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## Pharmacological Properties of TRIVITAMIKS and INTROVIT Preparations Given to Calves

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**Annotation:** TRIVITAMIKS is a complex vitamin preparation containing vitamins A (retinol palmitate or retinol acetate), D3 (cholecalciferol) and E (α-tocopherol acetate) in a physiologically justified ratio, which has a synergistic effect on the animal's body, normalizing metabolism, increasing resistance to infectious diseases, improving fertility and stimulating the growth of young animals.

**Keywords:** TRIVITAMIKS is a complex vitamin preparation containing vitamins A (retinol palmitate or retinol acetate), D3 (cholecalciferol) and E ( $\alpha$ -tocopherol acetate) in physiologically justified proportions, which normalizes the metabolism of the animal's body, increases its resistance to infectious diseases, and improves fertility.

Vitamin A accelerates the growth of the body and increases its resistance, and also strengthens the protective functions of epithelial cells and promotes the regeneration of epithelial tissues. It is inextricably linked with the effect of sex hormones on the body. When its deficiency is observed, animals may develop visual impairment, xerophthalmia, low survival of newborn calves, catarrhal inflammation of the mucous membranes of the gastrointestinal tract and reproductive organs, as well as loss of the ability to reproduce.

Vitamin D3 regulates mineral metabolism in the body. When its deficiency is observed, animals develop rickets or osteomalacia, tetanic tremors, and allotriophagia. When vitamin E deficiency is observed, animals develop infertility, growth retardation, central nervous system damage (encephalomalacia), liver and muscle tissue disorders, as well as fat and carbohydrate metabolism.

The drug is administered intramuscularly, subcutaneously, or orally, mixed with food, once every 7 days.

This drug is used for the treatment and prevention of hypo- and avitaminosis in animals,

xerophthalmia, rickets, osteomalacia. It is recommended to use it during the period of gestation and lactation, as well as during the recovery period of the body after illness.

In the rapeutic and preventive doses, the drug has no adverse effects on the animal body.

After the drug is used, animals can be slaughtered and products obtained from them can be consumed without any restrictions.

Pharmacological properties of the drug INTROVIT. Vitamin A is involved in the formation and maintenance of the function of epithelial tissues and mucous membranes, is necessary for reproduction and vision. Vitamin D3 regulates the metabolism of calcium and phosphorus in the blood, plays an important role in the absorption of calcium and phosphorus from the intestines. Vitamin E is an antioxidant fat in the cell, participates in the stabilization of unsaturated fatty acids, thereby preventing the formation of toxic lipoperoxides. In addition, vitamin E protects oxygensensitive vitamin A from rapid oxidation. B vitamins are essential for the normal functioning of a number of physiological functions.

The drug is administered intramuscularly or subcutaneously once every 7 days.

This drug regulates the balance of vitamins and amino acids that are important for cattle, goats, sheep and pigs. It is used in farm animals to prevent vitamin or amino acid deficiencies or to prevent and treat stress.

## Conclusion

**TRIVITAMIKS** and INTROVIT Experiments were conducted to determine pharmacotherapeutic efficacy of multivitamins in the treatment and prevention of A and D hypovitaminosis in calves based on the composition of the preparations.

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