

CLUSTER DEVELOPMENT OF FISHING TECHNOLOGY

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In the article, the systematic organization of the organizational and technological processes of the production of fish products, the repeated reproduction of fish intestine and the strengthening of the food base, the rational use of the resources of natural water bodies and artificial lakes, as well as the introduction of scientifically based methods and intensive technologies into the process of fish breeding achievement are the main tasks and directions of the "Uzbekbaliqsanoat" association. In addition, further improvement of scientific and research work in the fishing industry, training of scientific personnel, delivery of scientific and technical innovations to business entities are described in detail.

Water is the main living environment of fauna and flora groups of the globe. When researching the ecosystem of water bodies, it is necessary to study all its components together. Examples of such components include fish, algae, and aquatic invertebrates. In order to know the qualitative and quantitative changes of zooplankton organisms in fishing artificial water bodies, it is necessary to study the biology, ecology and seasonal distribution of these organisms.

Invertebrates and benthic plants in the water biocenosis are the food of fish, mainly fish fry. Absence or very little presence of such organisms in water bodies slows down the development of fish fry and their death is observed.

Benthic crustaceans in the basins feed on phytoplankton and bacterial plankton, using dissolved oxygen in the water, they release biogenic elements from themselves. In addition, it affects the bioproductivity of the water basin ecosystem.

Most aquatic organisms begin to die when the oxygen level in the water drops below 0.2 ml/l. In the winter months, these organisms are rarely found in water bodies. In spring, benthic algae multiply very quickly, allowing other organisms to reproduce. First of all, the number and quality of copepods increases, then the number and quality of bivalves.

To ensure the stability of the needs of the population of the republic for food products, to fill the domestic consumer market with food products produced in the country, to establish large-scale compact processing enterprises equipped with modern high-performance equipment and technology, mainly in rural areas, simultaneously a number of program measures were adopted in order to create new jobs, provide more people with work, and increase their income and well-being. As a result of the implemented measures, in 2016, nearly 3,000 hectares of new artificial ponds were created, in which about 900 new fisheries are conducting business activities. In order to provide financial support to fisheries, Ipoteka bank joint-stock commercial mortgage bank allocated more than 116 billion sums of loans. About 76,000 tons of fish were grown in 2016, which is 16,000 tons more than in 2015, in order to meet the population's needs for fish products. At the same time, the analysis shows that the production of fish fry and the inefficient use of natural water bodies and artificial lakes are the weakest link in the fishing network. As a result, the productivity of artificial lakes does not exceed 20 centners per hectare, which is much lower than the world average. The study of advanced foreign experiences in the field of fishing, the wide introduction of intensive technologies and the use of high-tech methods of fish breeding require special attention [1].

The Decision of the President of the Republic of Uzbekistan "On measures to improve the management system of the fishing industry" №PQ-2939 was adopted on May 1, 2017 in order to eliminate these problems in the fishing industry, In accordance with the decision, the association "Uzbekbaliqsanoat" was established, which included 13 regional "Baliqsanoat" limited liability companies coordinating the work of local fisheries network organizations [2].

Systematic organization of the organizational and technological processes of fish production, reproduction of fish fry and strengthening of the nutrient base, rational use of resources of natural water bodies and artificial lakes, as well as the introduction of scientifically based methods and intensive technologies into the process of fish breeding These are the main tasks and directions of the

"Uzbekbaliqsanoat" association. In addition, in order to further improve scientific and research work in the fisheries sector, train scientific personnel, and deliver scientific and technical innovations to business entities, the Scientific and Experimental Station for the Development of Fisheries was transformed into the Scientific Research Institute of Fisheries and in the Aydar-Arnasoy lake system and the republic its branches were opened in other regions. Issues such as the establishment of a personnel training faculty for the fisheries sector at the Tashkent State Agrarian University, the study of international experience in this regard and the attraction of foreign experts to work in the fisheries sector were also considered within the framework of this decision [3].

According to the decision of the Cabinet of Ministers of the Republic of Uzbekistan No. 719 of September 13, 2017 "On measures for the comprehensive development of the fishing industry" "Program of measures for the comprehensive development of the fishing industry in 2017-2021", " "Target parameters for the development of the fishing industry in 2017-2021" were approved [4].

