



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE
státní podnik, ÚSTRAŠICE

390 02 Tábor 2

Tel.: 381 200 320

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

XXXXX

28. 1. 2026 - 4. 3. 2026

Study Investigator: Ing. Hana Horná
Ing. Markéta Krekulová

Ústrašice, March 2026

1 Basic tests information

1.1 The basic dates

setting in the hatchery: 6 January 2026
beginning of test: 28 January 2026
end of the test: 4 March 2026

1.2 Location of the test

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

2 Material and methods

2.1 Material

There were 4 different samples in this test. Each sample consisted of 630 hatching eggs of broilers xxxxx. There were 420 chicken in each sample, divided into 3 pens (140 broilers in each pen).

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

Treatment		Description
1	T1	xxxxx
2	T2	xxxxx
3	T3	xxxxx
4	T4	xxxxx

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 Mezinárodní testování drůbeže, s.p.

Day 1 – 14 Starter (BR1)

Day 15 – 28 Grower (BR2)

Day 29 – 35 Grower (BR3)

Diet formulas – treatment T1, T2

	Starter BR1	Grower BR2	Finisher BR3
Age	Days 1 - 14	Days 15 - 28	Day 29 - 35
Components (%)			
SBM	39.07	34.70	23.50
Wheat	33.20	40.08	53.06
Maize	18.00	15.80	15.40
Soybean oil	5.26	5.86	4.96
Limestone	1.65	1.24	1.08
MCP	1.20	0.84	0.52
Salt	0.27	0.28	0.28
Sodium bicarbonate	0.12	0.12	0.12
L-lysine	0.34	0.28	0.38
L-threonine	0.18	0.14	0.17
DL-methionine	0.41	0.36	0.33
Premix AMV BR1-PLUS 0,5%	0.50	-	-
Premix AMV BR2-PLUS 0,5%	-	0.50	-
Premix AMV BR3-PLUS 0,5%	-	-	0.50
Nutrient content			
Crude protein (g/kg)	230.05	215.00	180.12
ME (MJ/kg)	12.40	12.80	13.10
Lysine (g/kg)	14.78	13.27	11.37
Met.+Cys. (g/kg)	10.72	9.90	8.70
Ca (g/kg)	9.50	7.51	6.01
P dig. (g/kg)	4.99	4.21	3.39
Na (g/kg)	1.60	1.62	1.61

Diet formulas – treatment T3, T4

	Starter BR1	Grower BR2	Finisher BR3
Age	Days 1 - 14	Days 15 - 28	Day 29 - 35
Components (%)			
Rapeseed meal	15.00	15.00	15.00
SBM	29.52	25.15	13.90
Wheat	26.12	33.01	46.04
Maize	18.00	15.80	15.40
Soybean oil	7.19	7.79	6.89
Limestone	1.47	1.06	0.90
MCP	1.10	0.74	0.42
Salt	0.27	0.27	0.27
Sodium bicarbonate	0.12	0.12	0.12
L-lysine	0.37	0.31	0.41
L-threonine	0.17	0.13	0.15
DL-methionine	0.37	0.32	0.30
Premix AMV BR1-PLUS 0,5%	0.50	-	-
Premix AMV BR2-PLUS 0,5%	-	0.50	-
Premix AMV BR3-PLUS 0,5%	-	-	0.50
Nutrient content			
Crude protein (g/kg)	230.01	214.97	179.90
ME (MJ/kg)	12.40	12.80	13.10
Lysine (g/kg)	14.93	13.42	11.50
Met.+Cys. (g/kg)	11.08	10.26	9.14
Ca (g/kg)	9.49	7.50	5.99
P dig. (g/kg)	5.00	4.21	3.40
Na (g/kg)	1.60	1.60	1.60

Feed analyses for nutrient contents were performed at the laboratory of xxxxx

T1, T2:

Nutrient content	Starter BR1	Grower BR2	Finisher BR3
Crude protein (g/kg)	230	213	172
Dry matter (%)	89.20	89.50	89.20
Fat (g/kg)	70.2	76.2	68.4
Ash (g/kg)	61.2	52.8	43.2
Starch (g/kg)	363	393	453
Reducing sugars (g/kg)	48.9	50.4	39.5
P (g/kg)	6.68	6.02	4.71
Ca (g/kg)	9.99	8.23	6.45
ME (MJ/kg)	12.7	13.1	13.1

T3, T4:

Nutrient content	Starter BR1	Grower BR2	Finisher BR3
Crude protein (g/kg)	240	214	170
Dry matter (%)	89.30	89.50	89.00
Fat (g/kg)	91.8	97.8	87.2
Ash (g/kg)	61.8	54.5	43.1
Starch (g/kg)	329	358	414
Reducing sugars (g/kg)	52.7	52.5	44.2
P (g/kg)	7.38	6.50	5.19
Ca (g/kg)	10.10	7.88	6.09
ME (MJ/kg)	13.0	13.3	13.1

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.

