				Hens			
		Sample size	Average	Standard deviation	Coefficient of variation	Sample size	Average	Standard deviation	Coefficient of variation
			g/birds	g/birds	%		g/birds	g/birds	%
XXXXXX	1	394	2520.91	304.93	12.10	378	2183.86	276.18	12.65
XXXXXX	2	401	2428.23	251.17	10.34	389	2119.02	262.05	12.37

**Broiler results at the age of 7 days**

**Tab. No. 6a**

Cross	Sample	Box	Mortality		Live weight	
			birds	%	birds	g
xxxxx	1	1	3	2.14	137	201.67
		3	3	2.14	137	200.00
		5	5	3.57	135	203.33
		32	4	2.86	136	198.33
		34	0	0.00	140	203.33
		36	5	3.57	135	200.00
xxxxx	2	2	1	0.71	139	205.00
		4	1	0.71	139	185.00
		6	3	2.14	137	181.67
		31	2	1.43	138	200.00
		33	1	0.71	139	201.67
		35	3	2.14	137	201.67

**Broiler results at the age of 14 days**

**Tab. No. 6b**

Cross	Sample	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
xxxxx	1	1	7	5.00	133	515.00	1021.33
		3	5	3.57	135	523.33	978.92
		5	5	3.57	135	516.67	1034.95
		32	4	2.86	136	520.00	1020.01
		34	1	0.71	139	520.00	970.86
		36	5	3.57	135	518.33	999.06
xxxxx	2	2	2	1.43	138	513.33	1023.45
		4	2	1.43	138	521.67	1014.39
		6	3	2.14	137	508.33	1030.18
		31	5	3.57	135	525.00	997.09
		33	1	0.71	139	508.33	985.91
		35	6	4.29	134	510.00	1062.05

**Broiler results at the age of 28 days**

**Tab. No. 6c**

Cross	Sample	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
xxxxx	1	1	11	7.86	125	1637.36	1359.34
		3	7	5.00	129	1727.36	1348.67
		5	6	4.29	130	1540.38	1460.50
		32	4	2.86	132	1679.24	1366.97
		34	4	2.86	132	1573.56	1455.44
		36	7	5.00	129	1652.48	1406.18
xxxxx	2	2	2	1.43	134	1621.57	1398.90
		4	2	1.43	134	1548.58	1446.52
		6	5	3.57	131	1537.33	1413.52
		31	7	5.00	129	1625.19	1407.69
		33	1	0.71	135	1622.15	1399.84
		35	7	5.00	129	1549.38	1422.37

**Broiler results at the age of 35 days**

**Tab. No. 6d**

Cross	Sample	Box	Male		Female		Average		FCR	IEV
			birds	live weight	birds	live weight	birds	live weight		
				g		g		g		
xxxxx	1	1	66	2573.33	59	2112.71	125	2355.92	1504.38	437
		3	65	2666.62	63	2285.24	128	2478.91	1466.29	483
		5	64	2528.28	65	2240.77	129	2383.41	1469.49	467
		32	68	2485.44	62	2136.94	130	2319.23	1535.17	438
		34	67	2419.25	64	2113.91	131	2270.08	1578.81	420
		36	64	2455.63	65	2206.92	129	2330.31	1547.34	434
xxxxx	2	2	67	2422.84	67	2162.54	134	2292.69	1539.01	446
		4	67	2447.46	66	2100.45	133	2275.26	1506.68	448
		6	69	2304.64	62	2064.68	131	2191.07	1530.38	419
		31	69	2450.87	60	2138.50	129	2305.58	1541.27	431
		33	66	2516.52	69	2150.87	135	2329.63	1519.71	462
		35	63	2431.59	65	2093.08	128	2259.69	1540.33	419

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