



## TECHNOLOGY OF PRODUCTION OF VITAMINAL FEEDING ADDITIVES

### The purpose and scope of application

The consumer demands from livestock the safe and high-quality products, which to the maximum extent correspond to the technological purpose. To solve the problem of improving the quality and quantity of livestock products, effective means of influencing the organism of animals can be fat-soluble vitamins. FSV affects not only the quantity of livestock products (the level of influence 4 ... 18%), but also its quality. Vitamin E improves the color, homogeneity of the meat, reduces the content of intermediate products of oxidation, cholesterol, mild scent and loss of juice, increases the yield of finished products from it, affects the biological value of milk; vitamins A, D,  $\beta$ -carotene provide a stable color of yolk, the best appearance of eggs, in carcasses of animals 20,5 ... 21,5 kg more pulp. Fat-soluble vitamins are the most scarce in the normal diet. The problem of using FSV is associated with bioavailability, stability, uniformity of distribution.

### Important parameters that characterize the level of scientific results

- ❖ A new way to increase the degree of assimilation of fat-soluble vitamins by translating into an emulsified form under in vivo conditions is proposed. The formulation of the lipid base has been developed taking into account the biological and physiological activity of the components, which performs transport, stabilizing, emulsifying function, with a synergic effect with a melting point 37 ... 38 °C.
- ❖ A new way of stabilizing fat-soluble vitamins by combining them in a certain ratio with compounds possessing antioxidant properties is proposed; A composition of bioantioxidants with a synergic effect has been developed, the feasibility of which is confirmed by the functioning of the antioxidant system of the organism and the safety of the obtained livestock products. The relation, the weight of its input, is determined.
- ❖ The advanced technology of production of vitamin feed supplements containing fat-soluble vitamins in the easily digestible form is offered and is stable; formed from components of natural origin, the combination of which has a synergistic effect and allows to receive functional fodder products.

### Intellectual Property Protection Status

One patent were obtained.

### Market demand

Fodder forms of vitamin preparations are used in feed technology, their choice is based only on compliance with technological properties, their compatibility and availability are not taken into account, which makes it impossible to comply with feeding standards. Lack of fat-soluble vitamins in the diet reduces the productivity of animals, and excess of the rules of administration leads to acute intoxication.

### Status of development

The recipes of vitamin supplements have been developed taking into account different forms of vitamin preparations of fat-soluble vitamins, established the regimes of technological processes, the production technology has been substantiated, biological and zootechnical evaluation of the efficiency of use in feeding animals has been carried out.