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Implementation of the Genetic Potential of Young Stock Hens of Cross-Country "Ross-308" With Optimized Feeding Program.

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ABSTRACT

Described breeding program, breeding and feeding herd replacements meat cross "Ross-308" LLC "Agrokormservis plus" allow to grow to 20 weeks of age homogeneous herd males and females with a target body weight.

Keywords: meat poultry, meat chickens cross feeding program, cocks, chickens, live weight.

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INTRODUCTION

Poultry farming today is a socially important agribusiness sector to maintain in the country price stability grocery market [3].

Realization of high genetic potential meat cross of hens essentially depends on a complex of factors: a) purposeful work throughout the life of the bird; b) compliance with the rearing techniques, the content of parent stock and incubating eggs; c) compliance with the bird feeding program by age and physiological state; g) compliance with veterinary and sanitary rules [6].

In accordance with the laws of growth and development of young cross "Ross-308", whose share in the tribal Russian market is approximately 32%, for each age period, it is recommended to carry out a number of activities that are key to efficient use, including 0-28 days - to ensure comfortable conditions for the environment and easy access to food and water in order to achieve high safety and regulatory body weight; 28-105 days - ensure with a program of feeding and sorting regulatory body weight and flock uniformity; 105-140 days - prepare for puberty and the beginning of mating by designing the feed and the light of the program in accordance with the body weight and uniformity of poultry [5].

In breeding flocks of chickens for meat characteristics using the coefficients of variation Cv and uniformity DF (deflection factor). The lower the coefficient Cv, the higher the uniformity of the flock [1]. on the deviation from the average live weight of the bird is not: some professionals determine flock uniformity at $\pm 10\%$, others - at $\pm 15\%$. The calculations also show the less take the deviation from the mean, the lower DF. In the Russian literature, as a rule, uniformity assessment on live weight is carried out using a 15% deviation, because it is more visual - numbers close to 100% (Figure 1).

Described above was the basis for the organization in 2015 raising young stock meat chickens cross "Ross-308" in Pyatigorsk branch of the company "Agrokormservis plus", has many years of successful experience in the delivery and implementation of the North Caucasus Federal District and in the Southern Federal District of feed additives and animal feed, as well as obtaining and the implementation of day-old chicks of different species of birds [2, 4].

