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FATTENING CAPACITY OF COMBINATIONS OF THREE BREEDS OF RABBITS OBTAINED FROM RECIPROCAL CROSSING

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The research was conducted on the basis of an experimental rabbit farm of the Cherkasy Experimental Station of Bioresources of the National Academy of Sciences. The farm uses the technology of intensive production of rabbit meat.

For the experiment on determining the fattening and meat indicators of young rabbits obtained from different combinations, 7 groups of young rabbits with 15 heads each aged 28 days were formed by the method of pairs-analogues.

It was found that young rabbits of the first control group (RSH) at 90 daily age had a live weight of 2710 g they were significantly ($p<0.01$) dominated by analogues of the second Group (3\4 RSH1\4NB) at 163g, the third (1\4NB3\4RSH) at 120g($p<0.05$), the sixth (2\4RSH 1\4NB1\4SV) at 200g($p<0.001$), seventh (1\4NB1\4SV2\4RSH) at 179g($p<0.01$), which is an increase in the indicator – the mass of one head at 90 daily age.

The indicator of average daily increments(age period 28-90 days)) in young rabbits of the 2nd group of Origin 3\4RSH1\4NB significantly ($p<0.01$) prevailed over the control of purebred young rabbits of the Soviet Chinchilla by 2.4 g. the average daily increments in the sixth and seventh experimental groups were 38.3 and 38.0 g, which is 2.6; and 2.3 g significantly higher ($p<0.01$; $p<0.05$) from peers of the first group.

In terms of loin width, rabbits of the 6th and 7th groups of young rabbits of the first control group significantly prevailed ($p<0.05$). The meat content index of these groups of Origin: 2/4 RSH 1/4NB1/4SV; 1/4NB1/4SV2/4RSH, was 6.14; 6.07cm.

Slaughter yield was better in young rabbits of the sixth and seventh groups of

Origin 2/4 RSH 1/4NB1/4SV; 1/4NB1/4SV 2/4RSH, which prevailed in the control group by 3.33 and 2.23%.

Feed costs per 1 kg of growth in the groups were: 4.4 kg in the control group; in the experimental groups, the feed efficiency was higher and ranged from 4.1 to 3.9 kg. The group of young rabbits of Origin 2/4RSH1/4NB1/4SV consumed food more efficiently and outnumbered the peers of the Soviet Chinchilla by 500 g, and the 2nd by 300 g and the 7th by 450 g.

The Comprehensive Assessment Index (PKO) was higher in all experimental groups of young rabbits compared to the control, in particular, in groups 2, 3, 6 and 7 by 14.3; 8.7; 17.9 and 15.6 to purebred peers of Group 1 of the Soviet Chinchilla (240.1).

The selection assessment of our tests was given by the index of total heterosis. The index of total heterosis by Slaughter yield of young rabbit carcasses in the experimental groups was: 2,37; 1,76; 1,88; 2,51; 6,64; 4,45%. The index of total heterosis in terms of PKO was 5,95; 3,62; 2,46; 3,04; 7,46; 6,5 %.

Net income for the production of 1 kg of rabbit meat was by Group 1- 10,9; 2- 15,6; 3, 4 and 5-14,0; 6-18,7; 7-17,9 due to the inter - breed combination, it increased by 3.1-7.8 UAH.

The highest profitability of production, in terms of direct costs, was among young rabbits of Group 2 – 24.2; groups 6 and 7 – 30.5%; 28.8%. Animals of these groups by origin were two breeds – 3/4rsh1/4nb and three breed crossbreeds: 2/4RSH1/4NB1/4SV; 1/4NB 1/4SV2/4 RSH.

Keywords: young rabbits, crossing, fattening productivity, PKO, economic efficiency.

ВІДГОДІВЕЛЬНА ЗДАТНІСТЬ ПОЄДНАНЬ ТРЬОХ ПОРІД КРОЛІВ ОТРИМАНИХ ВІД РЕЦИПРОКНОГО СХРЕЩУВАННЯ

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Дослідження проводились на базі експериментальної кролеферми Черкаської дослідної станції біоресурсів НААН. В господарстві застосовується технологія інтенсивного виробництва кролятини.

