

ROLE OF AQUATIC PLANTS IN INCREASE OF FISH PRODUCTIVITY IN DENGIZKOL LAKE

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Annotation

The article describes the role of aquatic plants and their importance in increasing fish productivity in Lake Dengizkol. Information is provided on the biotechnological propagation of aquatic plants rich in biologically active substances and their use as feed for *Ctenopharyngodon idella*.

Keywords: Dengizkol Lake, biologically active substances, *Ctenopharyngodon idella*., high water plants, biotechnological method.

The main part of Dengizkol Lake has not been fished since 1995. The study of aquatic plants found in the Dengizkol water basin was carried out in full field and laboratory conditions. Areas formed by aquatic plants were determined at the specified points. The aquatic plants found in the lake area were divided into 3 ecological groups: Hydrophytes - half of the body in water, the other half growing on the water surface, hygrophytes - growing in high humidity and on the shores of water bodies, hydatophytes - plants that grow in the bottom of the water and on the surface of the water. As a result of the research, the dominant species of high water plants found in the lake were studied and identified. The western coast of Dengizkol Lake, Jigdakol and Oynakol zones are wetlands with 60-70% of their area covered by tall aquatic plants. The high-water vegetation of the lake was formed due to the water from the Dengizkol collector, the southern Olot ditch, ABMK-I and ABMK-II emergency channels.

Tall plants in a lake belong to the groups of riparian plants, semi-submerged plants, and fully submerged plants. *Potamogeton perfoliatus*, *P. crispus*, *P. pectinatus*, *Myriophyllum spicatum*, *Ceratophyllum demersum*, *Chara fragilis*, *Phragmites communis*, *Typha angustifolia*, *T. latifolia*, *Scirpus lacustris*, *Bolboschoenus maritimus* occupied large areas.

Hydrophytes - plants whose body is half in water, half on the water surface, *Typha angustifolia*, *T. latifolia*, *Scirpus lacustris*, *Bolboschoenus maritimus*, *Phragmites communis*.

Hydatophytes - plants whose main part of the body grows under water *Chara fragilis*, *Potamogeton perfoliatus*, *P. crispus*, *P. pectinatus*, *Ceratophyllum demersum*, *Myriophyllum spicatum*.

The higher aquatic plants found in the lake are very common and produce large amounts of biomass. That is why determining the productivity of plants is of great scientific and practical value. In the study of biological productivity of plants, the main attention was focused on plants that grow rapidly and produce large amounts of biomass. The most common plant in the lake and which forms large areas is the common reed. The length of its stalks is 4-5 meters. The biomass produced by reeds depends on the depth of its stem in the water. The reeds that produce the most biomass form stems growing at a depth of 0,5-1,5 m in water. The number of stems is 50-85 pieces per 1 m², and their weight is 8-12 kg when wet, and 3,5-4,0 kg when dry. The number of stems is 50-85 pieces per 1 m², and their weight is 8-12 kg when wet, and 3,5-4,0 kg when dry. The yield is relatively low in stems growing in shallow areas. Typhaceae stands out with high productivity. Their height and thickness of stems are almost the same. The average height of Typhaceae is 2,5-3 m. They mainly occupy large areas in the shallow areas of the water body. The number of stems in 1 m² area is 15-35 pieces. The wet weight of biomass is 3,5-10 kg, and the dry weight is 1,5-2 kg. Submerged plants also produce large amounts of biomass. A few species of Potamogetonaceae produce tons of biomass during the growing season. The composition of the above-mentioned plants consists mainly of carbohydrates. They contain a small amount of proteins and vitamins. This tall plant is the main food of *Ctenopharyngodon idella*. *Ctenopharyngodon idella* does not occur naturally in Dengizkol Lake.

Therefore, in order to breed *Ctenopharyngodon idella* fish in this lake and increase its productivity, the technology of using the ryaska plant, which is rich in physiologically active substances, growing on the surface of the water, and using it as food for *Ctenopharyngodon idella* is being carried out in an innovative system. In order to determine the fertility and productivity of small Ryaska from high water plants in the water samples brought from the specified points of the Dengizkol water basin, and to use the resulting biomass as additional food for herbivorous fish, we conducted experiments in various proportions in the ichthyology and hydrobiology laboratory of the Faculty of Agronomy and Biotechnology. Length 30 cm, width 20 cm, height 25 cm, surface area 0.06 m². water samples brought from different points of the water basin were placed in different proportions in transparent, plastic containers, and 100 grams of wet biomass of ryaska was planted in each container. The experiment was observed for 30 days.

Growth, development and reproduction of small ryaska (*Lemna minor* L.) in the water of Dengizkol Lake

№	The address where the water is taken	Planted ryaska at the beginning of the experiment, g / m ²	The amount of lyska at the end of the experiment, g/m ² (after 30 days)
1	Dengizkol collector	100	642,3
2	Hamza II drainage (sbros) channel	100	718,3
3	Oynakol	100	816,3
4	Jiydakol	100	716,4
5	5-contour	100	355,3
6	6-contour	100	327,5
7	Artesian well	100	301,0
8	Control	100	623,5

During the experiment, the water temperature was observed at 25-30 °S, and the light was around 20-25 thousand lux. Water temperature was measured on a TMZ-3 thermometer, Ryaska biomass in grams on a MAUL tecS electronic balance made in Germany. During 10 days, the reproduction of small ryaska in the waters of Dengizkol increased from 100 grams to 300-810 grams. Additional nitrogenous and phosphorous mineral salts are used to obtain a large amount of biomass by multiplying the small ryaska plant in the waters of Dengizkol Lake.

Summary:

The types of macrophytes in Dengizkol Lake can be determined, and fish productivity can be increased when the ryaska, rich in physiologically active substances, is bred from them and given to *Ctenopharyngodon idella* fish.

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