



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE
státní podnik, ÚSTRAŠICE

390 02 Tábor 2

Tel.: 381 200 320

**2nd part fattening test of the final product of L.
international test of parents from of broilers**

2. 2. 2022 - 6. 3. 2022

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Ústrašice, March 2022

1 List of participants

Sample	Cross	Breeding organization	State
1	xxxxxx	xxxxxx	xxxxxx
2	xxxxxx	xxxxxx	xxxxxx
3	xxxxxx	xxxxxx	xxxxxx
4	xxxxxx	xxxxxx	xxxxxx
5	xxxxxx	xxxxxx	xxxxxx
6	xxxxxx	xxxxxx	xxxxxx
7	xxxxxx	xxxxxx	xxxxxx
8	xxxxxx	xxxxxx	xxxxxx
9	xxxxxx	xxxxxx	xxxxxx
10	xxxxxx	xxxxxx	xxxxxx
11	xxxxxx	xxxxxx	xxxxxx
12	xxxxxx	xxxxxx	xxxxxx

2 Basic tests information

2.1 The basic dates

setting in the hatchery:	11 January 2022
beginning of test:	2 February 2022
end of the test:	6 March 2022

2.2 Location of the test

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

3 Material and methods

3.1 Material

There were 12 different breeds in this test. Each sample consisted of 720 hatching eggs. 560 broilers were sexed and placed always 280 females (in two pens) and 280 males (in two pens).

The parent flock is 42 weeks old at the time of hatching eggs collection.

3.2 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.

3.3 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

3.4 Stocking density

17,2 broilers per square meter

3.5 Feeding

Feed was produced in xxxxx

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	41.42	49.80	51.37	57.12
Maize	15.00	13.00	13.00	10.00
Soybean extr. groats	31.50	30.40	28.55	24.80
Soybean extr.	4.00	-	-	-
Fish meal	1.50	-	-	-
MCP – monocalciumphosphate	0.47	0.31	0.18	0.16
Calcium carbonate	1.47	1.16	1.15	1.13
Salt	0.28	0.24	0.23	0.26
Soybean oil	2.46	2.50	2.50	2.62
Animal fat	-	0.86	1.29	2.50
Sodium sulfate	0.13	0.10	0.11	0.08
Premixes of amino acid	0.85	0.86	0.86	0.86
Vitamin and mineral supplement	0.92	0.77	0.76	0.47
Nutrient content				
Crude protein (g/kg)	23.36	21.17	20.50	19.15
Fat (g/kg)	5.16	5.20	5.62	6.86
Lysine (g/kg)	1.30	1.17	1.13	1.05
Methionine (g/kg)	0.63	0.56	0.54	0.50
Ca (g/kg)	0.96	0.78	0.75	0.72
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

3.6 Veterinary precautions

The chicken house was disinfected by xxxxx 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 xxxxx. Amoxicillin treatment was initiated on day 3 due to higher mortality.

4 Parameters recorded

4.1 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 32 birds were weighed individually, after 12 hours of fasting.

4.2 Feed conversion ratio (FCR)

Feed conversion ratio was calculated as feed consumption per 1 kg of live weight for the periods 1 – 14 days and 1 – 32 days.

4.3 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.

4.4 Carcass analysis

The carcass analysis was done on 20 cocks and 20 hens per each genotype on day 32. Breast muscles was weighed without skin and thigh muscles with bone and skin.

4.5 Statistical analyses

Performance results of live weight at the age of 32 days were statistically evaluated.

5 Results

Tab. No.	1a	Hatchability
	1b	Broiler results at the age of 7 days
	1c	Broiler results at the age of 14 days
	1d	Broiler results at the age of 32 days
	2a	Mortality during growing period at the age of 14 days
	2b	Mortality during growing period at the age of 32 days
	3	Results of carcass analysis
	4a	Statistical analysis - cocks
	4b	Statistical analysis - hens