3 Parameters recorded

3.1 Live weight

Live weight was measured on days 1 and 14 (all the birds in each pen were weighed altogether). On days 21 and 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 14 days
	2b	Broiler results at the age of 21 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 14 days
	6b	Broiler results at the age of 21 days
	6c	Broiler results at the age of 28 days
	6d	Broiler results at the age of 35 days

Hatchability**Tab. No. 1**

Treatment	Tr. No.	Fertility	Hatchability		Birds housed	Average weight	
			Set	Fert.		hatch. eggs	1-day
		%	%	%		g	g
T1	1	98.10	85.71	87.38	420	64.48	44.31
T2	2	98.10	85.71	87.38	420	64.48	44.19
T3	3	98.10	85.71	87.38	420	64.48	44.19
T4	4	98.10	85.71	87.38	420	64.48	43.45

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

Treatment	Tr. No.	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
T1	1	8	1.90	412	557.93	963.62
T2	2	12	2.86	408	519.61	1022.23
T3	3	3	0.71	417	477.57	1085.30
T4	4	1	0.24	419	427.03	1224.18

Broiler results at the age of 21 days**Tab. No. 2b**

Treatment	Tr. No.	Mortality		Live weight	
		Birds	%	Birds	g
T1	1	15	3.57	399	1010.53
T2	2	14	3.33	400	1019.75
T3	3	7	1.67	407	933.98
T4	4	3	0.71	411	897.30

Broiler results at the age of 28 days

Tab. No. 2c

Treatment	Tr. No.	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
T1	1	20	4.76	394	1606.57	1253.38
T2	2	19	4.52	395	1635.54	1237.65
T3	3	9	2.14	405	1498.79	1334.01
T4	4	6	1.43	408	1456.67	1326.46

Broiler results at the age of 35 days

Tab. No. 2d

Treatment	Tr. No.	Male		Female		Average		FCR	IEV
		birds	live weight	birds	live weight	birds	live weight		
			g		g		g		
T1	1	194	2545.52	192	2176.56	386	2361.99	1402.72	442
T2	2	194	2529.28	192	2194.69	386	2362.85	1436.66	432
T3	3	199	2340.20	196	2054.08	395	2198.23	1486.32	397
T4	4	198	2307.47	196	2043.78	394	2176.29	1486.42	392

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

Treatment	Tr. No.	Mortality in the period							Mortality according causes														
		1 - 14	15 - 21	22 - 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	%															
T1	1	8	7	5	2	22	12602	5.24											17			5	12
T2	2	12	2	5	3	22	13127	5.24										3	14			5	12
T3	3	3	4	2	4	13	13407	3.10											11			2	12
T4	4	1	2	3	8	14	16148	3.33											12			2	12

- 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

Treatment	Tr. No.	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	%	%	%
T1	1	♂	2662	1774	150	18	0.67	593	22.29	33.44	541	20.33	30.51	1135	42.62	63.94	66.65	72.30
		♀	2181	1432	126	24	1.11	472	21.65	32.98	435	19.95	30.38	907	41.60	63.36	65.65	71.41
		♂	2422	1603	138	21	0.87	533	22.00	33.23	488	20.16	30.45	1021	42.16	63.68	66.20	71.90
T2	2	♂	2656	1813	153	20	0.76	643	24.22	35.47	541	20.37	29.83	1184	44.59	65.29	68.28	74.05
		♀	2246	1524	133	20	0.91	508	22.60	33.31	455	20.26	29.86	962	42.86	63.17	67.85	73.76
		♂	2451	1668	143	20	0.83	575	23.48	34.48	498	20.32	29.84	1073	43.80	64.32	68.08	73.92
T3	3	♂	2431	1595	152	13	0.55	522	21.46	32.71	485	19.94	30.38	1006	41.40	63.10	65.61	71.88
		♀	2131	1418	126	17	0.79	463	21.71	32.63	434	20.36	30.61	897	42.08	63.23	66.54	72.46
		♂	2281	1507	139	15	0.66	492	21.58	32.67	459	20.14	30.49	952	41.71	63.16	66.04	72.15
T4	4	♂	2317	1542	147	16	0.68	513	22.15	33.27	458	19.78	29.71	971	41.93	62.98	66.57	72.90
		♀	2078	1377	128	12	0.60	454	21.83	32.94	420	20.21	30.50	874	42.04	63.44	66.27	72.45
		♂	2197	1460	138	14	0.64	483	22.00	33.11	439	19.98	30.08	922	41.98	63.20	66.43	72.69

