

**SQUARE NUMBER OF FOOD VACUOLES AS A NUTRITION INTENSITY INDEX IN PERITRICHS (CILIOPHORA, PERITRICHIA) OF THE ACTIVATED SLUDGE IN THE SEWAGE TREATMENT PLANT**

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The square number of food vacuoles is a sensitive index of the nourishment intensity of peritrichia-sedimentators. We studied the possibility of the square number of food vacuoles as the index of nutrition intensity in five species of peritrichs (*Vorticella striata* Dujardin, 1841; *Epistylis plicatilis* Ehrenberg, 1831; *E. bimarginata* Nenninger, 1948; *Opercularia phryganeae* Kahl, 1935. *V. convallaria* (Linnaeus, 1758)) and modified this method with taking into consideration the peculiarities of Peritrichia biology and the conditions of activated sludge tank in the sewage treatment plant. The square number of food vacuoles depends on the temperature determined with the help of the one-way ANOVA. For all species the authentic connection between the temperature and the square number of food vacuoles was fixed. The square number of food vacuoles is maximal under optimal conditions of the hydrochemical parameters of the activated sludge in the sewage treatment plant. The usage of the square number of food vacuoles permits to check up the effectiveness of sewage cleaning, to react effectively on the technological disbalance in the process of cleaning, and to determine the optimal technological regimes during the exploitation of the sewage treatment plant.