Hatchability**Tab. No. 1a**

Test: 50

Part fattening: 2

Cross	Sample	Fertility	Hatchability		Birds housed	Average weight		
			Set	Fert.		hatch. eggs	1-day	
		%	%	%			♂	♀
					g	g	g	
XXXXXX	1	98.33	76.55	77.85	560	66.8	44.4	44.8
XXXXXX	2	98.81	79.05	80.00	560	64.8	44.2	44.4
XXXXXX	3	97.02	75.60	77.91	560	66.7	44.3	43.9
XXXXXX	4	98.57	75.36	76.45	560	62.4	44.0	44.0
XXXXXX	5	97.50	75.48	77.41	560	66.6	44.6	44.4
XXXXXX	6	98.45	74.17	75.33	560	66.3	45.3	44.6
XXXXXX	7	98.45	72.14	73.28	560	66.5	45.1	45.3
XXXXXX	8	96.79	71.67	74.05	560	67.0	45.1	44.3
XXXXXX	9	98.57	83.45	84.66	560	66.0	44.4	44.9
XXXXXX	10	98.93	74.17	74.97	560	69.0	45.9	46.3
XXXXXX	11	99.17	70.00	70.59	560	64.9	44.1	44.3
XXXXXX	12	97.50	76.19	78.14	560	68.0	45.7	45.3

Broiler results at the age of 7 days

Tab. No. 1b

Test: 50

Part fattening: 2

Cross	Sample	Average live weight at 7 days								
		male			female			average		
		mortality		live weight	mortality		live weight	mortality		live weight
		birds	%	g	birds	%	g	birds	%	g
XXXXXX	1	2	1.4	207.5	6	4.3	204.2	8	1.4	205.8
XXXXXX	2	0	0.0	210.0	1	0.7	209.7	1	0.2	209.8
XXXXXX	3	0	0.0	204.2	5	3.6	210.8	5	0.9	207.5
XXXXXX	4	1	0.7	205.0	5	3.6	210.0	6	1.1	207.5
XXXXXX	5	0	0.0	210.0	4	2.9	205.8	4	0.7	207.9
XXXXXX	6	0	0.0	202.5	3	2.1	205.0	3	0.5	203.7
XXXXXX	7	1	0.7	207.5	4	2.9	209.2	5	0.9	208.3
XXXXXX	8	1	0.7	211.7	2	1.4	205.8	3	0.5	208.8
XXXXXX	9	3	2.1	210.8	2	1.4	209.2	5	0.9	210.0
XXXXXX	10	0	0.0	212.5	1	0.7	208.3	1	0.2	210.4
XXXXXX	11	0	0.0	209.2	10	7.1	204.2	10	1.8	206.7
XXXXXX	12	1	0.7	205.8	1	0.7	204.2	2	0.4	205.0

Broiler results at the age of 14 days

Tab. No. 1c

Test: 50

Part fattening: 2

Cross	Sample	Average live weight at 14 days								
		male			female			average		
		birds	live weight	FCR	birds	live weight	FCR	birds	live weight	FCR
			g	g		g	g		g	
xxxxx	1	275	509.2	1094.8	271	505.8	1126.7	546	507.5	1110.6
xxxxx	2	277	521.7	1102.4	279	513.3	1075.3	556	517.5	1088.9
xxxxx	3	276	514.2	1103.5	272	514.2	1100.4	548	514.2	1102.0
xxxxx	4	274	510.0	1124.2	266	503.3	1136.0	540	506.7	1130.0
xxxxx	5	279	516.7	1116.9	271	509.2	1130.6	550	513.0	1123.6
xxxxx	6	275	508.3	1154.6	275	505.8	1093.4	550	507.1	1124.1
xxxxx	7	277	523.3	1107.9	273	507.5	1098.5	550	515.5	1103.3
xxxxx	8	276	515.0	1141.1	271	511.7	1094.8	547	513.3	1118.2
xxxxx	9	275	513.3	1151.8	276	513.3	1084.1	551	513.3	1117.9
xxxxx	10	279	520.0	1118.7	278	512.5	1094.2	557	516.3	1106.6
xxxxx	11	277	524.2	1099.2	269	508.3	1091.8	546	516.4	1095.6
xxxxx	12	278	511.7	1140.3	271	514.2	1105.9	549	512.9	1123.3