Statistical analysis - Body weight at 35 days of age

Tab. No. 5

Treatment	Tr. No.	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	%
T1	1	194	2545.52	251.01	9.86	192	2176.56	255.09	11.72
T2	2	194	2529.28	246.58	9.75	192	2194.69	254.77	11.61
T3	3	199	2340.20	255.90	10.94	196	2054.08	253.17	12.33
T4	4	198	2307.47	258.39	11.20	196	2043.78	235.35	11.52

Broiler results at the age of 14 days

Tab. No. 6a

Treatment	Tr. No.	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
T1	1	1	1	0.71	139	548.92	977.14
		5	3	2.14	137	567.52	947.27
		34	4	2.86	136	557.35	967.00
T2	2	2	4	2.86	136	524.26	1018.17
		6	3	2.14	137	517.52	1023.61
		33	5	3.57	135	517.04	1024.93
T3	3	3	1	0.71	139	482.73	1085.48
		32	0	0.00	140	476.79	1087.64
		36	2	1.43	138	473.19	1082.67
T4	4	4	0	0.00	140	429.29	1244.59
		31	0	0.00	140	429.29	1239.60
		35	1	0.71	139	422.52	1187.70

Broiler results at the age of 21 days

Tab. No. 6b

Treatment	Tr. No.	Box	Mortality		Live weight	
			birds	%	birds	g
T1	1	1	3	2.14	135	996.37
		5	7	5.00	131	1019.39
		34	5	3.57	133	1016.17
T2	2	2	5	3.57	133	1036.24
		6	3	2.14	135	978.22
		33	6	4.29	132	1045.61
T3	3	3	1	0.71	137	982.34
		32	4	2.86	134	919.19
		36	2	1.43	136	899.70
T4	4	4	1	0.71	137	938.32
		31	1	0.71	137	902.77
		35	1	0.71	137	850.80

Broiler results at the age of 28 days

Tab. No. 6c

Treatment	Tr. No.	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
T1	1	1	3	2.14	135	1645.41	1210.36
		5	10	7.14	128	1575.86	1306.18
		34	7	5.00	131	1596.56	1246.97
T2	2	2	7	5.00	131	1726.41	1183.78
		6	5	3.57	133	1514.74	1315.51
		33	7	5.00	131	1667.33	1221.98
T3	3	3	1	0.71	137	1611.31	1249.44
		32	4	2.86	134	1503.56	1359.16
		36	4	2.86	134	1378.05	1407.12
T4	4	4	2	1.43	136	1522.65	1299.41
		31	2	1.43	136	1459.04	1336.80
		35	2	1.43	136	1388.31	1345.25

Broiler results at the age of 35 days

Tab. No. 6d

Treatment	Tr. No.	Box	Male		Female		Average		FCR	IEV
			birds	live weight	birds	live weight	birds	live weight		
				g		g		g		
T1	1	1	66	2597.58	66	2120.61	132	2359.09	1417.51	448
		5	63	2477.78	62	2292.26	125	2385.76	1416.84	430
		34	65	2558.31	64	2122.19	129	2341.94	1373.38	449
T2	2	2	64	2573.13	63	2175.40	127	2375.83	1476.36	417
		6	65	2397.85	65	2243.23	130	2320.54	1437.90	428
		33	65	2617.54	64	2164.38	129	2392.71	1396.33	451
T3	3	3	67	2509.25	67	2096.57	134	2302.91	1452.99	433
		32	67	2341.79	65	2033.38	132	2189.92	1505.25	389
		36	65	2164.31	64	2030.63	129	2097.98	1503.49	370
T4	4	4	66	2428.18	65	1995.85	131	2213.66	1494.79	396
		31	66	2259.85	65	2092.77	131	2176.95	1516.49	384
		35	66	2234.39	66	2042.73	132	2138.56	1447.39	398

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:

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