THE POLYMER COATS FOR VETERINARY DRUGS ON NATURAL BASIS

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The recent years polymers of the medical-biological purpose are of more and more increasing interest. The reason of it was in different materials and matters, that are aimed to control blood environment, tissue of a living organism, and some other biological environments.

The aim of this work is the investigation of the interaction of the drugs with polymers and construction of the polymer covers on the basis of some synthetical and natural polymers for the controlled release of the drugs. Some drugs like arecoline, chemcoccide, were examined during the investigation. Chemcoccide is widely used as a cure of coccidiosis of different kinds of animals.

Arecoline is used as a cure against the intestinal worm, as a laxative in veterinary, as a substitutor of pilocarpinum and eserinum in ophthalmology. By it’s physiological background arecoline’s functions are near to that of muscarine and acetylcholinum. It reduces the blood pressure, increases the secretion of mucus, strains the muscles, and also is the reason of narrowing of the eye pupil.

As the substance useful for polymer covers the polyvinyl alcohol was investigated. PVA is the polyvinyl-carrier of the drugs. The rigid demand of the medicine narrows the number of the natural and synthetic polymers, which can be used for obtaining polymeric drugs. That’s why all those polymers which are necessary for medical purposes must be pure and homogeneous.

For investigation, one granule of arecoline without polymer cover and the one having the latter were taken. The granule of arecoline is a composition consisting of a medical substance and neutral additives, taken in the following correlation: arecoline: 25%, sugar: 25%, starch: 50%. The mass of the single granule without cover is 0.03 gr, and with the cover is 0.25 gr respectively. The consistence of the arecoline in one granule without cover is 0.0075 gr, with cover 0.0025 gr. Independently of the number of granules in all cases there is an increasing of arecoline in granules, and the more the number of arecoline in granules, the higher percentage of finding arecoline is.

On the basis of PVA, bentonite and additives the polymer covers were produced, which were used in veterinary for curing sarcosporidiosis – wide-spread, simplest illness of the mammals, birds and reptiles. There is also a way of identification the arecoline in granules with covers and without them.