Для досліду з визначення відгодівельних і м'ясних показників молодняку кролів отриманого від різних варіантів поєднання, методом пар-аналогів було сформовано 7 груп молодняку кролів по 15 голів у кожній віком 28 діб.

Встановлено, що молодняк кролів першої контрольної групи (РШ) в 90 добовому віці мав живу масу 2710 г їх вірогідно (p<0,01) переважали аналоги другої групи (3\4РШ1\4НБ) на 163г, третьої (1\4НБ3\4РШ) на 120г(p<0,05), шостої (2\4РШ1\4НБ1\4СВ) на 200г(p<0,001), сьомої (1\4НБ 1\4 СВ2\4РШ) на 179 г(p<0,01), що є зростанням показнику – маси однієї голови в 90 добовому віці.

Показник середньодобових приростів(віковий період 28-90 діб) в молодняка кролів 2-ї групи походження 3\4РШ1\4НБ вірогідно (p<0,01) переважав контрольну чистопородного молодняку кролів радянської шиншили на 2,4 г.

Середньодобові прирости в шостій та сьомій дослідних групах становили 38,3 і 38,0г, що на 2,6; і 2,3 г вірогідно вищі ($p<0,01$; $p<0,05$) від ровесників першої групи.

За шириною попереку, вірогідно переважали кролі 6 і 7-ї груп молодняк кролів першої контрольної ($p<0,05$). Показник м'ясності цих груп походження: $^{2}/_{4}$РШ$^{1}/_{4}$НБ$^{1}/_{4}$СВ; $^{1}/_{4}$НБ$^{1}/_{4}$СВ$^{2}/_{4}$РШ, становив 6,14; 6,07 см.

Забійний вихід кращим був у молодняку кролів шостої і сьомої груп походження $^{2}/_{4}$РШ$^{1}/_{4}$НБ$^{1}/_{4}$СВ; $^{1}/_{4}$НБ$^{1}/_{4}$СВ$^{2}/_{4}$РШ, що переважав контрольну групу на 3,33 і 2,23%.

Затрати корму на 1кг приросту по групах становили: 4,4кг у контрольній; в дослідних ефективність корму була вищою та коливалась від 4,1 до 3,9кг. Група молодняку кролів походження $^{2}/_{4}$РШ$^{1}/_{4}$НБ$^{1}/_{4}$СВ більш ефективно споживала корм та переважала ровесників радянської шиншили на 500 г, а 2-а на 300г та 7-а на 450 г.

Показник комплексної оцінки(ПКО) вищим був у всіх дослідних групах молодняку кролів у порівнянні до контролю, зокрема, в 2, 3, 6 та 7-й групах на 14,3; 8,7; 17,9 та 15,6 до чистопородних ровесників 1 групи радянської шиншили(240,1).

Селекційну оцінку нашим випробуванням дав індекс загального гетерозису. Індекс загального гетерозису за забійним виходом туш молодняка кролів в дослідних групах становив: 2,37; 1,76; 1,88; 2,51; 6,64; 4,45%. Індекс загального гетерозису за показником ПКО становив 5,95; 3,62; 2,46; 3,04; 7,46; 6,5 %.

Чистий дохід при виробництва 1кг кролятини становив по групах 1- 10,9; 2-15,6; 3, 4 і 5-14,0; 6-18,7; 7-17,9 грн. За рахунок між породного поєднання він зріс на 3,1 - 7,8грн.

Найвищою рентабельність виробництва, за прямими затратами, була у молодняка кролів 2 групи – 24,2; 6 і 7 груп – 30,5%; 28,8%. Тварини цих груп за походженням були двох породні – $^{3}/_{4}$РШ$^{1}/_{4}$НБ та трьох породні помісі: $^{2}/_{4}$РШ$^{1}/_{4}$НБ$^{1}/_{4}$СВ; $^{1}/_{4}$НБ$^{1}/_{4}$СВ $^{2}/_{4}$РШ.

