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Nutrition of *Plumatella fungosa* from the cooling reservoir at the Bereza Electric Power Plant (EPP) the temperature gradient. The Conference on Research and Management of Water Bodies in the Baltic republics, Abstracts, Klaipeda, 1987, pp. 127-128.

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The type of the nutrition of the bryozoans is sedimentation. The bryozoans create the cavity in the water via pulsation of the ciliums on the lophophore, and have sacked in this vortex the alga, protozoa and bacteria. In the warm channel of the cooling reservoir of the Bereza EPP the phytoplankton in summer period of the high temperature (30-35˚C) for more than 90 % have been represented by blue-green alga *Aphanisomenon flos-aquae* and *Anabaenopsis raciborskii*. The fecal bryozoans pellets have been also for more than 90 % represented by the same alga species. Massive development and high bryozoans biomass during its vegetation period supposes the important role of this sedimentators in the transformation of the matter and the energy, and also in the accumulation of the sediments in the cooling reservoir.

Nutrition of the bryozoans have been studied by the method of determination of the defecation. The experiments have been made in laboratory in August 1985 in the temperature gradient 15-20-25-30-33-35˚C. The nutrition of the bryozoans was the seston from warm channel during the summer period with the concentration of 25-30 mg/liter of dry substance, maintained constant during the experiments. For the experiments at 30-35˚C the bryozoans have been taken from warm channel at 30-33˚C without acclimation; at 15-25 ˚C – from cooling reservoir lake Beloie (25˚C) with preliminary acclimation during 12 hours to the experiment temperature. The following equation has been obtained:

$$v = 0{,}29\ e^{0{,}044\ t},$$

The velocity of the fecal pellet formation (v, number/zooid x hour) has been increased at 20˚C for 1,2 time, at 25 ˚C – for 1,4, at 30˚C for 1,9, at 33 ˚C for 2,2 times, at 35˚C for 1,7. The maximum of the fecal pellets formation has been observed at 33˚C. Temperature 35˚C have been oppressed the defecation process. The temperature optimum was at 30˚C. Length pellets limit was from 0,035 until 1,2 mm, diameter from 0,025 until 0,4 mm, average dry weight of one pellet was 0,0045 mg, caloric value of seston suspension from warm channel was 4,4 cal/mg, caloric value of the pellets – 4,31 cal/mg. The assimilability of the seston was low, 3 %. Probably, the nutritive value of the fecal pellets is similarly to the assimilability of alga. Data obtained at 30˚C have been used for calculation of the pellets production in the warm channel in the summer period: 1 zooid produces at day 0,12 mg of dry pellets weight. According to the calculation, the production of the dry pellets at month composed 28 kg/m^2, during the summer period – 84. Executed researches have been shown that the optimal temperature for bryozoans nutrition was 30˚C, the temperature 35˚C have been oppressed the velocity of the pellets formation. In the cooling reservoir of Bereza EPP bryozoans, one of main consumer of blue-green alga, have important role in the process of water purification. The permanent recharge of the water with fresh detritus, due to the sedimentation activity of bryozoans, determines the substantial function of this type of food in the nutrition of other animals groups.