



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE
státní podnik, ÚSTRAŠICE

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THE COMPLETE REPORT

**The effect of xxxxx
on performance parameters in parent flock**

**6. RKT - 2025
Krmivářský test rodičovských forem kura domácího
– masného typu**

XXXXXX

2025 – 2026

1 The basic tests information

1.1 The basic dates

Rearing 1 – 22 weeks (1 – 154 days): 20 March 2025 – 20 August 2025
Production 23 – 62 weeks (155 – 434 days): 21 August 2025 – 27 May 2026
End of the test: 14 July 2026

1.2 Location of the test

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

1.3 Material

In the rearing there was one big sample. There were kept 900 hens and 150 cocks in the treatment.

In the production there were 2 different samples. There were kept 330 hens and 42 cocks in each treatment. Genotype of parent hens was xxxxx.

Treatment No.	Treatment	Description
1	xxxxx	xxxxx
2	xxxxx	xxxxxx

xxxxx was added to both treatments (1 kg per 1 tonne of feed).

2 The rearing of pullets

2.1 Samples and their location

Females were reared in five pens by 90 chicks, males in separate pens by 75 chicks. Numbers of birds were reduced in 5th week of age to specified numbers. Females were reduced to 400 birds, i.e. 80 birds per pen, males to 65 birds in one entry. Small or too big birds, ill ones and sexing errors were culled. Females were graded to three pens with low, medium and high bodyweight. All three pens got to the same bodyweight level in a few weeks by using different feed amounts.

Males were transferred to production house in 19 weeks of age according to the dedicated system; each entry was split to six pens (i.e. 9 males per pen). Females were mated to males by one week later. After the final culling at 22 weeks of age the numbers were 330 females and 42 males per entry. Males were reduced later to 30 birds.

2.2 Housing system

Pullets were kept in windowless house with full control of the environment. There were used automated heating and ventilation. There is controlled ventilation in the houses which assures the air exchange 6 cubic metres/hour/1kg live weight in summer time with lower levels in winter. Relative humidity is 60-65%.

Manually filled tube feeders and nipple automatic drinkers were used.

2.3 Conditions of the environment

Temperature

Age	Bird level (°C)	House (°C)
Week 1	38	30
Week 2	32	28
Week 3	25	22
Week 4	21	21
Week 5	20	20
From week 6	18	18

Stocking density

Age	♀	♂
1 – 35 days	10.7	8.9
36 – 126 days	9.5	7.7
127 – 154 days	4.8	4.8

2.4 Lighting programme

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

Age	Light from - to	Hours of light
Day 1 – 5	7 ⁰⁰ – 6 ⁰⁰	23
Day 6 – 7	7 ⁰⁰ – 4 ⁰⁰	21
Day 8 – 9	7 ⁰⁰ – 2 ⁰⁰	19
Day 10 – 11	7 ⁰⁰ – 24 ⁰⁰	17
Day 12 – 13	7 ⁰⁰ – 22 ⁰⁰	15
Day 14 – 15	7 ⁰⁰ – 19 ⁰⁰	12
Day 16 – 147	7 ⁰⁰ – 15 ⁰⁰	8
Day 148 – 154	7 ⁰⁰ – 19 ⁰⁰	12

Light intensity in first three days was 60 lux/sq. m. and then till the end of rearing 8 lux/sq. m.

2.5 Feeding and watering

There were used four different feed mixtures in the test. Feed was produced in xxxxx

Day 1 – 14:	K1 – starter, pellets
Day 15 – 42:	K2 – starter, pellets
Day 43 – 105:	KZK – pellets
Day 106 – 154:	NP-0 – pellets

Diet formulas

	K1	K2	KZK	NP-0
Components (%)				
Wheat	38.08	47.02	48.09	44.29
Maize	22.50	19.00	15.00	22.00
Oat	1.00	2.00	9.60	5.00
Sunflower meal	1.10	3.00	5.80	4.00
Wheat bran	-	3.50	10.70	11.00
Soybean meal	32.60	21.80	7.80	9.40
Soybean oil	1.42	0.79	0.21	0.49
Salt	0.23	0.22	0.16	0.26
Limestone	1.57	1.44	1.46	2.19
Monocalcium phosphate	0.87	0.64	0.42	0.65
Sodium bicarbonate	0.11	0.14	0.21	0.19
Premixy aminokys., vit., ..	0.52	0.45	0.55	0.53
Nutrient content (calculated values)				
Protein	207.95	178.96	144.00	143.01
Fat	34.53	28.03	23.96	26.97
Lysin dig.	9.79	7.65	5.40	5.13
Methionin dig.	4.49	3.43	2.96	3.35
Calcium phyt.	10.39	9.41	9.00	12.00
Phosphorus dig.	4.99	4.49	4.09	4.49
Metabolizable energy MJ/kg	11.80	11.70	11.25	11.40