Ключові слова: молодняк кролів, схрещування, відгодівельна продуктивність, ПКО, економічна ефективність

In the last 20 years, rabbit meat production in Ukraine has been carried out using European, intensive technology. The parameters of this technology provide for obtaining at least eight okrols from one rabbit during the production year, which is 60 or more rabbits. Indicators of precocity of fattening young rabbits should ensure slaughter at the age of 80 days with a live weight of at least 2.8 kg, with a slaughter yield of 55-60%. Abroad, as an element of this technology, hybridization is used with the participation of 4-5 breeds that are maximally adapted to intensive breeding (Vintoniv, O.A., 2022; Dorian,S., 2014).

The problem of intensifying the rabbit breeding industry in Ukraine is extremely acute, since many breeds are small in number and have high genetic variability (Christensen, O. F., 2010). In addition, the number of breeding farms for breeding most breeds has decreased, and there is no program for creating an industrial rabbit (Crovato, S., 2022; Siddiqui, S. A., 2023). In this regard, conscious management of the scientific and production process based on knowledge of the features of breeding and technological processes becomes important.

The main indicators on which the intensification of rabbit production depends are fecundity, live weight of rabbits at birth, nest safety, growth rate and feed payment in increments (García, M.L.; 2020).

To achieve this goal, it is necessary to cause the desired changes in heredity and accumulate them in a number of generations by the chosen system of breeding, feeding

and maintenance (Tabet, J. M., 2025; Havrysh O. M., 2025; Shah, I., 2024; Badawy, A.Y. 2019).

Starting breeding work in rabbit breeding, you should focus on one or two traits, without neglecting others, which should be at least at an average level. At the first stage, attention is paid to maternal qualities: live weight at birth, live weight at weaning (28 days), preservation (Sotnichenko, Yu.M., 2020).

To speed up obtaining the desired productive indicators, it is necessary to use crossing, which pursues several goals – to enrich the heredity of one of the breeds, and on the basis of two or more breeds to create a new genotype that would generalize all the positive aspects of the breeds taken for crossing, and for the main ones and significantly exceed them (Mondin, C., 2021). The purpose of such work is to combine different breeds in such a way that the overall production efficiency is maximized (Shevchenko, E., 2020).

Studies of existing genotypes for combinability (combinability) can be carried out with forward and reverse (reciprocal) crossing. Based on the results of crossing, select the best, highly productive interbreeding offspring, which should be used in further industrial work (hybridization) as parental and maternal forms (Shevchenko, E., 2025; Clasen, J. B., 2023; Luchyn I. S., 2022).

To achieve this goal, it is necessary to use breeds that predominate in traits with high heredity, are controlled by additive genes and traits that show the best combinatorial ability in the form of a heterosis effect. The effect of heterosis should be higher, especially when breeds are significantly different from each other genetically or inherited (Mrode, R. A., 2005).

When the selected traits positively correlate with each other – such as birth weight, milk production and preservation, selection simultaneously for these three indicators will increase the further intensity of the manifestation of fattening traits of young rabbits (Peiró, R., 2010).

Obtaining the maximum effect of heterosis is possible when creating breeds whose descendants, when crossed, can best combine according to the main quantitative indicators. To do this, you need to create a maternal form in which the reproductive properties of rabbits predominate (focus) and two or more parental forms in whose offspring fattening and meat indicators predominate (Luchyn, I. S., 2025). A successful combination of these genotypes will ensure maximum productivity growth (Clark, S.A., 2013).

Now there is an urgent need, based on the generalization of theoretical and practical achievements in rabbit breeding, to monitor crossbreeding and purebred breeding of rabbits in modern socio-economic conditions, the use of existing high-performance and adapted to the climatic and technological conditions of Ukraine rabbit head.

The aim of the work is to study the fattening and slaughter qualities of local young rabbits obtained from reciprocal crossing, to give an economic assessment in conditions of intensive breeding.