Broiler results at the age of 32 days

Tab. No. 1d

Test: 50

Part fattening: 2

Cross	Sample	Average live weight at 32 days								
		male			female			average		
		birds	live weight	FCR	birds	live weight	FCR	birds	live weight	FCR
			g	g		g	g		g	
xxxxxx	1	269	2204.9	1435.0	265	1986.8	1526.8	534	2096.6	1478.1
xxxxxx	2	272	2206.5	1410.0	279	1967.7	1464.9	551	2085.6	1436.2
xxxxxx	3	271	2165.7	1435.3	271	2046.5	1432.7	542	2106.1	1434.1
xxxxxx	4	265	2184.4	1462.5	262	2015.3	1394.8	527	2100.4	1430.2
xxxxxx	5	268	2218.8	1459.2	268	2159.7	1377.7	536	2189.3	1419.0
xxxxxx	6	269	2209.4	1441.9	274	1895.1	1474.4	543	2050.8	1457.1
xxxxxx	7	273	2218.6	1419.8	270	1935.1	1395.1	543	2077.6	1408.3
xxxxxx	8	268	2298.2	1420.8	267	2035.3	1483.2	535	2167.0	1450.0
xxxxxx	9	273	2361.5	1409.8	275	2071.4	1426.1	548	2215.9	1417.5
xxxxxx	10	274	2191.5	1453.2	275	1999.9	1470.2	549	2095.6	1461.3
xxxxxx	11	268	2157.3	1469.2	266	1877.3	1458.7	534	2017.8	1464.3
xxxxxx	12	271	2275.6	1413.7	263	2044.5	1530.8	534	2161.8	1468.2

Mortality in the age 14 days

Tab. No. 2a

Test: 50

Part fattening: 2

Cross	Sample	Mortality in the period						Mortality according causes													
		male		female		total		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		birds	%	birds	%	birds	%														
xxxxxx	1	5	1.79	9	3.21	14	2.50											4			10
xxxxxx	2	3	1.07	1	0.36	4	0.71											3			1
xxxxxx	3	4	1.43	8	2.86	12	2.14											4		3	5
xxxxxx	4	6	2.14	14	5.00	20	3.57											7		1	12
xxxxxx	5	1	0.36	9	3.21	10	1.79											5			5
xxxxxx	6	5	1.79	5	1.79	10	1.79											6			4
xxxxxx	7	3	1.07	7	2.50	10	1.79											9			1
xxxxxx	8	4	1.43	9	3.21	13	2.32											8		1	4
xxxxxx	9	5	1.79	4	1.43	9	1.61											6		1	2
xxxxxx	10	1	0.36	2	0.71	3	0.54											1		1	1
xxxxxx	11	3	1.07	11	3.93	14	2.50											5		5	4
xxxxxx	12	2	0.71	9	3.21	11	1.96											4			7

Causes: 1 – Viral diseases
 2 – Bacterial diseases
 3 – Moulds diseases
 4 – Parasitary diseases
 5 – Tumors

6 – Wounds
 7 – Digestive track diseases
 8 – Respiratory tract diseases
 9 – Reproduction tract diseases
 10 – Locomotion apparatus diseases

11 – Sudden death syndrome
 12 – Cannibalism
 13 – Yolk sac. infam.
 14 – Culling and other causes

Mortality during the masts in 32 days

Tab. No. 2b

Test: 50

Part fattening: 2

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	%														
xxxxxx	1	14	2.50	12	2.14	26	4.64										2	11			13
xxxxxx	2	4	0.71	5	0.89	9	1.61											7			2
xxxxxx	3	12	2.14	6	1.07	18	3.21											9		3	6
xxxxxx	4	20	3.57	13	2.32	33	5.89										2	16		1	14
xxxxxx	5	10	1.79	14	2.50	24	4.29										1	14			9
xxxxxx	6	10	1.79	7	1.25	17	3.04											13			4
xxxxxx	7	10	1.79	7	1.25	17	3.04											16			1
xxxxxx	8	13	2.32	12	2.14	25	4.46										1	17		1	6
xxxxxx	9	9	1.61	3	0.54	12	2.14											9		1	2
xxxxxx	10	3	0.54	8	1.43	11	1.96											9		1	1
xxxxxx	11	14	2.50	12	2.14	26	4.64											15		5	6
xxxxxx	12	11	1.96	15	2.68	26	4.64										1	14			11