Feeding management

First week ad libitum. From 2nd week feeding was based on bodyweight. Chicks were weighed weekly (20% of the total number) and feed amount adjusted for each pen separately, depending on the development of bodyweight and comparison with the standard bodyweight.

Feed was distributed daily to pan feeders in first three weeks, since four weeks of age pellets were spread on the litter.

Since 4th week oats was fed on the litter in following amount:

females – 1,25 g/bird/day

males – 2,20 g/bird/day

The oats was fed once a day.

If the bodyweight is over the weekly standard, the same feed level is used for one more week. If the actual bodyweight is below the weekly standard, feed level is increased by the same % as the % difference of bodyweight.

After the transfer to production house feeding was changed to separate sex feeding – female troughs with grids and male pan feeders. Oats was still fed on the litter.

Drinking management

Nipples were used in rearing period. Water was available the whole day.

2.6 Veterinary precautions

The house was disinfected by 1% xxxxx. As a prevention permanganate was given to the birds as well as vitamin – Vit. C.

Vaccination programme

Age	Disease
Day 1	Marek's disease + infectious bronchitis (IB) + avian infections laryngotracheitis (ILT) + Newcastle disease (ND)
Days 5	Coccidiosis
Days 11	Salmonellosis
Days 15	Infectious bronchitis (IB)
Days 19	Infectious bursal disease (Gumboro)
Days 26	Infectious bursal disease (Gumboro)
Week 6	Escherichia coli infections (E. coli)
Week 7	Infectious bronchitis (IB) + newcastle disease (ND)
Week 8	Salmonellosis
Week 9	Newcastle disease (ND)
Week 10	Avian encephalomyelitis (AE)
Week 11	Infectious bronchitis (IB)
Week 12	Chicken anaemia virus (CAV)
Week 13	Salmonellosis
Week 14	Swollen head syndrome
Week 15	Infectious bronchitis (IB)
Week 16	Escherichia coli infections (E. coli)
Week 17	Salmonellosis
Week 19	Salmonellosis + (Swollen head syndrome + newcastle disease (ND) + Infectious bursal disease (Gumboro) + infectious bronchitis (IB) + Egg-drop syndrome (EDS'76) + Reovirus infections)

3 The production period

3.1 Samples and their location

Females were moved to production houses in the same number as were housed in rearing house, male were dynamically added to females only 9 birds in a box. By the beginning of lay the animals had time to become acquainted with the new environment and a different way of feeding and drinking.

Final selection before lay was done at 22 weeks. One sample was placed into 10 boxes in the hall according to the test station. To lay control was included in each sample 330 females and 42 males, therefore in each box were 55 females and 7 males (who were later reduced to 30 males, i.e. 5 males per box). Selections are carried out primarily by negative selection by health and exterior, as well as by live weight of each bird.

3.2 Housing system

Animals were kept in windowless house with full control of the environment. There were used automated heating and ventilation.

Manually filled tube feeders and nipple automatic drinkers were used.

3.3 Conditions of the environment

Temperature

Age	House (°C)
155 – 434 days	18

Stocking density

Age	♀ and ♂
155 – 434 days	4.2

3.4 Lighting programme

Age	Light from - to	Hours of light
Week 22 (day 148 – 154)	7 ⁰⁰ – 19 ⁰⁰	12
From week 23 (from day 155)	7 ⁰⁰ – 20 ⁰⁰	13

