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GROWING AND PRODUCTIVITY OF FEEDING BULLS OF DIFFERENT BREEDS AND THEIR BRIDGE AT THE AVERAGE LEVEL OF FEEDING IN THE CONDITIONS OF THE REGION OF SUFFERING

ВИРОЩУВАННЯ ТА ПРОДУКТИВНІСТЬ БУГАЙЦІВ РІЗНИХ ПОРІД І ЇХ ПОМІСЕЙ ПРИ СЕРЕДНЬОМУ РІВНІ ГОДІВЛІ В УМОВАХ РЕГІОНУ ПОКУТТЯ

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Abstract.*The article covers issues related to the study of the efficiency of growing bulls of different breeds and their crossbreeds for the production of competitive cheap and quality beef, which will address economic, industrial and technical issues of food security in the Pokuttya region. For the first time, a scientific and economic experiment was conducted on different breeds of ruminant bulls according to the scheme developed and presented in the article. It is concluded that when growing bulls of different breeds on the same feed, feeding and keeping rations, it is necessary to breed Simmental meat breed of new generation cattle, which has high average daily gain - 878 g, which is 161 g (22.4%) more than the third group with normal metabolic and biochemical parameters, more than peers-analogues of the III-group of black-spotted breed of dairy direction of productivity. The results of the studies indicate that at the end of the experiment in the III group of bulls in the blood the number of erythrocytes, hemoglobin, total protein and carotene was 0.6 million mm, 1.0%, 1.0% and 0.253%, more than peers -analogues of the II-experimental group. According to the results of our own research, which was proved in 111 and 1U experimental groups when grown on the same diets contributed at the beginning and end of the experiment, a probable increase in hemoglobin concentration, increase in erythrocytes and leukocytes in peers from analogues) and 1U - experimental groups (red-spotted cattle). Hence, it should be emphasized that the hemoglobin in bulls of II and III-experimental groups was 12.3 - 13.3%, in 1 and 1U-experimental was reduced by 0.9%, at a rate of 90-100 g / l.*

Key words: *breed, bulls, diet, feeding, growth, live weight, cultivation, erythrocytes.*

Formulation of the problem.

Despite the financial and economic crisis of our country, today there is an urgent need to provide the Ukrainian population with high quality products and low prices, which is caused by the low purchasing power of the population in the Western region of Ukraine. In modern Ukrainian market relations and the financial and economic crisis in the formation of agro-industrial complex in Ukraine, which necessitates a significant increase in profitability of livestock production, including cheap and

quality beef in public sector farms of various forms of ownership, which is relevant in the Carpathian region Pokuttya. In this regard, for this most effective achievement of this important goal is to increase the own genetic potential of productivity of the new population of the Bukovinian zonal type of beef cattle, using optimal conditions for growing, feeding and keeping for its fuller implementation, which is the goal for agrarian, educational science and this controlled Carpathian region of Pokuttya in Prykarpattia [3, 4].

At the long organization of cultivation and fattening of bulls of new population of meat minced Simmentals of cattle it is possible to reach high indicators of live weight and slaughter yield of meat products not only from cattle of meat breeds and their types, but also from ruminants of some breeds of dairy and combined directions. productivity in the Pokuttya region [9]. Due to this production and depending on the intensity of feeding bulls of different breeds of ruminants, which are bred in FIG "Potochishche" Horodenka district of Ivano-Frankivsk region, the daily gain of live weight first increases (to the middle of fattening), and then gradually decreases in the final physiological period of this region.

The overall natural growth potential of young ruminants can only be fully realized by feeding high-value, bulky and energy-rich feeds, ie on high-energy diet recipes. One of such important production factors of the environment that affect the formation of productivity of young animals, the main is the level and completeness of feeding, which changes significantly at certain stages of ontogenesis [6,14].

Thus, the identification of different breeds and their created genotypes and mixtures of ruminants at the present stage of formation of the dairy and beef cattle industry, which would be best suited for the production of competitive cheap and quality beef, has important scientific and production - economic significance for the important region of Pokuttya. in the Carpathians.

Analysis of recent research and publications.