Causes: 1 – Viral diseases
 2 – Bacterial diseases
 3 – Moulds diseases
 4 – Parasitary diseases
 5 – Tumors

6 – Wounds
 7 – Digestive track diseases
 8 – Respiratory tract diseases
 9 – Reproduction tract diseases
 10 – Locomotion apparatus diseases

11 – Sudden death syndrome
 12 – Cannibalism
 13 – Yolk sac. infam.
 14 – Culling and other causes

Results of carcass analysis in 32 days

Tab. No. 3 (page 1)

Test: 50

Part fattening: 2

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	%	%	%
xxxxxx	1	♂	2239	1523	137	24	1.05	494	22.06	32.44	459	20.50	30.15	953	42.56	62.59	68.00	74.12
		♀	2162	1410	123	21	0.95	476	22.01	33.77	420	19.41	29.77	896	41.42	63.54	65.19	70.86
		♂	2201	1466	130	22	1.00	485	22.04	33.08	439	19.97	29.97	924	42.00	63.05	66.62	72.52
xxxxxx	2	♂	2202	1475	133	20	0.89	504	22.91	34.21	444	20.19	30.14	949	43.10	64.35	66.98	73.02
		♀	2148	1408	122	25	1.17	468	21.81	33.28	408	18.98	28.96	876	40.79	62.24	65.54	71.23
		♂	2175	1441	128	22	1.03	486	22.37	33.76	426	19.59	29.56	912	41.96	63.32	66.27	72.13
xxxxxx	3	♂	2259	1542	144	23	1.00	491	21.71	31.81	472	20.91	30.63	963	42.62	62.44	68.26	74.63
		♀	2173	1417	126	25	1.15	455	20.95	32.13	428	19.68	30.18	883	40.63	62.31	65.20	71.01
		♂	2216	1479	135	24	1.07	473	21.34	31.96	450	20.30	30.41	923	41.64	62.38	66.76	72.85
xxxxxx	4	♂	2191	1510	134	21	0.94	498	22.72	32.97	462	21.09	30.60	960	43.81	63.57	68.91	75.04
		♀	2039	1406	121	23	1.13	469	23.01	33.37	413	20.27	29.40	883	43.28	62.77	68.96	74.87
		♂	2115	1458	127	22	1.04	483	22.86	33.16	438	20.69	30.02	921	43.55	63.18	68.93	74.96
xxxxxx	5	♂	2197	1510	136	27	1.22	495	22.53	32.78	457	20.82	30.30	952	43.35	63.08	68.72	74.92
		♀	2157	1491	131	28	1.29	502	23.28	33.67	438	20.32	29.39	940	43.60	63.06	69.14	75.21
		♂	2177	1500	134	27	1.26	498	22.90	33.22	448	20.57	29.85	946	43.47	63.07	68.93	75.06
xxxxxx	6	♂	2259	1568	135	20	0.87	535	23.69	34.13	467	20.67	29.78	1002	44.36	63.91	69.41	75.37
		♀	1942	1335	117	21	1.06	458	23.60	34.32	391	20.15	29.30	849	43.74	63.63	68.75	74.79
		♂	2101	1452	126	20	0.96	497	23.65	34.22	429	20.43	29.56	926	44.07	63.78	69.10	75.10

Results of carcass analysis in 32 days

Tab. No. 3 (page 2)