3.5 Feeding and watering

Feed was produced in xxxxx

Day 155 – 294: NP-1 – crusher

Day 295 – 434: NP-2 – crusher

Diet formulas

	NP-1	NP-2
Components (%)		
Wheat	41.87	40.68
Maize	24.00	24.00
Soybean meal	13.60	14.00
Oat	5.00	5.00
Soya oil	2.45	2.78
Monocalcium phosphate	0.40	0.30
Limestone	2.16	2.35
Limestone-roughly ground	5.10	5.50
Sunflower meal	4.40	4.50
Salt	0.26	0.26
Sodium bicarbonate	0.13	0.13
Premix	0.63	0.50
Nutrient content (calculated values)		
Protein	14.54	14.55
Fat	4.49	4.81
Lysine	0.61	0.58
Methionine	0.34	0.33
Calcium phyt.	2.99	3.19
Phosphorus	0.36	0.34
Vitamin A (m.j./kg)	10000.00	10000.00
Vitamin D3 (m.j./kg)	3000.00	3000.00
Metabolizable energy MJ/kg	11.71	11.71

Feeding management

The flock was fed daily at 7 a.m. separately males and females. Females were using troughs with grids, males tube pan feeders hanging higher. Oats (3g/birds) was fed daily at 12 a.m. on the litter. In the afternoon he was flung out into the litter grit.

Drinking management

Nipples were used in production period. Water was available the whole day.

3.6 Veterinary precautions

The house was disinfected by 1% Virkon liquid, then treated against red mites and finally by Virkon aerosol on litter before the placement of the flock.

During the laying has been given the vaccine IB (every 6 weeks), IB 88 (24th and 42th week), IB QX (30th and 48th week), IB Primer (36th and 54th week).

Kombisol AD3 was administered every 2 weeks.

4 The growing test of progeny

Five progeny fattening tests were performed on each sample and processed in separate reports.

5 The results

Tab. No.	1	Rearing period
	2	Mortality during rearing period
	3a	Statistical analysis – cocks at 154 days of age
	3b	Statistical analysis – hens at 154 days of age
	4	Body weight – rearing
	5	Laying control
	6	Hatching eggs in week (%)
	7	Egg weight in period
	8	Mortality – hens in the laying period
	9a	Statistical analysis – cocks at 434 days of age
	9b	Statistical analysis – hens at 434 days of age

Rearing

Tab. No. 1

Sample No.	Sample	Sex	Number of birds at			Average live weight at		Feed consumption per 1 bird and day		
			1 day	28 days	154 days	1 day	154 days	1-28 days	29-154 days	1-154 days
			birds	birds	birds	g	g	g	g	g
1	xxxxxx	♂	150	130	84	44.27	3651.07	45.10	78.73	71.87
		♀	900	800	660	40.00	2902.64	32.57	73.19	65.07

Mortality during the rearing period

Tab. No. 2

Sample No.	Sample	Sex	Mortality - days						Mortality according causes													
			1 - 28		29 - 154		1 - 154		1	2	3	4	5	6	7	8	9	10	11	12	13	14
			birds	%	birds	%	birds	%														
1	xxxxxx	♂	0	0.00	1	0.77	1	0.67					1									65
		♀	1	0.11	3	0.38	4	0.44					1					2	1			236

Diagnostic:

- | | | | | |
|------------------------|-------------------------|---------------------------------|------------------------------------|---------------------------------|
| 1 - Viral diseases | 4 - Parasitary diseases | 7 - Digestive tract diseases | 10 - Locomotion apparatus diseases | 13 - Diverticulus inflammation. |
| 2 - Bacterial diseases | 5 - Culling | 8 - Respiratory tract diseases | 11 - Sudden death syndrome | 14 - Stock reduction |
| 3 - Fungal diseases | 6 - Injuries | 9 - Reproductory tract diseases | 12 - Cannibalism | |

Statistical analysis - Cocks at 154 days of age

Tab. No. 3a

Sample No.	Sample	Treat. size	Average live weight	Standard deviation	Coefficient of variation	Standard error of mean	Precision select. average	Standard error of coeff. of variation
			g/ks	g/ks	%	g/ks	%	%
1	xxxxx	84	3651.07	182.58	5.00	19.92	0.55	0.39

Statistical analysis - Hens at 154 days of age

Tab. No. 3b

Sample No.	Sample	Treat. size	Average live weight	Standard deviation	Coefficient of variation	Standard error of mean	Precision select. average	Standard error of coeff. of variation
			g/ks	g/ks	%	g/ks	%	%
1	xxxxx	660	2902.64	128.97	4.44	5.02	0.17	0.12