In this decision, on increasing fish breeding and catching and strengthening the feed base of the fishing network, on organizing fish breeding, catching and processing in the system of water reservoirs and Aydar-Arnasoy lakes, on the material- measures were developed to strengthen the technical base, to carry out scientific and research work in the field of fisheries, to introduce advanced technologies in the field, and to train personnel. Based on these parameters, 105,000 tons of fishing is expected in 2017, and this figure is expected to reach 160,000 tons in 2021. The Decision of the President of the Republic of Uzbekistan dated April 6, 2018 "On additional measures for the rapid development of the fishing industry" PQ - 3657 - was adopted.

The purpose of additional feeding of fish is to ensure normal and healthy growth of fish. The body consists of maintaining life activities (blood circulation, respiration, metabolism), increasing the size of the body, improving the quality of sexual products (germs, spermatozoa) and breeding commercial fish.

If the supplementary feed is limited and of poor quality, growth will stop, weight will be lost, and the fish will even die. When the fish grows well, if the food is of good quality (protein 25 percent) and is given on the basis of the required ration. Feeding fish in case of water temperature at an acceptable level, oxygen in water (6 mg/l), water environment (p N -7,8).

In order to properly manage pond fisheries, it is necessary to know the nutritional composition and quality of fish during different stages of development, as well as to know their feed ration. Currently, the feed ration for most fish is determined, the feed ration is created to cover the energy of the fish during the day. Another valuable food source for fish is microscopic algae. Among them, chlorella and senedemus, grown in artificial ponds and obtained as suspension biomass, are very important in terms of nutritional value. Because they are algae that are rich in protein, fat and carbohydrates and do not require much investment in cultivation, they can be grown in large centralized ponds, or by preparing floating beds next to ponds where fish are fed. Sufficient mineral substances are one of the important factors for raising fish with high quality. Mineral substances are divided into macro and microelements. Macro elements are substances that enter the body from one thousandth to several percent, and microelements from thousands to trillions of percent (10³ to 10¹²). For fish, mineral substances serve to ensure the composition and metabolism of bone material and other vital functions. They are also considered as the building material of cells and tissues. A lack of minerals can lead to mineral metabolism disorders and fish disease, or even death. It has been proven that It has a direct relationship with proteins, vitamins, and hormones and participates in the activity of enzymatic systems. Accumulation of trace elements in fish depends on seasons, feeding intensity and their physiological activity.

Increasing the feed base of ponds at the disposal of fishing pond owners is carried out in the following ways. Basically, fishing ponds are fertilized with organic and inorganic fertilizers, 1300 kg of mineral fertilizers, of which 700 kg of ammonium nitrate and 600 kg of superphosphate are added to each hectare of water, or they are fed with ammophos.

As a result, phytoplankton and zooplankton develop well. We observed the feeding of carp in the ponds of the fishery. 100,000-800,000 fish were transferred to one hectare of pond. For the development of phytoplankton, 2.0 mg.-liter of nitrogen and 0.3 mg.-liter of phosphorus are thrown into the cultivation basin. These discarded fertilizers ensure the rapid development of phytoplankton. This development of algae increases the level of oxygen in the water. Among the developed phytoplanktons, green algae are the highest in terms of biomass, mainly protococci developed and showed a biomass of 11.0 mg.-liter. The dominant species were *Sehpoederiella papillata*, *Pediastrum Scenedesmus Coelastrum sphaericum Crucigenia apiculata*. In June, the mass development of volvoks is observed in the breeding ponds. From large colonies, *Volvok globator* and *Eudopina elegans Pandopina mopum* showed a biomass of 1625.3 mg-liter. But they completely disappeared from the plankton by July. In order to feed the "Oqdo'ngpeshona", strains such as *Chlorella vulgaris* and *Scenedesmus acuminatus* are artificially propagated. Zooplankton for cypress - *Asplanchna gyrod. Euchlanis dilatata, Brachionu, Keratella, Ceriodaphnia reticulate, Daphnia longispina* and other food objects are bred in special ponds and then fed to fish. To feed carp, chironomid larvae, myzid, *artemia salina, oligochaeta* and similar objects are propagated by introduction [5].

