



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE
státní podnik, ÚSTRAŠICE

390 02 Tábor 2

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**4th part fattening test of the final product of test
of parents from of broilers**

10. 6. 2021 - 12. 7. 2021

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Ústrašice, July 2021

1 Basic tests information

1.1 The basic dates

setting in the hatchery:	19 May 2021
beginning of test:	11 June 2021 (day 1)
end of the test:	12 July 2021

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 1440 hatching eggs of broilers [REDACTED]. There were 840 chicken in each sample, divided into 6 pens (140 broilers in each pen).

The parent flock is 58 weeks old at the time of hatching eggs collection.

Sample No. 1 – [REDACTED]		Sample No. 2 – [REDACTED]	
Box of fattening	Box of breeding	Box of fattening	Box of breeding
2	53	1	54
4	51	3	52
6	49	5	50
31	55	32	56
33	57	34	58
35	59	36	60

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 – 29	18	6
Day 30 – 32	23	1

2.4 Stocking density

17,2 broilers per square meter

2.5 Feeding

Feed was produced in [REDACTED]

Day 1 – 10 Starter (BR1)
Day 11 – 21 Grower (BR2-A)
Day 22 – 28 Grower (BR2-B)
Day 29 – 32 Finisher (BR3)

Diet formulas

	Starter BR1	Grower BR2-A	Grower BR2-B	Finisher BR3
Age	Days 1 - 10	Days 11 - 21	Day 22 - 28	Day 29 – 32
Components (%)				
Wheat	42.76	50.54	52.18	57.51
Maize	15.00	13.00	13.00	10.00
Soybean extr. groats	31.10	30.25	28.35	24.75
Soybean extr.	4.00	-	-	-
Fish meal	1.50	-	-	-
MCP – monocalciumphosphate	0.46	0.31	0.18	0.16
Calcium carbonate	1.47	1.21	1.20	1.13
Salt	0.26	0.24	0.23	0.26
Soybean oil	2.07	2.50	2.50	2.48
Animal fat	-	0.61	1.04	2.50
Sodium sulfate	0.15	0.10	0.11	0.08
Premixes of amino acid	0.86	0.87	0.85	0.86
Vitamin and mineral supplement	0.37	0.37	0.36	0.27
Nutrient content				
Crude protein (g/kg)	23.33	21.16	20.47	19.16
Fat (g/kg)	4.79	4.96	5.38	6.73
Lysine (g/kg)	1.30	1.17	1.13	1.05
Methionine (g/kg)	0.63	0.56	0.53	0.50
Ca (g/kg)	0.94	0.78	0.75	0.70
P (g/kg)	0.45	0.39	0.36	0.35
Vitamin A (IU/kg)	15000	10000	10000	10000
Vitamin D3 (IU/kg)	5000	5000	5000	5000
ME (MJ/kg)	12.40	12.70	12.90	13.40

2.6 Veterinary precautions

The chicken house was disinfected by [REDACTED] before the chick placement. On the first days old chickens was applied to the water solution of permanganate. On days 1 and 12 chickens were vaccinated with [REDACTED].

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 32 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 – 32 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 32. 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 32 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 32 days
	3	Mortality during growing period at the age of 32 days
	4	Results of carcass analysis
	5a	Statistical analysis - cocks
	5b	Statistical analysis – hens
	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 32 days

Hatchability**Tab. No. 1**

Cross	Sample	Fertility	Hatchability		Birds housed	Average weight	
			Set	Fert.		hatch. eggs	1-day
		%	%	%		g	g
██████	1	86.81	76.39	87.98	840	71.74	48.87
██████	2	91.60	81.94	89.45	840	72.03	48.92

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

Cross	Sample	Mortality		Live weight	
		Birds	%	Birds	g
██████	1	12	1.43	828	225.28
██████	2	10	1.19	830	220.00

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

Cross	Sample	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
██████	1	24	2.86	816	561.72	1102.55
██████	2	17	2.02	823	571.33	1097.97

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

Cross	Sample	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
██████	1	28	3.33	812	1787.59	1343.09
██████	2	24	2.86	816	1848.85	1318.32

Broiler results at the age of 32 days

Tab. No. 2d

Cross	Sample	Average live weight at 32 days						
		Male		Female		Average		
		birds	live weight	birds	live weight	birds	live weight	FCR
			g		g		g	g
████████	1	406	2206.16	404	1890.79	810	2048.86	1519.01
████████	2	396	2287.65	411	1979.25	807	2130.58	1489.94

Mortality during the masts in 32 days

Tab. No. 3

Cross	Sample	Mortality in the period						Mortality according causes													
		1 - 14		15 - 32		1 - 32		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		birds	%	birds	%	birds	%														
█	1	24	2.86	6	0.71	30	3.57											20		1	9
█	2	17	2.02	16	1.90	33	3.93											23		2	8