Many years of selection and breeding work have already created a new population of Bukovynian zonal type of meat komomo Simmental cattle in the Western region of Ukraine, which is formed using the classical method of absorption crossing of local Simmental with breeding bulls of meat productivity of different selection and lines [2, 10]

At this difficult time in the field of our Ukrainian livestock there is an increased interest of producers in different breeds and their types and mixtures of ruminants, created in the above region**.**

Setting objectives.

The aim is to study the efficiency of cultivation and productivity of bulls of different breeds and their ruminant crossbreeds at the average level of feeding in the Pokuttya region. Therefore, the most necessary condition for the successful production of cheap and high-quality beef for growing various dairy and meat breeds of cattle in the Carpathian region of Ukraine. Currently, the most acute problem is to balance the feeding of young animals that are grown and fattened for protein at an average level of energy in the diet recipes, which occupies a central place in the

technology of cheap, high-quality beef in the region. Currently, when using domestic well-known high-protein productive additives in the cultivation and fattening of young ruminants is limited by their shortage and significant high cost, which necessitates the need to find their own high-quality cheap feed, which would not yield to traditional feed additives. economic side would be available to the current Ukrainian manufacturer.

Therefore, of particular interest is the growth energy of young animals in all physiological periods of ruminant development, meat productivity, fattening and slaughter qualities of the meat contingent of different breeds, types and their mixtures at an average level of cultivation with 800 - 900 g of daily gain using different promising environmentally friendly intensive feeding technologies. When achieving the goal according to the recommendations [1, 5].

For this purpose, 10 new populations of the Bukovynian zonal type of meat coma Simmental bulls were selected in 7 months: (I group - experimental), local half-blooded bulls Simmental ½ x 1/8 Ukrainian red-spotted dairy x 3/4 Bukovynian zonal type of meat comolo Simmental (II group - experimental), black - speckled (III group - experimental), Ukrainian red-speckled (1Y - experimental), Simmental (Y - experimental), (Y1-experimental) Simmental x ¾ 4 Bukovynian zonal type of meat comolo Simmental Y11- experimental black-spotted x ¾ Simmental meat similar in live weight at birth and age. In the basic FIG "Potochishche" and still breed different breeds and their types of livestock in the region of Pokuttya. There are no farms in Ukraine that breed as many breeds and their types as this Potochishche FIG.

In this regard, for the first time we conducted a scientific and economic experiment on different breeds of ruminant bulls according to the developed scheme (Table 1).

Table 1 - Scheme of scientific and economic experience

Groups	Sex	n	**Breed, genotype**
And - experimental	bulls	10	Bukovynian zonal type of meat
II - experimental		10	comological Simmental
III - experimental		10	Simmental is Ukrainian
II - experimental		10	red - speckled milk 1/8 x
Y - experimental		10	Black and speckled
Y1 - experimental		10	Red-spotted
Y11- experimental		10	Simmental

Keeping bulls in winter and spring was stable. Until the age of 6 months, the young were kept in group cages for 10 heads, and in winter on a leash. As a rule, bulls were fed twice a day - in the morning and in the evening. The amount of feed in the daily diet was close to complete. Drinking was carried out from autodrinkers. Feeding of bulls was carried out in the expectation of obtaining a daily gain of 800 - 900 g. In compliance with all the requirements of the analogy of selection of bulls in the group, their number was in the experiment of 10 heads of analogues. Before the start of the experiment in the equalization period, which lasted 15 days, work was carried out on the formation of groups and adaptation of bulls to the conditions of the experiment and the recipe of the diet. During this important period on Against the background of the same feeding checked the similarity of groups in productivity,

intensity of livestock growth. Based on the obtained data, the composition of the experimental groups was specified. The group account of the consumed forages by weighing of forages and their remains was carried out. Recipes for rations for experimental bulls were based on chemical analysis of used feed. The amount of feed consumed in groups was set by control feeding for two consecutive days once a week [6, 7, 8]. During the experiment, diet recipes were adjusted to take into account the age and live weight of bulls of different ruminant breeds. Blood for the study was taken from the jugular vein 2-2.5 hours after feeding from 3 bulls - analogues from each group before the study and at the end of the experiment.

