



MODERN METHODS OF MIXED FEED PRODUCTION AND ENRICHMENT

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Abstract: This article provides the necessary information about the technology of compound feed production, raw materials, types of compound feeds, the study of its composition and its enrichment.

Keywords: compound feed, compound feed, protein-vitamin-mineral (BVMD), protein-vitamin (BVD), premixes, complete feed.

Characteristics of products, raw materials and semi-finished products. Complex feed is a complex homogeneous mixture of different feed components and additives, formulated in accordance with the requirements of complete nutrition, taking into account the species, age, sex, health and purpose of animals and birds, purified and crushed in the required amount. feeding. The production of compound feeds involves their balance in terms of energy, protein, macro and micro supplements, vitamins and biologically active substances.

According to the purpose, complete mixed feeds, mixed feed concentrates, feed mixtures, protein-vitamin-mineral (BVMD), protein-vitamin (BVD) and mineral supplements, premixes are distinguished. Completely mixed feeds fully meet the energy, nutritional and biological needs of animals. They should contain all the nutrients needed to ensure high productivity and product quality, good animal health and low prices.

Complex feed concentrates are intended for cattle, pigs, rabbits and other animals. They contain high amounts of protein, minerals and biologically active substances. These mixed feeds are given to animals in limited quantities, only in addition to grain, coarse and succulent feeds. Mixed feed concentrates should correspond to the quality of raw and juicy food, provide the necessary nutritional value of the diet. As a diversity, it is sometimes customary to distinguish a separate group of primary nutrients, viz. feed for young animals in the first periods of life.

Feed mixtures are mainly intended for cattle. They can be prepared from waste flour and cereals, for example, barley husk, from which molasses, urea and other additives are added, preferably in granular form. If, for one reason or another, mixed feeds produced with significant deviations from the normative and technical documents do not meet the zootechnical requirements, they can be classified as feed mixtures. The Ministry of Agriculture and Food of the Republic of Belarus does not recommend the use of this type of feed. Protein-vitamin supplements (BVD) and superconcentrates are balancing nutritional supplements that are homogeneous mixtures of high-protein foods, micro- and macro-supplements, vitamins, and other biologically active substances in the required amounts. They are produced according to scientifically based recipes and are used to prepare feed based on grain feed. These types of feed additives are intended for the production of "secondary mixed feed" on the basis of collective farms, state farms, inter-farm feed mills, feed grains available to farmers, plant vitamin

flours. and other food products. These compound feeds must be qualitatively compatible with complete compound feeds or compound feed concentrates.

Premixes are micronutrients that are a homogeneous mixture of pre-prepared biologically active substances, pulverized to the required particle size and in some cases filler, a special concentrated feed used to enrich animal feed and protein and vitamin supplements attachments. The basis of premixes are vitamins, trace elements, amino acids. In addition, the composition of premixes may contain substances that have a stimulant effect (antibiotics, etc.); substances that have a protective effect on the feed, do not allow their quality to deteriorate, contribute to the best use of nutrients (antioxidants, emulsifiers, enzymes, flavorings, etc.); has therapeutic and prophylactic effects (furazolidone, sulfadimycin, etc.); sedatives (tranquilizers); surfactants (detergents).

It is common to evaluate the technology of compound feed production by flow charts, which graphically show the sequence of operations, as well as the place of each of them in the overall structure of the final product from different types of raw materials. Each technological scheme consists of a series of preparations and main directions, which are a system of interconnected machines and mechanisms arranged in the order of sequential operations.

The flow diagram of the process is usually described graphically and indicates: the amount and location of unloading of raw materials from vehicles, types and sizes of mechanisms, their operation; number of warehouses; their capacity, and for silage warehouses - the number of silos, loading and unloading warehouse locations, types and standard sizes of transport mechanisms and their performance; number of raw material supply lines for production; the number of scales and load-bearing capacity for raw materials at the start of production; the number of production lines of the technological process and the equipment used with the main characteristics and technical data; number of warehouses for finished products, their capacity; unloading and loading of finished products inside the vehicle; directions of flow of raw materials, components, products and wastes * at all stages of the technological process; the number and length of magnetic barriers, their installation location along the lines, the number of aspiration devices, and their distribution across the aspiration lines relative to the aspiration machines.

Stages of the technological process. Feeding preparation includes the following basic operations:

Receipt, weighing and storage of raw materials;

Purification of raw materials from impurities;

Cleaning oats and barley; crushing of grain and other components;

Drying and grinding of mineral raw materials;

Preparation of a mixture of micro-additives with filler;

Adding liquid supplements to animal feed;

Prescription dosing of components;

Mixing components;

Granulation or briquetting of mixtures;

Due to the need to adapt to certain physical parameters, today there are more than a hundred types of raw materials for feed production: limestone flour, grass, meat and bone, various types of grain, straw, cakes, hay, as well as vitamins, minerals and liquid components. If you look at mixed feeds not in terms of a recipe, but in terms of their ability to provide a full or partial supply of animal feed, then all feeds can be of several types:

1. Complete feed - does not require feeding of the animal or bird, ensuring their normal normal life and the use of any supplements or feeds.

2. Concentrated compound feed - used as a supplement or in addition to succulent feed, produced to compensate for the lack of vital vitamins and minerals in the agricultural diet. animals and birds. Economically concentrated feed production is more beneficial than complete feed. In addition, they are also more demanding. Probably, this is the reason why in Russia this minute the production of concentrated mixed fodder is leading compared to the rest.
3. Special mixtures for feeding - mixed feed concentrates and coarse feeds, including straw, hay, corn stalks. Such compounds are mainly suitable for sexually mature ruminant artiodactyls - sheep, goats and cattle.
4. BVMD, or in other words - protein-vitamin mineral supplements - as the name implies, they are a supplement to the basic diet. For proper growth, animals must receive a complete complex of nutrients and minerals every day. If the feed that the animals receive each day is not saturated with one or more of the listed components, the desired BMVD content is selected.

Compound feed is a mixture designed to feed different types of agricultural crops, which are not the same in terms of nutritional and mineral properties. animals. The same mixed feed, for example, may be suitable for feeding dairy cows and is completely contraindicated for young birds. In this regard, for each group of animals and birds, depending on their age, type, economic purpose and even sex, a unique recipe and mixed feed production technology is being developed.

References:

1. T.X. Ikromov. "Fundamentals of Livestock". Textbook. Teacher 1996.
2. Hamrokulov R., Karibaev K. "Feeding of farm animals". Textbook. Toshkent 1999 y.
3. A. Kalashnikov. and others. "Norms and rations for feeding livestock." Textbook. M 1988.
4. Food and Agriculture Organization of United Nations. Farmer's Hand Book of Pig Production. 2009.
5. TextbookKevinJ. Stafford. Cattle Handling. 2005 Tutorial