- 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 | |

Results of carcass analysis in 32 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	%	%	%
■	1	♂	2201	1520	133	27	1.23	495	22.49	32.58	463	21.06	30.49	959	43.55	63.07	69.05	75.08
		♀	1927	1346	121	25	1.32	445	23.07	33.03	402	20.88	29.90	847	43.95	62.93	69.84	76.10
		∅	2064	1433	127	26	1.27	470	22.76	32.79	433	20.97	30.22	903	43.74	63.01	69.41	75.56
■	2	♂	2297	1586	135	28	1.21	511	22.24	32.21	486	21.18	30.68	997	43.42	62.88	69.04	74.92
		♀	2005	1391	121	28	1.38	453	22.58	32.56	420	20.93	30.17	872	43.51	62.73	69.37	75.41
		∅	2151	1488	128	28	1.29	482	22.40	32.37	453	21.06	30.44	935	43.46	62.81	69.19	75.15

Statistical analysis - Cocks on the age of 32 days

Tab. No. 5a

Cross	Sample	Sample size	Average	Standard deviation	Coefficient of variation	Standard error of mean	Precision select. average	Standard error of coeff. of variation
			g/birds	g/birds	%	g/birds	%	%
██████	1	406	2206.16	182.60	8.28	9.06	0.41	0.29
██████	2	396	2287.65	188.90	8.26	9.49	0.41	0.30

Statistical analysis - Hens on the age of 32 days

Tab. No. 5b

Cross	Sample	Sample size	Average	Standard deviation	Coefficient of variation	Standard error of mean	Precision select. average	Standard error of coeff. of variation
			g/birds	g/birds	%	g/birds	%	%
██████	1	404	1890.79	196.90	10.41	9.80	0.52	0.37
██████	2	411	1979.25	185.78	9.39	9.16	0.46	0.33

Broiler results at the age of 7 days

Tab. No. 6a

Cross	Sample	Box	Mortality		Live weight	
			birds	%	birds	g
[REDACTED]	1	2	2	1.43	138	225.00
		4	1	0.71	139	221.67
		6	7	5.00	133	223.33
		31	0	0.00	140	223.33
		33	1	0.71	139	231.67
		35	1	0.71	139	226.67
[REDACTED]	2	1	2	1.43	138	215.00
		3	3	2.14	137	218.33
		5	0	0.00	140	215.00
		32	0	0.00	140	228.33
		34	2	1.43	138	218.33
		36	3	2.14	137	225.00

Broiler results at the age of 14 days

Tab. No. 6b

Cross	Sample	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
[REDACTED]	1	2	3	2.14	137	555.00	1064.68
		4	4	2.86	136	577.67	1081.42
		6	10	7.14	130	543.33	1121.36
		31	4	2.86	136	575.00	1081.85
		33	2	1.43	138	565.00	1115.15
		35	1	0.71	139	554.33	1151.58
[REDACTED]	2	1	5	3.57	135	568.33	1022.07
		3	3	2.14	137	586.67	1071.19
		5	0	0.00	140	588.33	1104.21
		32	2	1.43	138	523.00	1226.78
		34	3	2.14	137	588.33	1064.11
		36	4	2.86	136	573.33	1110.27

Broiler results at the age of 28 days

Tab. No. 6c

Cross	Sample	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
[REDACTED]	1	2	3	2.14	137	1814.60	1265.28
		4	4	2.86	136	1883.38	1313.74
		6	11	7.86	129	1761.63	1375.93
		31	5	3.57	135	1803.78	1345.35
		33	3	2.14	137	1753.50	1391.56
		35	2	1.43	138	1708.62	1373.34
[REDACTED]	2	1	5	3.57	135	1836.44	1296.68
		3	7	5.00	133	1868.72	1320.65
		5	1	0.71	139	1909.28	1301.59
		32	3	2.14	137	1880.44	1316.43
		34	4	2.86	136	1808.46	1328.54
		36	4	2.86	136	1788.53	1347.88

Broiler results at the age of 32 days

Tab. No. 6d

Cross	Sample	Box	Average live weight at 32 days						
			Male		Female		Average		
			birds	live weight	birds	live weight	birds	live weight	FCR
				g		g		g	g
[REDACTED]	1	2	68	2238.82	69	1893.77	137	2065.04	1468.47
		4	67	2265.52	68	1951.62	135	2107.41	1526.99
		6	64	2165.16	65	1883.85	129	2023.41	1572.16
		31	68	2243.68	67	1923.88	135	2084.96	1481.41
		33	65	2214.62	71	1885.07	136	2042.57	1537.82
		35	74	2115.95	64	1801.72	138	1970.22	1531.84
[REDACTED]	2	1	65	2327.85	66	2051.52	131	2188.63	1437.47
		3	65	2390.92	68	2034.71	133	2208.80	1446.09
		5	68	2302.94	70	1936.86	138	2117.25	1514.64
		32	64	2270.47	70	1971.43	134	2114.25	1509.33
		34	63	2238.25	72	1914.72	135	2065.70	1526.36
		36	71	2200.99	65	1973.38	136	2092.21	1508.34