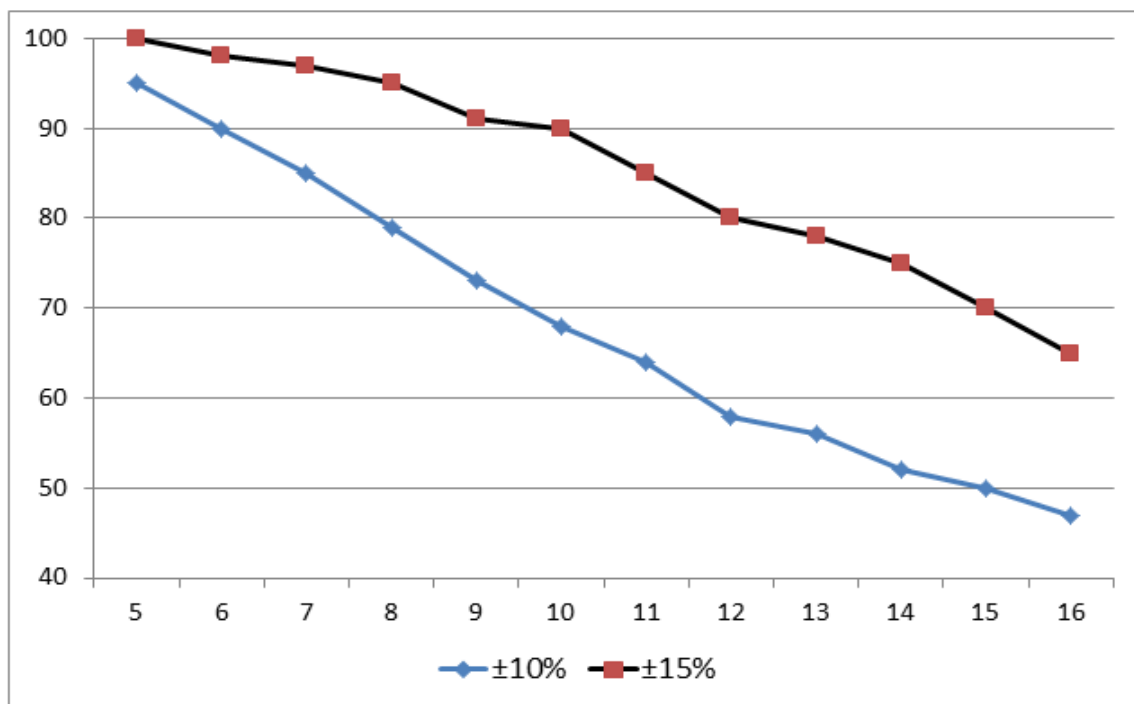


Figure 1: The coefficient of variation (Cv %) live weight of poultry at different levels of deviation from the mean

MATERIALS AND METHODS

In a separate area in a poultry-yard (pavilion type) with a floor area of 1644 m² and a height of 3,4 m after the overhaul was installed equipment of the company «Big Dutchman Internat. GmbH». The feeding system comprises storage hoppers, weighing, transportation, distribution lines suspended on the feeding, including feeders Mail Pan roosters and chickens plus 330 FHV 360; watering system - water treatment unit with dosing, overhead lines watering with nipple drinkers and drop catchers; ventilation system - roof and face the fans, intake louvers and intake valve; heating system - autonomous gas heat generators Jet master; anti-landing system - with wire rope and Electro fences Shocker-0,96. All the technological systems are managed with the help of computer.

Daily repair cockerels paternal form breed Cornish and mother form Plymouth Rock cross breed "Ross-308" acquired "Aviagen» Ltd. (Tula region, Yasnogorsk district) and brought to a place of their own special vehicles cultivation.

Technological standards cultivation (planting density, feeder and drinker space, the size of the training roost and others.) and climate parameters consistent with the recommendations of "Aviagen".

Feeding the birds carried granulated feed produced on a feed mill OOO "Mix-Line" from the local feed raw materials for the formulation of "Agrokormservis plus" in accordance with all-Union State Standard 18221-99, recommendations "Aviagen" and the modern trends of scientific and technological progress (Table).

Table: Recipes feed for replacement chickens

Index	Start 1 (0-21 days)	Start 2 (22-42 days)	Growth (43-105 days)	Before laying (106-5%)
Feed composition, %				
Wheat 12%	39,06	45,00	42,34	45,00
Corn 8%	23,99	22,75	19,64	24,24
Wheat bran	-	-	20,70	8,58
Oilcake of soybeans 40%	21,97	14,28	-	6,11
Sunflower rape 32/19%	6,67	11,55	7,69	5,48
Flour alfalfa 17%	-	-	4,00	4,00
BVMC Hendricks 5% B	5,00	3,50	2,50	-
Leykon 5% with phytase	-	-	0,30	3,00
Premix Trau B 1% TX	0,20	0,50	0,65	0,62
Prebiotic "PROSTOR"	0,05	0,05	0,05	0,05
Chalk	1,41	1,40	1,22	2,24
Defluorinated phosphate	0,82	0,74	0,61	0,31
Lysine 78	0,31	-	-	-
Methionine feed 99	0,19	-	-	-
Threonine	0,14	-	0,05	0,05
Vitamin E 50%	-	0,01	0,01	0,01
Sodium sulfate	0,15	0,04	0,04	0,09
Salt	-	0,19	0,20	0,22
The content of nutrients, %				
Exchange energy, kcal	295,00	300,75	255,00	270,00
Crude protein	20,50	18,00	14,25	15,00
Crude fat	4,98	4,68	3,28	3,23
Crude fiber	4,35	5,00	6,00	5,00
Lysine	1,37	1,01	0,73	0,83
Methionine	0,60	0,44	0,37	0,38
Threonine	0,85	0,65	0,48	0,52
Ca	1,00	1,00	0,90	1,20
P	0,65	0,72	0,65	0,55
Na	0,17	0,17	0,17	0,17
K	0,84	0,71	0,71	0,67
Cl	0,23	0,23	0,23	0,23