Test: 50

Part fattening: 2

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	%	%	%
xxxxxx	7	♂	2240	1497	132	17	0.78	502	22.41	33.54	444	19.84	29.70	946	42.25	63.24	66.81	72.69
		♀	1986	1401	121	21	1.05	488	24.55	34.80	402	20.25	28.70	890	44.79	63.51	70.53	76.61
		♂	2113	1449	126	19	0.91	495	23.42	34.15	423	20.03	29.22	918	43.45	63.37	68.56	74.54
xxxxxx	8	♂	2376	1647	144	24	1.02	543	22.87	32.99	481	20.23	29.17	1024	43.10	62.16	69.33	75.40
		♀	2063	1450	128	26	1.27	492	23.83	33.91	418	20.24	28.81	909	44.07	62.71	70.28	76.50
		♂	2219	1548	136	25	1.14	517	23.32	33.42	449	20.23	29.00	966	43.55	62.42	69.77	75.91
xxxxxx	9	♂	2408	1695	142	26	1.07	576	23.91	33.98	503	20.87	29.66	1078	44.78	63.64	70.37	76.25
		♀	2059	1441	121	25	1.20	500	24.27	34.68	425	20.64	29.49	925	44.91	64.17	69.99	75.87
		♂	2234	1568	131	25	1.13	538	24.08	34.30	464	20.76	29.58	1002	44.84	63.88	70.19	76.08
xxxxxx	10	♂	2269	1562	139	27	1.17	512	22.58	32.80	476	20.98	30.48	988	43.56	63.28	68.84	74.97
		♀	1988	1378	128	28	1.39	448	22.54	32.52	408	20.51	29.59	856	43.05	62.12	69.31	75.74
		♂	2129	1470	134	27	1.27	480	22.56	32.67	442	20.76	30.06	922	43.32	62.73	69.06	75.33
xxxxxx	11	♂	2200	1497	133	19	0.86	491	22.30	32.78	447	20.33	29.88	938	42.63	62.66	68.05	74.10
		♀	2054	1347	118	19	0.94	456	22.22	33.90	396	19.30	29.44	853	41.52	63.34	65.56	71.30
		♂	2127	1422	126	19	0.90	474	22.26	33.31	422	19.83	29.67	895	42.10	62.98	66.84	72.75
xxxxxx	12	♂	2316	1612	139	30	1.29	523	22.57	32.42	480	20.71	29.76	1002	43.28	62.18	69.60	75.60
		♀	2161	1464	129	30	1.37	473	21.87	32.29	433	20.01	29.54	905	41.88	61.83	67.74	73.69
		♂	2238	1538	134	30	1.33	498	22.23	32.36	456	20.37	29.66	954	42.60	62.02	68.70	74.68

Statistical analysis - Cocks on the age of 32 days

Tab. No. 4a

Test: 50

Part fattening: 2

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	%	%
XXXXX	1	269	2204.87	280.80	12.74	17.12	0.78	0.56
XXXXX	2	272	2206.47	270.51	12.26	16.40	0.74	0.53
XXXXX	3	271	2165.68	242.90	11.22	14.76	0.68	0.49
XXXXX	4	265	2184.42	189.52	8.68	11.64	0.53	0.38
XXXXX	5	268	2218.84	214.05	9.65	13.08	0.59	0.42
XXXXX	6	269	2209.43	299.98	13.58	18.29	0.83	0.60
XXXXX	7	273	2218.56	242.16	10.92	14.66	0.66	0.47
XXXXX	8	268	2298.16	295.95	12.88	18.08	0.79	0.57
XXXXX	9	273	2361.49	235.24	9.96	14.24	0.60	0.43
XXXXX	10	274	2191.53	249.42	11.38	15.07	0.69	0.49
XXXXX	11	268	2157.28	280.66	13.01	17.14	0.79	0.57
XXXXX	12	271	2275.57	273.20	12.01	16.60	0.73	0.52

Statistical analysis - Hens on the age of 32 days

Tab. No. 4b

Test: 50

Part fattening: 2

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	%	%
xxxxxx	1	265	1986.79	238.42	12.00	14.65	0.74	0.53
xxxxxx	2	279	1967.67	258.42	13.13	15.47	0.79	0.57
xxxxxx	3	271	2046.53	282.05	13.78	17.13	0.84	0.60
xxxxxx	4	262	2015.34	261.95	13.00	16.18	0.80	0.58
xxxxxx	5	268	2159.70	270.24	12.51	16.51	0.76	0.55
xxxxxx	6	274	1895.14	247.22	13.04	14.94	0.79	0.57
xxxxxx	7	270	1935.07	218.18	11.27	13.28	0.69	0.49
xxxxxx	8	267	2035.34	252.09	12.39	15.43	0.76	0.55
xxxxxx	9	275	2071.44	218.48	10.55	13.18	0.64	0.46
xxxxxx	10	275	1999.92	186.92	9.35	11.27	0.56	0.40
xxxxxx	11	266	1877.26	240.82	12.83	14.77	0.79	0.57
xxxxxx	12	263	2044.52	274.26	13.41	16.91	0.83	0.60