Presentation of the main research material.

During the study period, bulls of different breeds and their crossbreeds of ruminants were fed their own feed produced in the farm PFG "Potochishche" region Pokuttya. In the winter-stall period, recipes for rations of young ruminants consisted mainly of clover hay, silage, haylage and energy feed, and fed according to the scheme adopted in the basic farm, which is designed to obtain daily gains of 800-900 g. days in different periods of growing experimental bulls of different breeds and their crossbreeds are shown in Table 2. Since the milk period of growing bulls coincided with the winter period of the year, so the rations of ruminants included: hay, silage, haylage and concentrates.

Table 2 - The composition and structure of diet recipes

Feed	Months of development of experimental bulls					
	7- months		9 - months		12- months	
	кг	%	кг	%	кг	%
Clover hay	1,3	10,0	1,8	18,2	2,0	17,5
Corn silage	5,5	42,6	7,0	22,6	9,0	25,1
Clover haylage	1,7	13,1	3,0	16,1	3,0	13,9
Fodder beet	2,2	17,0	4,0	7,4	6,0	9,6
Wheat grain	1,7	13,3	1,0	17,5	1,2	18,1
Corn grain	0,5	3,8	1,0	18,3	1,0	15,8

Thus, at the age of 12 months, in the recipe of the bull's diet, 17.5% - occupied clover hay, 25.1% - corn silage, 23.5% - clover haylage and concentrated - 33.9%. At the same feeding, and due to the difference in own increments, per 100 kg of live weight of dry matter consumption throughout the main study period, where the highest was in the second group, and the lowest - in the Bukovinian zonal type of meat komomo Simmental cattle of new generation.

Thus, the consumption of dry matter per 100 kg of live weight in experimental bulls decreased with age. If at the age of 6 months this indicator was 2.64 kg in the Bukovynian zonal type of meat comolo Simmental of cattle, 2.72 - in crossbreeds of ½ blood of Simmental breed ¼ Ukrainian red-spotted x ¾ Bukovynian zonal type of meat comolo Simmental bulls, 3.29 - ¾ blood Bukovynian zonal type meat comolo Simmental bulls, black - speckled 2.99 and in Ukrainian red - speckled 2.78 and at the age of 2.61, 2.82, 2.85 and 2.95 respectively.

Studies have also identified the use of feed by bulls of different breeds ruminants for the main period of the experiment per 1 feed day (Table 3).

Table 3 - Recipe for feeding the bulls (for 1 feed / day)

FEED	experimental groups of bulls						
	1	11	111	1Y	Y	Y1	Y11
Hay, kg	1,3	1,3	1,3	1,3	1,2	1,2	1,3
Grain mixture, kg	1,4	1,4	1,4	1,4	1,4	1,4	1,4
Silo, kg	15,3	15,3	15,3	15,3	15,1	15,3	15,1
Haylage, kg	11,2	11,2	11,2	11,2	11,2	11,2	11,2
Table salt, g	53,5	53,5	53,5	53,5	53,5	53,5	53,5
The diet contains:							
Exchange energy, mJ	93,3	93,0	95,1	92,5	92,6	91,7	95,3
Feed units, kg	8,84	8,79	8,8	8,73	8,75	8,65	8,73
Peret. protein, g	854,6	856,6	853,0	855,0	861,1	858,7	859,6
Dry matter, kg	11,2	11,3	11,4	11,2	11,3	11,3	11,2
Sugar, g	632,5	632,5	639,0	674,0	675,4	676,5	575,3
Calcium, g	108,3	108,0	108,2	107,5	108,6	107,8	106,9
Phosphorus, g	33,7	33,1	33,4	33,5	34,3	33,5	33,2
digestible protein							
at 1 MJ, g	109,0	108,0	111,4	108,2	109,3	108,7	109,2
on 1 fodder unit, g	103,4	102,3	103,0	102,1	103,2	102,7	101,7
per 1 kg of dry matter, g	131,0	131,9	133,6	128,9	128,2	126.5	127,3

It is known that the main indicators characterizing the growth of bulls are the growth of live weight for each physiological period of development in this experiment. The dynamics of productivity of bulls in the post-milk period from 7 to 9 months of age in the basic farm was studied (Table 4).

