THE USE OF NON-TRADITIONAL LOCAL RAW MATERIALS IN PRODUCTION OF COMPOUND FEEDS

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Abstract. The article aims to investigate non-traditional local raw materials, its production for compound feeds. For this reason, the use of natural clays, especially bentonite clays in producing raw materials is characterized. The findings of the research depict that it is essential to use bentonite clay in producing raw materials. The results show that it is of high importance to create new varities of local raw materials for feed production.
Keywords. Raw materials, feed production, compound feeds, to produce, bentonite clay, healthy products.

It is crucial to fully feed farm animals in order to assure a rise in productivity. If all nutrients, including minerals, are included in the diet, it can be well organized. Utilizing a variety of mineral compounds improves animal production and product quality, as well as reduces mineral deficiency and associated diseases.

Natural clays, which are surface-active materials (kaolin, bentonite), play an important role in this direction.

It is known that adding modest amounts of bentonite clay to animal feed has a positive impact on the growth and health of the animals this is due to the fact that bentonite clay is a good natural polymineral top dressing and contains a number of essential trace elements. Bentonite has a positive impact on how animals and birds digest food. It is very capable of absorbing microbial cells, their poisons, and alkoids. It contains adsorption, catalytic, and high binding capacity. It prevents the emergence of pathogenic diseases by enhancing the digestibility of feed.

Numerous studies have shown that adding bentonites to feed increases milk yield, fat content, meat quality, and taste in cattle, weight gain in pigs, egg production in birds, live weight, and wool in sheep, it also improves some biochemical parameters of blood, particularly by increasing the content of calcium, magnesium, and inorganic phosphorus.

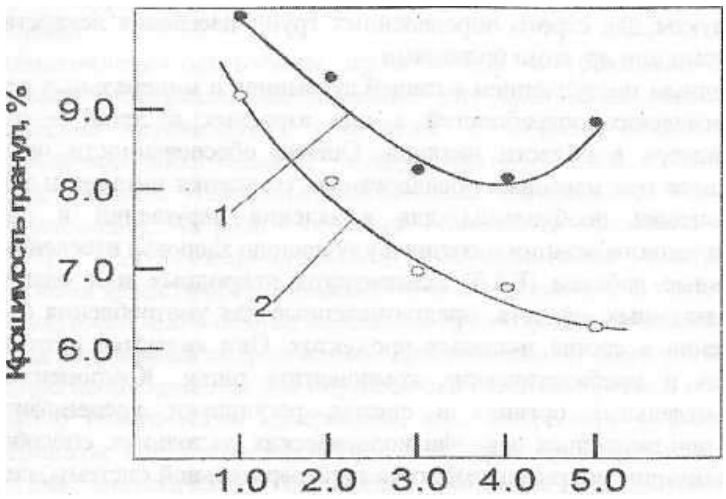
There are bentonite clay resources in Uzbekistan, however they haven't been widely used for animal feed despite being present in many different parts of the country till now.

The Research Institute of Animal Husbandry of Uzbekistan conducted a study on the efficiency of using Navbakhor bentonite clay in the diet of calves. According to the absolute gain in weight of the animals that consumed bentonite clay outperformed the calves in the control group by 9.7%. In comparison to peers from the control group during this time, the experimental group used 9.3% less feed units per kilogram of growth. An increase in hemoglobin by 0.28 g/% and erythrocytes by 0.19 million/mm3 was seen in the blood of experimental calves compared to the control group.

Certain physical and chemical characteristics of bentonite flour influence the caliber of the produced feed combination, the effectiveness of the process machinery, and the process's

energy intensity. The set of physical characteristics governing how bentonite flour behaves during this process define its technological properties, which alter significantly when heat and moisture are present. We have investigated the impact of humidity to the changes in the bulk characteristics of bentonite flour. It was discovered that bentonite flour form a solid monolithic mass during the process of storing at high humidity, resulting in higher expenditures for loosening and crushing when fed to producing. Bentonite flour loses its flow characteristics when moisture content rises, which causes sieve clogs, decreased machine productivity, higher specific energy use, and decreased dosing accuracy. Studies have shown that bentonite flour with a moisture level of no more than 8% has appropriate flowability and doesn't cause problems when added to the feed mixture.

Additionally, we have studied the effects of molasses and bentonite flour's ability to bind when granulating feed. The measure of efficiency in relation with the dependence of the granules' crumbling was on the amount of binders in the feed. Figure 1 depicts the outcomes that were attained.



Quantity of binders, %

Fig.1. Dependence of granule crumbling from the amount of molasses (1) and bentonite (2)

The analysis of the findings reveals that adding molasses and bentonite flour to the compound feed enhances the qualitative attributes of granules. The use of 3-4% bentonite flour reduces granule crumbling from 10% to 8%.

Taking into account the above-mentioned data, these studies direct to increase the caliber of feed products based on the investigation and the development of technical specifications for bentonite flour in order to broaden the range of raw materials, locate and draw new varieties of regional raw materials for the feed industry.

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