Body weight - rearing

Tab. No. 4

Sample No.	Sample	Sex	Weeks																					
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	xxxxxx	♂	209	377	553	757	931	1162	1315	1479	1630	1683	1865	2030	2150	2385	2465	2595	2810	2940	3175	3260	3335	3650
		♀	195	317	435	564	653	771	848	1102	1177	1315	1456	1556	1686	1760	1859	1969	2102	2258	2435	2589	2760	2897

Laying control

Tab. No. 5

Treatment	Tr. no.	Initial flock	Fertility	Hatchability		Average number of eggs per bird-housed			Average egg weight	Nr. of chicks hatched per 1 hen	Days at percentage of laying		Average live weight at the end of laying		Feed consumption during laying per		
				set	fert.	total	hatching eggs				30%	50%	cocks	hens	bird/day	egg	chick
		birds	%	%	%	number	number	%	g		days	days	g	g	g	g	g
T1	1	330	95.32	83.26	87.14	206.90	184.28	89.06	63.65	153.44	161	166	5578.33	4253.80	200.65	268.85	362.54
T2	2	330	97.16	86.03	88.51	197.04	174.69	88.66	63.38	150.28	160	166	5641.67	4311.49	200.52	280.13	367.28

Hatching eggs in week (%)

Tab. No. 6

Treatment	Treat. No.	Period																								
		1					2					3					4					5				
		Week																								
		23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42					
T1	1	0.0	24.1	56.5	78.9	85.0	87.3	89.5	90.5	92.7	93.0	94.1	93.0	89.2	88.9	92.5	92.3	92.0	94.0	93.8	92.6					
T2	2	0.0	28.4	62.6	79.0	87.4	84.4	89.1	90.4	91.7	92.7	94.0	93.8	89.3	89.1	91.8	92.0	90.2	91.8	93.4	92.3					

Treatment	Treat. No.	Period																				Cumulate					
		6					7					8					9						10				
		Week																									
		43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62						
T1	1	93.4	94.5	94.4	93.3	93.1	90.6	91.5	91.9	91.3	91.4	88.8	89.6	93.5	91.0	90.2	90.4	92.2	91.8	92.1	91.4	89.06					
T2	2	91.5	93.3	92.8	91.7	93.3	91.3	92.8	92.3	90.8	91.6	89.9	90.7	91.2	92.3	90.8	89.4	92.4	90.0	91.8	88.3	88.66					

Egg weight in period (period = 28 days)

Tab. No. 7

Treatment	Treat. No.	Period										Cumulate
		1	2	3	4	5	6	7	8	9	10	
T1	1	52.5	58.1	60.8	63.1	64.3	66.0	67.5	68.4	69.2	69.6	63.6
T2	2	52.6	57.7	60.4	63.1	64.8	65.2	67.2	67.9	69.3	69.7	63.4

1st period: 23th – 26th week of age

10th period: 59th – 62th week of age

Mortality - hens in the laying period

Tab. No. 8

Treatment	Treat. No.	Initial flock	Final flock	Mortality in the laying period		Mortality according causes														
		birds	birds	birds	%	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
T1	1	330	318	12	3.64										6	1			5	42
T2	2	330	318	12	3.64										5	2			5	42

- Diagnostic:
- 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 - Reproductory tract diseases
- 10 - Locomotion apparatus diseases

11 - Sudden death

12 - Cannibalism
- 13 - Diverticulus inflammation

14 - Other causes

15 - Culling (excluded of calculation)

Statistical analysis - Cocks at 434 days of age

Tab. No. 9a

Treatment	Treat. No.	Treatment size	Average live weight	Standard deviation	Coefficient of variation	Standard error of mean	Precision select. average	Standard error of coeff. of variation
			g/ks	g/ks	%	g/ks	%	%
T1	1	30	5578.33	500.44	8.97	91.37	1.64	1.19
T2	2	30	5641.67	750.58	13.30	137.04	2.43	1.78

Statistical analysis - Hens at 434 days of age

Tab. No. 9b

Treatment	Treat. No.	Treatment size	Average live weight	Standard deviation	Coefficient of variation	Standard error of mean	Precision select. average	Standard error of coeff. of variation
			g/ks	g/ks	%	g/ks	%	%
T1	1	276	4253.80	386.00	9.07	23.23	0.55	0.39
T2	2	276	4311.49	416.72	9.67	25.08	0.58	0.42