Table 4 - Dynamics of growth of bulls, kg

Indicator	Research groups						
	I	II	III	IУ	У	У1	У11
Live weight at birth, kg	35,7	34,5	33,5	32,7	33,5	33,2	31,3
Live weight at 7 months. age, kg	182,4± 4,28	177,1± 4,12	161,1± 4,55	179,3± 3,7	175,3± 3,85	181,5± 4,15	171,3± 3,87
Live weight at 9 months. age, kg	252,8± 4,22	237,7± 4,92	230,4± 5,74	235,5± 3,43	245,3± 4,13	249,3± 3,75	235,7± 2,97
Absolute increase from 7- to 9 months. age, kg	70,4± 1,45	60,5± 1,56	69,3± 3,91	56,2± 2,87	70,0± 3,21	67,8± 2,13	64,40± 2,03
Daily increase, g	838,1± 15,80	720,2± 16,96	825,0± 42,49	669,0± 35,6	833,3± 19,35	807,1± 18,65	766,7± 17,6
Live weight at 12 months. age, kg	347,4± 3,21	337,1± 3,35	318,1± 3,23	330,3± 2,89	342,5± 2,75	341,7± 3,12	340,5± 2,89
Increase from date of birth to the end of the main period							
Absolute, kg	311,7± 3,12	302,6± 3,43	284,6± 3,02	297,6± 3,65	309,1± 3,21	308,5± 3,13	309,2± 2,89
Daily, g	878,0± 14,54	852,4± 15,65	717,2± 18,75	838,3± 18,25	870,7± 16,35	869,0± 15,45	870,9± 16,35

According to the results of our research, we studied the productivity of experimental bulls of different breeds with the determination that the highest live weight at birth was the young of the new population Bukovynian zonal type of meat komomolog cattle Simmental - 35.7 kg, which is 3.4% more than ruminants with a share ¾ blood of Simmental meat breed and 6.1% - from peers of red - spotted dairy cattle, but the difference between the groups was incredible.

In our research, we determined the increase in live weight from the date of birth to delivery to the meat plant. Thus, for the first three months from 7 to 9 months of age, the average daily growth of young animals in the first group was 948 g, the second - by 14.9%, the third - by 5.4 and the fourth by 3.2 %% were lower with a probable difference from the first experimental group. A small difference (5 kg) in the live weight of bulls at 7 months of age of the first and second groups, due to high daily gains of the latter (948 g), which is 14 g more than bulls - peers of the second, and 49.0 g - than analogues of the first experimental groups.

It is interesting to find that after reaching the age of one year old bulls 1 - experimental group weighed an average of 347.4 kg, which is more compared to peers of the second group by 3.0%, and the third - by 9.2% and the fourth by 5, 8% for the obtained probable difference.

The experiment found that for the period from 9 to 12 months, the absolute gain on average in all groups was more than 85, kg kg, and the average daily gain in the first group was 838.1 g, in the second - 117.9 g less, and in the third - by 13.1 g, and in the fourth by 171.4 g less than the peers of the Bukovynian zonal type of meat comolo Simmental cattle.

In our studies, we obtained an average of 838.1 g in the post-milk period, where the daily gains in bulls of the Bukovynian zonal type of beef cattle were at the level of 838.1 g, and black-spotted (the third experimental) - by 22.4%. During the period from birth to 12 months of age, the highest growth energy, which was characteristic of young animals of the Bukovynian zonal type of meat komomola cattle (878.0 g), which is 25.6 g higher than local bulls of the second experimental group with a probable black - speckled breed difference of 160.8 g.

Thus, the absolute increase of bulls of the Bukovynian zonal type of meat comolate Simmental cattle, which amounted to 311.7 kg, 1-groups - 302.6, 111 - 284.6 and 1Y - 297.6 kg. During the period (7-12 months) high daily gains were found in the Bukovynian zonal type of meat comolo Simmental bulls, which gave 878.0 g, or (22.4),% higher compared to black - spotted milk, and 57 g (4.7%) relative to bulls of Ukrainian red - spotted cattle.

