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«Analysis of the possibility and prospects of using corn cob processing waste and development of their quality indicators»

Teplov Ilya Sergeevich: student, pharmacy, forth year, 701-25.

topic advisor: Ph.D. in Pharmacy, associate professor at the the Department of Pharmaceutical Natural Sciences of the Institute of Pharmacy named after A.P. Nelyubin of Sechenov University - **Nesterova Nadezhda Victorovna**

Abstract

The analysis of scientific literature shows the growth of research on raw materials representing the waste of processing of the food industry. According to Rosstat, in 2023, corn for grain was harvested from 2.7 million hectares, 15.2 million tons were harvested, the yield was 59.6 c/ha Corn is one of the most important crops grown in the Russian Federation, used in various fields of industry. The fields of application of corn processing products on a global scale are very diverse, however, in Russian production, processing waste does not find wide industrial use and remains in the fields, or is burned. The object of our study were corn cob rods for which the percentage of yield during grain processing was initially determined, which showed values from 27 to 39% of the cob weight depending on the place of harvesting, macro– and microdiagnostic signs were determined, and a number of quality indicators were determined, including moisture content, ash insoluble in 10% HCl, the content of extractive substances extracted by water, as well as alcohol of different concentrations. The adsorption capacity was evaluated, which made it possible to consider corn cob rods as a promising sorption agent.

Purpose

Study of some quality indicators of corn cob rods and evaluation of prospects for their use in medicine

Research objectives:

1. To analyze the literature, which allows to assess the level of modern research and existing documentation for the analyzed raw materials
2. To assess the yield of rods during the processing of corn cobs for grain
3. Analyze standard numerical indicators
4. Determine the content of extractive substances extracted with water and alcohol

Conclusions

1. An analysis of the literature has been carried out to assess the level of modern research and existing documentation for the analyzed raw materials
2. An assessment of the yield of rods during the processing of cobs for grain was carried out
3. The analysis of the main numerical indicators is carried out, the norms are presented
4. The content of extractive substances extracted by water and alcohol, as well as the content of cellulose in three types of corn was determined