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The Influence of a Preparation of Ekofiltrum on Quality of Rabbit's Meat

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ABSTRACT

Now the problem of quality of meat production that is especially actual at application of antibiotics and other antimicrobial means for treatment and prevention of various diseases of animals is particularly acute. Their negative influence on an organism is caused by deterioration of production, decrease in resistance at the person, and also manifestation at it allergic reactions. Proceeding from it, it is necessary to look for ways of improvement of quality of the finished goods capable to meet the high requirements of preventive actions and therapeutic tasks of providing a healthy livestock of animals in total with quality indicators of finished goods [1, 2, 3].

Keywords: ekofiltrum, chemical composition, meat, rabbit, analysis.

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INTRODUCTION

Our research was directed to determination of quality of meat of rabbits after application of ekofiltrum's preparation by it. The ekofiltrum represents the powder consisting of an alkaline hydrolytic lignin and a laktuloza. For definition of its influence on quality of meat used rabbits. Two groups of animals weighing from 1,5 to 2 kg, on 10 animals in each group were created. Animal the I-st groups received inside a preparation ekofiltrum daily for 30 days in a dose of 1,5 g/kg of weight that exceeds a therapeutic dose of this preparation by 5 times. Animal the II groups set only compound feed without addition of sorbents. For 30 days performed clinical examination of all animals. For the 30th day of experiment carried out diagnostic slaughter of rabbits and veterinary and sanitary examination of meat of animal all groups. The veterinary and sanitary expertize of meat of rabbits was carried out according to state standard specification 20235.0-74 and state standard specification 20235.1-74 [4, 5]. The organoleptic researches included studying of appearance of meat, its consistence and smell, condition of fat, sinews, transparency and aroma of broth. The nutrition value of meat was established according to the relative contents and a ratio in it of moisture, fat, proteins and mineral substances. Moisture content was counted on a formula according to state standard specification 9793-74 "By meat products. Methods of determination of moisture content" by drying of a product [6]. The definition of fat was being carried out in accordance with GOST 23042-86. "Meat and meat products". The method is based on extraction of fat from dry on - weighty meat by flying solvents in Sokslet's device with the subsequent distillation of solvent and drying of fat up to the constant weight. As solvent used air. The content of mineral substances (ashes) in meat was defined by burning of a hinge plate in a porcelain crucible in the muffle furnace at a temperature of 700 °C. The method is based on decomposition of organic substances under the influence of high temperature, the mineral part remains in the form of ashes [7]. The protein content was determined by amount of the general nitrogen by a test mineralization across Kyeldal, by ammonia distillation in solution of sulfuric acid with the subsequent titration of the studied test. The caloric content of meat was established on the basis of the chemical analysis and counted according to the content of proteins, fats and carbohydrates in 100 g of a product on the special formula given in state standard specification. The biological value of meat defined with use the test of object the ciliated of infusorians of Tetrakhimen piriformis [7]. Thus as an indicator of biological value the number (expressed as a percentage) of the infusorians which grew for four days on the examinee a sample to number of the cages which grew in control serves. As control in the analysis tests of meat from healthy animals and casein [7] served. At an assessment of biological value studied the relative biological value (RBV) – the relation of quantity of the cages which grew on the Wednesday from the studied product (io) to quantity of infusorians on the Wednesday from control tests (Ik). Bacteriological research of meat on existence of microorganisms was conducted in accordance with GOST 20235.2-74 "Meat of rabbits. Methods of the bacteriological analysis". When carrying out the bacteriological analysis of a carcass of each animal serving as object of research subjected to bacteriological research of test of muscles of forward and back extremities, spleens, kidneys, a liver. From the studied material carried out crops on nutrient mediums by the standard technique. Crops on nutrient mediums incubated in the thermostat within 24 hours at +37 °C.

MAIN PART

The identification of the allocated microorganisms mobility carried out on a number of the biochemical tests including a fermentation of glucose, lactose, a mannitol, sorbite, sucrose, a ramnoza, a maltose (on Giss's circles), formation of hydrogen sulfide (on Kligler's circle), determination of urease activity (on Christensen's circle) (in 0,3% PZhA). From the cultures which are grown up on Wednesdays prepared dabs, painted across Gram and conducted microscopic research by means of a light microscope with application of an immersion lens. Reaction of the environment (pH) of meat was determined in the electrometric way by the device "pH METR N5123" in the water extract prepared in the ratio 1:10. Bacteriological research of muscular tissue and parenchymatous bodies carried out in accordance with GOST 20235.2-74. Along with a bacterioscopy of dabs prints carried out crops on liquid and dense nutrient mediums [7]. Physical and chemical researches were conducted according to state standard specification 20235.1-74 "Meat of rabbits. Methods of the chemical and microscopic analysis of freshness of meat" on the following indicators: reaction to ammonia and salt of ammonium, reaction to peroxidase, definition of products of primary disintegration of proteins in broth, pH [5]. Toxicity (harmlessness) of the studied samples determined by presence of the dead of infusorians, change of their form, nature of the movement and oppression of growth of Tetrakhimena.

At organoleptic research in the skilled and control groups of a carcass of rabbits after maturing (in 24 hours after slaughter) were well bloodless, had a crust of drying of light pink color. The carcasses are extended, muscular tissue is well developed, granularity isn't expressed. Deposits of subcutaneous fat in the form of two rollers in shovels. The surface of muscles slightly damp, but not sticky, doesn't leave a damp spot on filter paper. The consistence dense, when pressing by a finger the formed pole quickly is leveled. The smell is poorly expressed, peculiar to fresh meat of rabbits. Subcutaneous and internal fat of light pink color, flavourless, easily melts.

Table 1: The chemical composition of meat of rabbits at application of a preparation of ekofiltrum

Indicators	Experience	Control
Water, %	66,7±1,7	68,3±1,8
Protein, %	21,1±0,92	21,3±1,1
Fat, %	11,1±0,35	9,1±0,27
Ashes, %	1,2±0,09	1,3±0,08

Table 2: The physical and chemical indicators of meat of rabbits at Ekofiltrum's use

Indicators	Experience	Control
The reaction to ammonia and salt of ammonium	negative	negative
The reaction to peroxidase	positive	positive
The definition of products of primary disintegration of proteins in broth	negative	negative
pH meat	5,92±0,08	5,89±0,08

Table 3: Toxic and biological evaluation of rabbit meat by using Ekofiltruma

Indicators	Experience	Control
Relative biological value, %	100,4±1,7	100
Toxicity, % pathologist. forms of cages	0,2±0,04	0,2±0,1

When carrying out the test by cooking broth in all cases was transparent, fragrant. A foreign smell it isn't revealed. From the data of an organoleptic assessment provided in the corresponding tables (1, 2) it is visible that on all indicators of a carcass of rabbits of skilled and control groups of essential distinctions had no that confirms lack of influence of the studied preparation on quality of meat. From the data provided in the table it is visible that physical and chemical indicators of skilled and control groups of reliable distinctions have no and are in norm limits. Indicators of biological value of meat of skilled and control groups of reliable differences had no. Manifestations of toxicity for infusorians it isn't established (in norm the quantity of the changed forms of cages of infusorians makes from 0,1 to 1%) (tab. 3). Therefore, application of a natural enter sorbent of Ekofiltrum doesn't influence the biological value of a product.

CONCLUSION

On the basis of the conducted researches it is established that meat of rabbits by which Ekofiltrum on organoleptic, the physical and chemical, bacteriological indicators was being applied, and also the biological value and harmlessness, is good-quality.

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