The possibility of applying qualimetry principles for complex evaluation of biscuits quality is considered. The objects for the evaluation are two kinds of shortbread cookies with the addition of semi-finished nutritive bone products: sweet cookies “Prometheus” and a group of salty cookies “Zakusochnoye”. The necessary and sufficient qualities of biscuits were used for the evaluation. They were presented as a “tree of qualities”. For the calculation of complex parameter of a product quality was started from the determination of group indices. Three groups of qualities were considered: organoleptic, physical-chemical, and chemical composition. Group qualities were evaluated with the account of relative values of quality parameters within the group and the weightiness coefficients. It is found that organoleptic characteristics of “Prometheus” cookies are maintained at the same level as those in a control group. However, in comparison with the control sample the importance of group parameter increase by physical-chemical properties (at 11,5%) and by chemical composition (2,2 times). The improvement of group parameter by the taste equals 5,7%, by physical-chemical properties it is 12,7% for “Zakusochnoye” cookie. By the chemical composition this sample exceeds the control 1,8 times. The common complex quality value of the products under research was estimated with the account of complex evaluation for certain groups of qualities and corresponding weight coefficients. It is found that addition of nutritive bone semi-product increases complex quality parameter of biscuits. In particular, sweet biscuits quality improvement equals 29,8%, salty biscuits improve their quality 30,6%.

**Keywords:** qualimetry, biscuit, a tree of qualities, quality, complex parameter.