RESULTS AND DISCUSSION

Repair males and females from day to 140 days of age were grown separately as their rate of growth and development vary. Accordingly, the amount of feed per 1 head according to sex in order to achieve target body weight differed. On average, for 20 weeks, feed costs 1 cockerel were above normal by 1,4%, females – 0,7%.

The survival rate of males is 97,9%, females – 98,2%.

The main method of selection was the mass appraisal and selection of the bird on the phenotype (live weight and exterior) within the parent form. In 28 days it was carried out a total Valuation of males and females and their seating sections, for which the poultry house was divided removable mesh shield (2 × 1,5 m) (Figure 2).

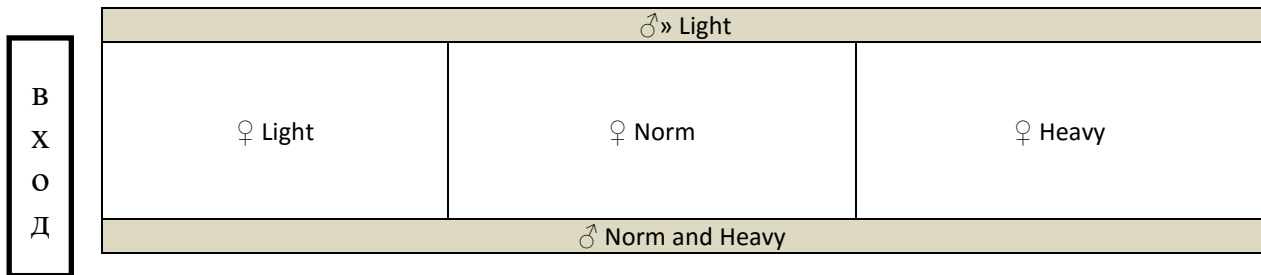


Figure 2: Arrangement of sections in the poultry house

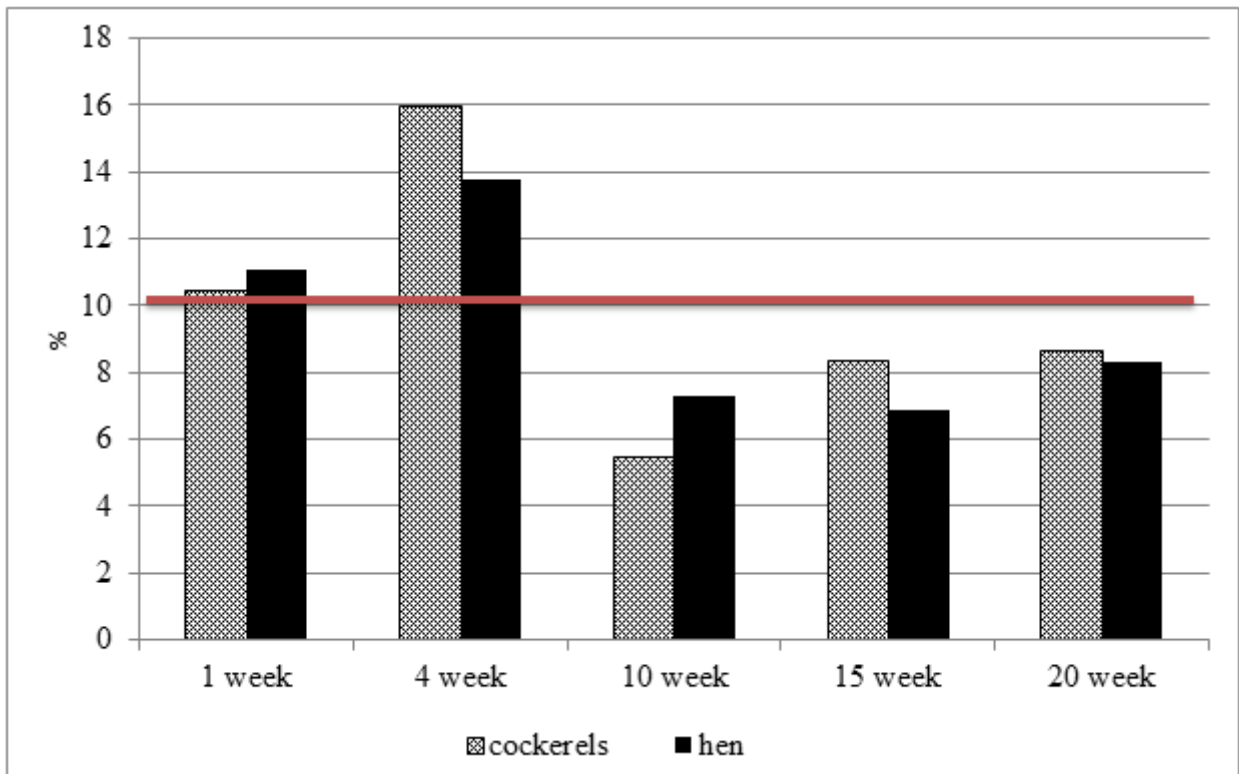


Figure 3: Variation (Cv) live weight of young replacement, %

According checkweighing 5% of the population, live weight maintenance 20-week of young growth of were almost at the level of genetic potential (standards) cross "Ross-308": males - 3025 grams (less than normal at 10 g), the chickens - 2299 (less on 26 g).

Error detection sorting birds by gender in the plumage on day-old rate of "Aviagen" is 1,5% (within the margin). With exterior defects and significant deviation from normal body weight culling 30,4% of males and 2,9% of females.

According to leading experts [1, 5, 6], the critical level of Cv is 10% below this level (8-9%) uniformity coefficient (UC) is most suitable: the deviation from the mean $\pm 10\%$ of 72-80%, with $\pm 15\%$ - 91-95%.