Materials and methods of research. The research was conducted at the Cherkasy agricultural Experimental Station of Bioresources of the National Academy of Sciences. The farm uses the technology of intensive production of rabbit meat. Breeds of rabbits bred on the farm: Soviet Chinchilla, Gray giant, New Zealand white and their crossbreeds. The average monthly number of rabbits is 300 heads, of which 60 are the main rabbits.

The main elements of the technology present in the study:

- insemination according to the technological map, on the 10th day after district;
- weaning of rabbits at the age of 28 days;
- fattening period from 28 to 90 days of age.

In order to improve the fattening productivity of Chinchilla - like rabbits (two, three breed crossbreeds) in the conditions of industrial intensive use-rabbits of the Soviet Chinchilla breed are used as a mother (RSH), this genotype is most adapted to the production and climatic conditions of central Ukraine. The parent breeds are males of the gray giant (SV) and New Zealand White (NB) breeds, they have more pronounced fattening and meat indicators.

For the experiment on determining the fattening and meat indicators of young rabbits obtained from different variants of the reciprocal combination, 7 groups of young rabbits with 15 heads each aged 28 days were formed by the method of pairs-analogues (table. 1).

To determine fattening and meat qualities, the comprehensive assessment indicator" young rabbits (PKO) " was used (Luchyn I. S., 2022):

$I = 5.1 (K + 2H)$;

where 5,1; 2 are the correction factors;

K-average daily gain (from birth) in grams;

H is the width of the lower back (at points adjacent to the knee joints) in centimeters.

It is most appropriate to evaluate young rabbits for PKO at 90 days, at this age the correlation between the indicators of average daily growth and lower back width is most positive.

Technological and economic conclusions will be drawn from the use of various variants of reciprocal crossbreeding with the participation of Soviet Chinchilla, Gray giant, and New Zealand White breeds in intensive production.

Table 1

Scheme of the experiment of fattening young rabbits, n=15

Groups	**Genotype**	**Productive indicators**							
Contr.	**RSH**								
experimental:	3/4 RSH1/4NB 1/4NB 3/4RSH 3/4RSH1/4SV 1/4SV3/4RSH 2/4 RSH1/4 NB1/4SV 1/4 NB1/4SV2/4RSH	Live weight of rabbits in 30dib, g	Live weight of rabbits in 90 days, g	Average daily increments, g	Lower back width at 3 months of age, cm	Weight of a paired carcass, g	Slaughter yield, %	feed costs per 1 kg of growth, kg	PKO

To study the combinational ability for reciprocal crossing of rabbit breeds, the Soviet Chinchilla, Gray giant and New Zealand white and their crossbreeds in the conditions of central Ukraine and determine the optimal combination for use in the conditions of industrial intensive technology, the heterosis index was determined by the formula proposed by V. T. Gorin, I. M. Nikitchenko (Piotrovich N.A., 2017) improved by O. M. Tserenyuk (Knecht, D., 2015).

$Gz = Og/Om \times 100 - 100$,

where: Gz-general heterosis;

Og-hybrid attribute;

Om-a sign of the maternal form.

Research results. In the Cherkasy Experimental Station of Bioresources of the National Academy of Sciences, work was carried out to find successful breeding combinations of rabbits that should be adapted to the conditions of keeping, feeding and showing high productivity during intensive breeding. The work involved the breeds of rabbits present for this period, which are adapted to keeping on a metal mesh floor, to a high concentration of livestock, to the conditions of the microclimate of premises and conditions of central Ukraine.

The study established (table.2) that young rabbits of the first control group (RSH) at 90 daily age had a live weight of 2710 g they were significantly ($p<0.01$) dominated by analogues of the second Group (3\4RSH1\4NB) at 163g, the third (1\4NB3\4RSH) at 120g($p<0.05$), the sixth (2\4RSH1\4NB1\4SV) at 200g($p<0.001$), the seventh (1\4NB1\4SV2\4RSH) at 179g($p<0.01$), which is an increase in the indicator – the mass of one head at 90 daily age.

