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# The role of synbiotic drugs, iodine and selenium in the regulation of immune function in calves

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## Introduction

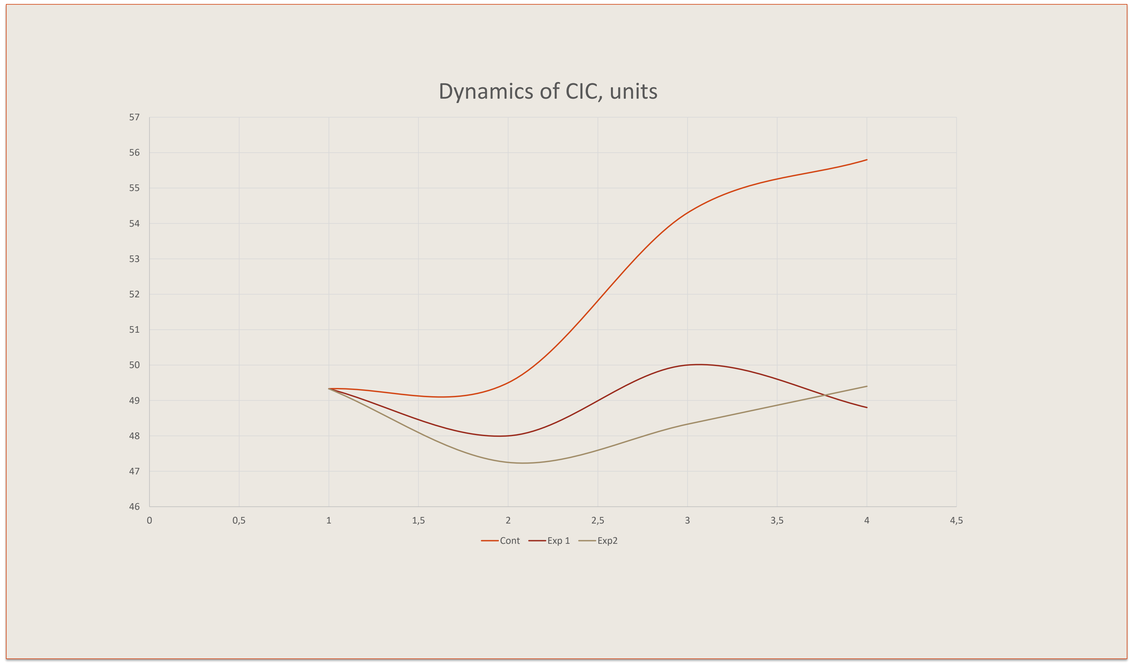
Simultaneous use of pre-probiotic additives is promising, that is, so-called synbiotics, which, due to the synergistic effect, increase the protective functions of the body and normalize metabolic processes. In view of this, it is up to date on the influence of new immunotropic agents and, in particular, the *Enteronomin* synbiotic drug, iodine and selenium to immune function and performance of calves.

## Material & Methods

The study was conducted on calves of Holstein dairy breed of 10-day age. Three groups of calves are formed: control and two experimental groups of 15 animals in each. Animals of the control group in 10-daily ages intramuscularly introduced with a 0.9% solution of sodium chloride in dose of 5 ml/animal. The calves of experimental group 1 were similarly injected by the *Zelris* antibacterial preparation in dose of 1 ml/40 kg. The calves of experimental group 2 were similarly injected with a 0.9% solution of sodium chloride, and also used the drug "Enteronomin", a dose of 3 g per animal/day. The activated preparation "Enteronomin" was used by *per os* calves before the production of milk, as well as in the control in the indicated periods injected a 0.9% solution of sodium chloride. Together with calves of this group, starting with 10- to 65 daily age, introducing aqueous solution of iodine and selenium, the drug "iodis concentrate" in dose of 25 mg of water. In 15-day age, animals of control and experimental groups were intranasally vaccinated with the preparation "Inform-3". In 10-, 14-, 24- and 60-day age from each group of calves the blood sampling was carried out for research.

## Results

The positive effect of "Enteronomin" in a complex with iodine and selenium on the immune function in calves, in particular, the humoral link of nonspecific resistance of the organism has been shown. As evidenced by higher (P<0.05–0.01) bactericidal and lysozymic activity of serum and tendency to reduce the level of circulating immune complexes in serum of calves of experimental groups in relation to control. In addition, a larger mid-daily increase in calves, which used a synbiotic drug has been demonstrated.




## Conclusions

The positive effect of the synbiotic drug "Enteronomin" in a complex with iodine and selenium on the immune function in calves, in particular, the humoral link of nonspecific resistance of the organism has been shown.