The diagram (Figure 3) demonstrates that the established rearing and feeding conditions at the start of cultivation of repair cockerels and hens without any manipulations were almost uniform - Cv is equal to 11,1 and 10,5%, but by 4 weeks of age because biologically natural growth and development of the herd is not uniform - Cv increased to 16,0% for males and 13,8% for females and UC at $\pm 15\%$ - 65-75% instead of 92% of the norm.

Carried out valuation and adjustment techniques of feeding - at a rate of feed depending on the weight class, gave a positive result. In two weeks Cv for cockerel fell to 9,6% in hen - to 10,0%. next, a 10-week age, even more decreased when normally achieved standard size skeleton, Cv poultry meat - and 7,3 to 5,5%. By 20 weeks of age when puberty is actively developing a program of poultry and light stimulation grown herd was highly homogeneous: Cv is equal to 8,7% and 8,3, the UC on average at $\pm 10\%$ - 76% and $\pm 15\%$ - 93%. For information on the standards adopted in Russia, for a 20-week replacement chickens UC shall not be less than 85%, for an adult herd - not less than 90%.

CONCLUSION

Thus, the experience of "Agrokormservis plus" indicates that the current high-tech equipment, optimized feed software, constant poultry sorted by live weight, exterior and floor adjustment bodyweight schedule according to the normative profile allows you to grow up to 20 weeks of age uniform flock of repair cockerels and the hens cross "Ross-308" with a target body weight.

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