The indicator of average daily increments(age period 28-90 days) in young rabbits of the 2nd group of Origin 3\4RSH1\4NB significantly ($p<0.01$) prevailed over the control of purebred young rabbits of the Soviet Chinchilla by 2.4 g. the average daily increments in the sixth and seventh experimental groups were 38.3 and 38.0 g, which is 2.6; and 2.3 g significantly higher ($p<0.01$; $p<0.05$) from peers of the first group.

Table 2

Growth rate of young rabbits, (n=15)

Group	Staging on experience	Live weight of 1 head at 90 daily age, g	average daily increments, g
I к	492±9,35	2710±33,52	35,7±0,63
II	514±10,6	2873±35,14**	38,1±0,5**
III	524±9,0*	2830±44,93*	37,1±0,66
IV	513±10,6	2797±32,54	36,8±0,45
V	515±13,37	2807±34,11	37,0±0,38
VI	532±8,4**	2910±32,81***	**38,3±0,47****
VII	527±13,93	2889±45,35**	38,0±0,54*

*Note. * $p<0.05$; * * $p<0.01$; * * * $p<0.001$ compared to the control group*

Slaughter indicators (age 90 days) (table.3), in particular, the weight of a paired carcass in groups was: 1 – 1358; 2 – 1474; 3- 1443; 4 – 1428; 5 – 1442; 6 – 1555 and 7 – 1512g. young rabbits of all experimental groups had a significant difference before the control and dominated the first group by 116g ($p<0.001$), 85g($p<0.05$), 70g ($p<0.01$), 84g ($p<0.01$), 197g ($p<0.001$), 154g ($p<0.001$).

Slaughter yield was better in young rabbits of the sixth and seventh groups of Origin 2/4 RSH1/4NB1/4SV; 1/4NB1/4SV 2/4RSH, which prevailed in the control group by 3.33 and 2.23%.

Feed costs per 1 kg of growth in the groups were: 4.4 kg in the control group; in the experimental groups, the feed efficiency was higher and ranged from 4.1 to 3.9 kg. The 6th group of young rabbits of Origin 2/4RSH1/4NB1/4SV consumed food more efficiently and outnumbered the peers of the Soviet Chinchilla by 500 g, and the 2nd by 300 g and the 7th by 450 g.

PKO in studies reflects the breeding value of the animal, determines its further use: for breeding use or slaughter for meat.

The Comprehensive Assessment Index (PKO) was higher in all experimental groups of young rabbits compared to the control, in particular, in groups 2, 3, 6 and 7 by

14.3; 8.7; 17.9 and 15.6 to purebred peers of Group 1 of the Soviet Chinchilla (240.1).

The best indicators of fattening and meat productivity 2, 7 and especially 6 groups) were obtained by young rabbits of Origin 3/4RSH1/4NB; 1/4NB1/4SV2/4RSH; 2/4RSH1/4NB1/4SV, due to the features of the three-breed combination of the maternal genotype of Soviet Chinchilla rabbits with the breed of gray giant and New Zealand White. This made it possible to concentrate (additive action) genes of high fattening productivity.

Table 3

Fattening and slaughter indicators of young rabbits, (n=15)

Groups	Lower Back width at 3 months of age, cm	Weight of a paired carcass, g	slaughter yield, %	Feed consumption per 1 kg of	PKO
I	5,69±0,128	1358±17,4	50,11	4,4	240,1
II	5,89±0,104	1474±20,4***	51,3	4,1	254,4
III	5,84±0,126	1443±24,0*	50,99	4,2	248,8
IV	5,72±0,083	1428±15,9**	51,05	4,2	246,0
V	5,76±0,081	1442±18,4**	51,37	4,2	247,4
VI	6,14±0,126*	1555±19,5***	53,44	3,9	258,0
VII	6,07±0,113*	1512±23,7***	52,34	3,95	255,7

*Note. * p<0.05; * * p<0.01; * * * p<0.001 compared to the control group*

During crossing, fattening indicators of the 2nd and 7th and 6th groups increased to rabbits of the 1st group: live weight at 90 daily age by 6.0; 6.6(p<0.01) and 7.4% (p<0.001); average daily increases by 6.7(p<0.01); 6.4%(p<0.05) and 7.3% (p<0.01); loin width by 3.5; 6.7 and 7.9%(p<0.01).