It was found that, on average, during the study period, the average daily gain of bulls of the Bukovynian zonal type of meat komomole cattle was at the level of 878 g, and the second experimental - by 3.0% less. It was found that the variability of growth in the experimental period was high in animals - 7.74%, and slightly lower in local animals with blood of the Bukovina zonal type of meat como-Simmental cattle - 4 - 5.6%. With this in mind and in order to conduct a zootechnical assessment of the cultivation of bulls of different breeds of cattle, calculations of the efficiency of the use of experimental feed ruminants and digestible protein were performed.

It should be noted that the bulls of the second experimental group in the period

from 7-months of age and up to one year of age were inferior to analogues of the studied groups in terms of feed consumption during the experiment. In bulls up to 6 months of age per 1 kg of gain at least 5.22 feed units and 565.6 g of digestible protein was consumed by animals of the first group, which is 0.73 and 79.3 less than the analogues of the third group and 0.11 and 12.1 - from the second. In the post-milk period in 7 - we months. At that age, feed consumption for growth was high, but per 1 kg of growth, ruminants of the second group spent the most - 11.49 units. and 1072.3 g of digestible protein.

Thus, based on the obtained indicators, a similar picture was observed regarding the productive use of digestible protein, which explains the higher average daily gains in Simmental beef bulls compared to local peers during periods of more productive use of feed nutrients.

During the experiment up to 7 months of age, bulls consumed 83.71 kg of digestible protein. Up to a year, experimental bulls consumed 927.2 g of digestible protein per 1 kg of gain in the first experimental group. In the second group, bulls consumed 8.6%, in the third group - by 9.6% and in the fourth - 9.5% more digestible protein compared to the peers of the Bukovina zonal type of meat komomolo Simmental cattle of new generation.

Thus, 121.5 kg of digestible protein was consumed during the whole experimental period, while Simmental beef cattle consumed 927.2 g of digestible protein per 1 kg of growth, and the mixture of the second experimental one consumed 145 g of the third group of 38.3 g and the fourth group - 48.0 g more than the first group.

According to the results of zootechnical evaluation of the effectiveness of feed use in ruminants of the studied planned breeds, which were bred in PFG "Potochishche" gives the opportunity to judge the effectiveness of fattening bulls Bukovynian zonal type of meat komomolan cattle, which use nutrients much better in diet recipes during the entire main period of the experiment to obtain a high increase in live weight in comparison with their mixtures. Blood was taken at the beginning and end of our experiment in bulls of different breeds of cattle for biochemical studies (Table 5).

It was found that in the 111-experimental group the animals contained more by 0.10-0.24 million mm of erythrocytes, 0.16-0.3 g% hemoglobin 0.240 and 0.33% protein after the experiment. The results of the studies indicate that at the end of the experiment in group III of bulls in the blood the number of erythrocytes, hemoglobin, total protein and carotene was 0.6 million mm, 1.0%, 1.0% and 0.253%, more than their peers. -analogues of the II-experimental group.

According to the results of our own research, which was proved in 111 and 1U experimental groups when grown on the same rations contributed at the beginning and end of the experiment, a probable increase in hemoglobin concentration, an increase in erythrocytes and leukocytes from peers in the 111th experimental group) and 1U - experimental groups (red-spotted cattle). From here It should be emphasized that the hemoglobin in bulls II and III-experimental groups was 12.3 - 13.3%, in 1 and 1U-experimental was reduced by 0.9%, at a rate of 90-100 g / l

Table 5 - Indicators of blood of bulls (M + m, n = 3)