For natural spawning of carp in pond breeding farms in April and early May, when the water temperature warms up to 18-26°, hatchlings begin to emerge. In addition, fry of other carp and herbivorous fish are grown in hatchery conditions and then placed in rearing ponds. When the fry switch to exogenous nutrition, they are first fed with simple animals (*euglena, volvox and infusoria*). It is recommended that the area of cultivation ponds is as small as possible (0.2-0.3-0.5 hectares). It is easier to protect such small ponds from fish-eating birds [6].

The main task of small breeding ponds (*malkovy prud*) is to grow healthy fish (*molod*). Small rearing ponds are prepared until the fry are thickened, because in these ponds the fry are fed with natural food as much as possible. Microorganisms and simple animals, as well as microscopic algae, are used as the main source of

food. Therefore, the more natural food there is, the faster the fry will grow, which will lead to a larger number of “segolet”s from this pond. When preparing small breeding ponds, you should pay attention to the following. The cultivation of natural food should be well established. For this purpose, 5-10 tons of rotted manure is evenly spread per hectare, then it is cultivated and thoroughly crushed.

Before putting water in the ponds, 17-18 “kapron” gas bags are installed in the water troughs. The type of Ixota should be checked and cleaned frequently.

Water is added to the ponds 3-5 days before planting. Water is added gradually, not all at once. After a day or two, living natural food organisms are introduced from daphnia trenches into the ponds. If the pond is fertilized with good organic fertilizer, simple animals, zooplankton, and phytoplankton multiply quickly. These nutritious organisms multiply quickly and reach 1.5-3.0 thousand pieces per liter of water in 5-6 days, or 1.5-3 million pieces per 1 liter of water.

In small breeding ponds, fry are grown for 12-25 days, depending on the natural food supply. During the growing season of chickpeas, experts check the growth of chickpeas and the availability of natural food sources in laboratory conditions. All the time, the hydrochemical regime of the water is checked, the amount of oxygen, carbon dioxide, biogenic substances and the general mineralization of the water are checked. If the water regime deteriorates, the amount of natural nutrients decreases, the fry lag behind in growth, they are transferred from small rearing ponds to main rearing ponds. If there is a lack of natural nutrients in the small breeding pond, it is recommended to give wheat flour (1 kg of flour per 100,000 chicks) and soybean meal (2 kg per 100,000 chicks) as artificial food. But it should be avoided as much as possible, because the farm will suffer economic losses and the water will quickly become sick. For this, it is advisable to feed young fish through the kitchen.

Summary: 1. Invertebrates and benthic plants in the aquatic biocenosis are food for fish, mainly fish fry. 2. The composition of the ichthyofauna of the water body and the certain level of life activity of fish are closely related to the quantity, composition and quality of food in the water body. 3. The feeding of white carp

with high water plants begins when the water temperature is 10-12 degrees. In order to feed the white dwarf, strains such as *Chlorella vulgaris* and *Scenedesmus acuminatus* are artificially propagated. 4. Fish that have just hatched and are fed with a yolk sac may die quickly if they are not fed additionally during the development phase. For good growth of natural food organisms, it is advisable to sprinkle 5-10 tons of well-rotted manure per hectare of the pond. 5. The food given to the chicks in the pond is monitored every day. If the chicks are not full of the given feed, the amount of feed can be reduced, and if they are full, the amount of feed can be increased.

References.

1. F.K. Mamadov, R.A. Troyanovskaya, M.E. Shagayeva "pond fishing" Tashkent 2020
2. Sh.Mirziyoyev. Critical analysis, strict discipline personal responsibility should be the Daily rule of the activities of each leader.
3. President of the Republic of Uzbekistan Shavkat Mirziyoyev's report on the main results of socio-economic development of our country in 2016 and the meeting of the Cabinet of Ministers dedicated to the most important priorities of the I'tisadiy program for 2017.
4. Decree No. 4947 of the president of the Republic of Uzbekistan "on the strategy of further development of the Republic of Uzbekistan". "Collection of legislative acts of the Republic of Uzbekistan, 2017y, No. 6, Article 70.
5. The decision of the president of the Republic of Uzbekistan "on measures to improve the management of the Fishing Network" dated May 1, 2017 .Collection of legislation of the Republic of Uzbekistan, 2017., No. 9, p.45.
6. Davron Niyazov. "Fish-inexhaustible wealth". Tashkent. 2013