For breeding assessment of fattening and slaughter indicators of young rabbits, the index of total heterosis was determined according to the formula of V. Gorin (table 4).

Table 4

General heterosis, young rabbits at 90 daily age

Groups	Origin	killer output		PKO	
		Slaughter yield, %	indicator heterosis	PKO indicator	indicator heterosis
I	RSH	50,11		240,1	
II	3/4RSH1/4NB	51,3	2,37	254,4	5,95
III	1/4NB3/4RSH	50,99	1,76	248,8	3,62
IV	3/4RSH1/4CV	51,05	1,88	246,0	2,46
V	1/4SV3/4RSH	51,37	2,51	247,4	3,04
VI	2/4RSH1/4NB1/4CV	53,44	6,64	258,0	7,46
VII	1/4NB1/4SV2/4RSH	52,34	4,45	255,7	6,5

The index of total heterosis by Slaughter yield of young rabbit carcasses in the experimental groups was: 2,37; 1,76; 1,88; 2,51; 6,64; 4,45%. The index of total heterosis in terms of PKO was 5,95; 3,62; 2,46; 3,04; 7,46; 6,5 %.

Economic efficiency from the use of three-breed crossing. In young rabbits obtained from seven combinations, not only fattening indicators for groups changed, but also economic ones(table.5).

Analysis of fattening of young rabbits showed that an increase in the growth intensity (by 1.1 - 10.7%) in local young rabbits affected economic indicators. The cost of feed costs per unit of growth was determined by multiplying the cost of 1 kg of feed by the cost of feed per 1 kg of growth. The results of the study show that feed costs per 1 kg of growth in experimental groups of cross animals decreased to the indicators of the first control group of young rabbits of the Soviet Chinchilla breed.

Reduction of the cost of feed by 1 kg of growth to Group 1 (48.4 UAH), in 2 experimental by 3.3 UAH; in 3 experimental by 2.2 UAH; in 4 and 5 also by 2.2 UAH; in 6 by 5.5 UAH; in 7 experimental group by 4.95 UAH. This dynamics affected the indicator of net profit and profitability of production.

The cost of production of 1 kg of rabbit meat was determined by the cost of feed in the structure, which accounted for 70% of all direct costs.

Net income for the production of 1 kg of rabbit meat was by Group 1- 10,9; 2-15,6; 3, 4 and 5-14,0; 6-18,7; 7-17,9 due to the inter - breed combination, it increased by 3.1-7.8 UAH.

The highest profitability of production, in terms of direct costs, was among young rabbits of Group 2 – 24.2; groups 6 and 7 – 30.5%; 28.8%. Animals of these groups by origin were two breeds – 3/4RSH1/4NB and three breed crossbreeds: 2/4RSH1/4NB1/4SV; 1/4NB1/4SV 2/4RSH.

Table 5

Economic efficiency of fattening young rabbits

Economic indicators	Groups						
	I	II	III	IV	V	VI	VII
Feed costs per 1 kg of weight gain, kg	4,4	4,1	4,2	4,2	4,2	3,9	3,95
The cost of 1 kg of mixed feed, UAH.	11	11	11	11	11	11	11
The cost of feed per 1 kg of weight gain, UAH.	48,4	45,1	46,2	46,2	46,2	42,9	43,45
Feed in the structure of direct costs, %	70	70	70	70	70	70	70
Cost of 1 kg of rabbit meat, UAH.	69,1	64,4	66,0	66,0	66,0	61,3	62,1
Sales price of 1 kg of rabbit meat, UAH	80	80	80	80	80	80	80
Net income, 1 kg of rabbit meat, UAH	10,9	15,6	14,0	14,0	14,0	18,7	17,9
Profitability, %	15,8	24,2	21,2	21,2	21,2	30,5	28,8

The use of reciprocal three-breed crossing provided not only an increase in the fattening productivity of rabbits, but also:

- improved feed conversion;
- reduced direct costs for the production of a unit of rabbit meat;
- increased net income and profitability of rabbit meat production.