Indicator	Research groups						
	I	II	III	IV	V	VI	VII
Erythrocytes, million m3	5,10±0,10 6,5±0,15	5,11±0,09 6,9±0,35	5,20±0,12 7,5±0,24	5,26±0,07 6,4±0,35	5,25±0,11 6,5±0,27	5,12±0,07 6,8±0,38	5,13±0,09 6,7±0,35
	9,10±0,08 11,4±0,06	9,15±0,06 12,3±0,08	9,26±0,11 13,3±0,04	9,30±0,09 11,4±0,08	9,36±0,12 12,3±0,07	9,55±0,08 11,3±0,04	9,25±0,03 10,4±0,07
Hemoglobin, g /%	7,07±0,1 7,6±0,45	7,14±0,11 8,5±0,58	7,31±0,1 9,5±0,20	7,37±0,19 8,2±0,15	6,51±0,3 8,5±0,27	7,44±0,14 7,5±0,61	6,07±0,5 6,8±0,55
Total protein,%	56,0±0,39 61,5±0,25	55,5±0,09 63,5±0,23	56,3±1,10 60,3±0,18	57,4±0,80 61,6±0,35	53,3±1,15 59,3±0,24	51,5±0,05 61,5±0,21	55,0±0,29 60,5±0,15
Sugar, mg%	484±7,4 546±11,3	488±8,0 568±13,8	496±11,6 570±16,5	490±8,9 555±13,7	487±12,6 560±15,9	468±6,0 558±11,8	454±5,4 530±10,8
Alkaline reserve, mg%	2,51±0,10 3,2±0,15	2,63±0,18 3,0±0,35	2,80±0,14 3,4±0,24	2,80±0,12 2,9±0,38	2,60±0,17 3,1±0,17	2,53±0,15 2,0±0,39	2,35±0,18 3,6±0,25
Urea, mmol. l	11,4±0,28 12,5±0,58	11,5±0,44 13,6±0,25	12,0±0,30 13,0±0,12	11,9±0,34 14,6±0,45	11,0±0,35 12,0±0,17	11,8±0,35 11,6±0,28	11,7±0,21 11,5±0,57
Calcium, mg%	6,3±0,10 7,5±0,15	6,4±0,4 7,8±0,45	6,2±0,08 8,1±0,35	6,4±0,13 8,0±0,27	6,8±0,13 7,6±0,55	6,2±0,14 6,8±0,45	6,3±0,17 7,7±0,18
Phosphorus, mg%	0,292±0,01 0,456±0,02	0,309±0,11 0,425±0,23	0,310±0,12 0,678±0,34	0,31±0,01 0,534±0,04	0,305±0,17 0,578±0,45	0,280±0,15 0,405±0,23	0,282±0,03 0,446±0,05

Note: in the numerator blood counts at the beginning of the experiment, in the denominator at the end of the experiment

Conclusions.

According to the results of zootechnical evaluation of the efficiency of feed use in ruminants of the studied planned breeds, which were bred in PFG "Potochishche" gives the opportunity to judge the effectiveness of fattening bulls Bukovynian zonal type of meat komomola cattle, which much better use of nutritional recipes throughout the main period of the experiment to obtain a high increase in live weight compared to their mixtures.

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Анотація. *У статті висвітлені питання, щодо вивчення ефективності вирощування бугайців різних порід і їх помісей для виробництва конкурентоздатної дешевої та якісної яловичини, що дасть вирішення економічних, виробничих і технічних питань продовольчої безпеки держави в умовах регіону Покуття. Вперше проведено науково-господарський дослід на різних породах бугайців жуйних за розробленою і наведеною в статті схемою. Зроблено висновки, що при вирощуванні бугайців різних порід на однакових власних кормах, раціонах годівлі та утримання, необхідно розводити симентальську м'ясну породу худобу нової генерації, яка має високі середньодобові прирости – 878 г, що на 161г (22,4%) більше за третю групу з нормально обмінно-біохімічними показниками, більше від ровесників-аналогів. За результатами проведених власних досліджень про що доведено у 111 і 1У дослідних груп при вирощуванні на однакових раціонах сприяло на початку і вкінці досліду, вірогідному зростанню концентрації гемоглобіну, збільшенню кількості еритроцитів та лейкоцитів у від ровесників-аналогів 111-дослідна група (чорно-ряба худоба) та 1У – дослідна групи (червоно-ряба худоба). Звідси слід підкреслити, що гемоглобін у бугайців II та III- дослідних груп становив 12,3 – 13,3 %, у 1 та1У-дослідній був понижений на 0,9%, при нормі 90-100 г/л.*

Ключові слова*: порода, бугайці, раціон, годівля, приріст, жива маса,вирощування, еритроцити.*