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TOXICOLOGICAL PROPERTIES OF INSECTICIDES BELONGING TO THE CLASS OF PYRETHROIDS
(According to the literature)

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Abstract: Insecticides used against various external parasites of animals, the chemical composition of insecticides, including the main active ingredient and additives, have been studied in this state.

Keywords: pesticide, insecticide, position, subposition ,it permethrin, pyrethroid

Relevance of the topic: animal husbandry is an important branch of agriculture in our country, providing employment and income for the rural population, is important to meet the needs of domestic consumption, the market of environmentally friendly, high-quality livestock products. In our country, much attention is paid to the organization of animal husbandry on a scientific basis, increasing their productivity through the use of advanced production technologies, achievements of modern science. In the farms of the republic, saving on animal husbandry and poultry farming, many chemicals are widely used, including preparations of the group of artificial peritroids, against various pathogenic pests of animals and poultry.

Modern methods of combating veterinary pests are based on the use of chemicals. The effectiveness of insecticidal drugs is determined by their composition, form and method of application. [8]

The need to combat ectoparasites of animals in agriculture is associated with the risk of the spread of infectious and parasitic diseases and the huge economic damage they cause [2,3,10,11]. The harmfulness of insects living in livestock and poultry premises is high [1,2,11].Modern methods of veterinary disinfection are based on the use of chemicals [12].

Insecticides are a type of pesticides that in Latin mean: insectum (insect), caedo (kill). Therefore, an insecticide is a pest-a chemical that kills insects, their eggs and larvae. Also, medicoinsecticides are used against pathogens that cause various diseases in humans and animals. Medicinal (commercial) forms of insecticides are divided into: powder, granular, emulsion concentrates, suspensions, pastes, microcapsules, tablets, dust and other and organic (chlorinated, organophosphate, carbamates, pyrethroids, neonicotinoids) groups. The insecticide will contain the main substance acting on the insect (about 81-90%), as well as solvents, surfactants, etc. In many cases, the attachments are not disclosed in the form of a corporate secret. The number of pyrethroids used as an active substance worldwide has exceeded 300, and their dosage forms are about 5 thousand. [4]

The toxicity indicators (LD) of insecticides, which are currently widely used, as can be seen from the figures, are among the extremely dangerous and highly toxic substances.

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The active substance in pyrethroid is laermethrin -laermethrin (empirical formula C22H19NO3CL2), its synonyms: laermethrin, sinometrin, sershans, emperor, flectron, serkil, almethrin, polytrin, Barricade, Intavir, Stockage, ripcord, Rovikil, syrax, Arrivo, nurell, simbush, Sherpa, Siper.

Insecticides belonging to the class of pyrethroids, according to the active substance, are similar in chemical structure to amygdalin, contain a cyanide acid residue.

Currently, pyrethroid preparations such as karatin, deltamethrin, sumicidin, Ambush, Decis, mahalliyermethrin of local action, sumi-alpha (Joint venture of Navoi Electrochemical Plant) are widely used in the fight against ectoparasites of livestock in livestock farms. However, according to the analysis of scientific literature, it has been established that the toxic effect of the drug Alpha-Shakti 10% EC against ectoparasites of livestock in the climatic conditions of our republic has not yet been studied.

Alpha – Shakti 10% EC (Mumbai, India) is a synthetic pyrethroid preparation, the active substance of which (FTM, ADV) is contained in a concentrated emulsion-25 + 1.5%, each liter contains alpha-Sermethrin 10.6% (derived from 95% of the active ingredient) emulsifier 10.0% and filler 79.4%. The drug is a pale yellow oily liquid with a pungent odor, well soluble in water (reacts), when interacting with water turns white. The preparation Alpha – Shakti 10% EC is less harmful to humans and the environment than phosphorus - chlorocarbamate and other organic insecticides, decomposes rapidly under the influence of biotic and abiotic environmental factors. (decomposes, neutralized).The systematic and purposeful use of this drug in animal husbandry practice is achieved by providing the country's population with quality products.

However, currently only in the Republic of Uzbekistan hundreds of insecticides listed in the list of pesticides and agrochemicals allowed for use in agriculture are traded internationally and locally.

Insecticides on environmental impact, depending on the shelf life, are divided into the following groups: group I (more than 18 months), group II (up to 18 months), group III (up to 12 months), group IV (up to 6 months), group V (more than 3 months) and group VI group (up to the 3rd month). [7]

The degree of study of the subject: according to the results of studies conducted by a number of authors, it was found that the 0.03% aqueous emulsion of Alpha-Shakti 10% EC has a high acaricidal efficacy in laboratory conditions compared to cattle mites, which is important for the prevention and control of piroplasmidosis of cattle. [2]

0.01% aqueous emulsion of Alpha - Shakti preparation (10% EC mumbai India he 19077, May 2019), which showed good results in laboratory experiments, was prepared and disinfected by spraying using special automax equipment at a design head of 2-4 liters 2 times with an interval of 12 days. As a result, infected cattle died 95% from ectoparasites after 2 treatment sessions. Studies have shown that 100% of livestock on farms are infected with sinbovilli and zoophilic insects. When studying their seasonal dynamics, 4.75% of meetings in spring, 61.57% in summer, 33.67% in autumn were noted, as well as the maximum number of meetings of Synbovillaceae and zoophilic insects in May, June, July, August, September. It was found that 0.01% aqueous emulsion of Alpha-Shakti preparation when used in laboratory and industrial conditions against mosquitoes sinbovil and zoophil is 90-95% effective. [3]

Scientists of the Ferghana Medical Institute of Public Health have studied the effect of pesticides with a relatively low biological effect currently used on warm-blooded animals, and during experiments on rats and rabbits, serious anatomomorphological changes in their liver were observed as a result of violations of biochemical processes in animals that are the objects of the experiment [10].

Insecticides belonging to the class of pyrethroids mainly contain alpha-, beta- and Zeta - cyermethrin. Insecticides are produced by companies from different countries, as well as in Uzbekistan and in cooperation with foreign countries. It is also worth noting that the production of chemicals, neglecting the environment, has become a huge source of income.

Summing up, based on the literature data, we consider it advisable to pay attention primarily to the degree of their toxicity and possible negative consequences after their use in the practical application of drugs related to various chemical compounds with the property of insecticidal action..

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