Studies have established that the use of Soviet Chinchilla rabbits as a mother breed with males of the gray giant and New Zealand White breeds in reciprocal Crossing allows increasing the maternal properties of rabbits and fattening and meat indicators of young rabbits obtained from these combinations, especially the Origin: 3/4RSH1/4NB1/4SV; 1/4NB1/4SV 2/4RSH.

Discussion. A more advanced, highly intensive industrial technology for rabbit meat production was created in Europe 30-35 years ago. Its creators were two French companies "Eurolap" and "Hypharm". Breeding technologies are based on hybridization with a maximum manifestation of heterosis of up to 25%. The material is 4-5 breeds (great-great-grandmother's herd). Currently, for the industrial production of rabbit meat in Ukraine, "French" or intensive technology is used. But a big problem remains for Ukrainian rabbit meat producers the availability of highly productive rabbit heads adapted to this technology.

At the Cherkassy Experimental Station of Bioresources of the National Academy of Sciences, work was carried out to find successful breeding combinations of rabbits that are capable of showing high productivity during intensive breeding in Ukraine. Local populations of rabbits adapted to keeping on a metal mesh floor, high concentration of livestock, indoor microclimate conditions were involved in the work, provided that rabbits are resistant to pododermatitis, stress sensitivity, and are fertile…

Based on our research, it was proved that due to the combinative ability of three breeds and the adaptability of their crossbreeds to the conditions of keeping in the farm of the Cherkasy Experimental Station (intensive, industrial breeding), the best combinations of rabbits, such as 2/4RSH1/4NB1/4SV, 1/4NB1/4SV2/4RSH, prevailed the control group (RSH) in terms of indicators: live weight at 90 daily age by 6.6($p<0.01$), 7.4% ($p<0.001$); average daily increases by 6.4%($p<0.05$), 7.3% ($p<0.01$); lumbar width by 6.7 and 7.9%($p<0.01$).

The selection assessment of our studies was given by the index of total heterosis in terms of slaughter yield, which in these groups was 6.64 and 4.45%, and the index of total heterosis in terms of PKO - 7.46 and 6.5 %.

In studies, local young rabbits showed high fattening, slaughter productivity and economic efficiency due to the origin and sowing of adaptation to the conditions of industrial maintenance: the absence of pododermatitis, stress sensitivity.

Conclusions. Studies have established that the use in reciprocal crossing (various combinations) as the mother breed of rabbits of the Soviet Chinchilla with males of the breeds of the gray giant and the New Zealand White allows to increase the reproductive properties of rabbits and fattening and meat indicators of young rabbits obtained from these combinations.

The best indicators of fattening and meat productivity (2, 7 and especially 6 groups) were obtained by young rabbits of Origin 3/4RSH1/4NB; 1/4NB1/4SV2/4RSH; 2/4RSH1/4NB1/4SV, due to the features of the three-breed combination of the mother breed Soviet Chinchilla with males of the gray giant and New Zealand White breeds. This made it possible to concentrate (additive action) genes of high fattening productivity.

During crossing, fattening indicators of the 2nd and 7th and 6th groups increased to rabbits of the 1st group: live weight at 90 daily age by 6.0; 6.6($p<0.01$) and 7.4% ($p<0.001$); average daily increases by 6.7($p<0.01$); 6.4%($p<0.05$) and 7.3% ($p<0.01$); loin width by 3.5; 6.7 and 7.9%($p<0.01$).

It is established that high fattening, slaughter productivity and economic efficiency of local young rabbits showed due to the origin and sowing of adaptation to the conditions of intensive industrial maintenance in Ukrainian farms.

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