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HERBIVOROUS FISH THAT ARE RAISED ON FISH FARMS IN THE BUKHARA REGION

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Abstract:
This article provides information on the results of observations about herbivorous fish, widely cultivated in the Bukhara region, economically profitable, as well as on microphytes and macrophytes used to feed these fish.

Keywords: microscopic algae, macrophytes, VNIPRIX, silver carp, azolla, lemna, acclimatization, incubation, livestock.

INTRODUCTION

Our republic differs from other countries for its diversity of flora and fauna. Nowadays, a large variety of animals and plants have been acclimatized from many countries. The reason, however, is that: to transplant a plant or animal with certain characteristics to another region in order to create favorable conditions for its survival in this territory, and, as a result, to use the specifics of the transplanted organism and provide the population with high-quality and economically affordable food. In particular: the largest number of the herbivorous fishes are grown in our country, for instance the silver carp (Hypophtalmichthys molitrix) and white amur (Ctenopharyngodon idella).The purpose of acclimatization and breeding of these species is to provide the local population with high-quality fish and fish products, as well as artificial feeds for feeding representatives of this species is not required, that is, these type of fishes are economically advantageous, since a large amount of money is not required to feed herbivorous fishes. It is required to rise the silver carp and the white amur in ponds where microscopic and higher aquatic plants are grown. Feeding the silver carp and white amur in the same pond with carp also gives good productivity. Several conditions are also necessary for feeding these fishes.

The silver carp - ***Hypophtalmichthys molitrix*** - Hypophtalmichthys molitrix grows quickly and matures when creating a favourable temperature and the right feeding. For example, it's is noticed that in the condition of Bukhara region, during the summer season, the weight of the silver carp reached about 1.5-1.8 kg. Several scientists say that in cold climates, the growth of this type of fish is increased significantly. It follows from this that the silver carp is a thermophilic fish. It grows rapidly when the water temperature reaches 21-28° C, while the oxygen content in the water is 5-5. 5 mg/l. Studies have studied that it is favourable for the

silver carp. The female matures in 3 years, when it comes to the male, in 4 years, the largest representatives reach 45-55kg. The silver carp -Hypophtalmichthys molitrix feeds on phytoplankton, feeding on various microscopic algae in order to increase their productivity, but within these phytoplankton we have witnessed that none can increase the productivity of the silver carp, such as Chlorella vulgaris and Scenedesmus obliquus.

The chemical composition of Chlorella vulgaris is as follows: protein – 52-60%, fat – 10-15%, carbohydrates - 7-8%, etc. And the composition of Scenedesmus obliquus: 68.7% - protein, fats - 18-20%, and a small amount of carbohydrates. It should be noted that the Scenedesmus obliquus differs from other types of microscopic algae in its high protein and fat content. Both of these varieties of algae have received high efficiency not only in fishing, but also in livestock, poultry farming. This type of feed, which does not require large expenditures, is used in livestock and poultry farming in a mixture with animal feed, and in many experiments it has been studied that cattle and poultry quickly gain weight, the weight of eggs increases in poultry, and the quality of meat of these animals increases in content.

The female silver carp reaches sexual maturity at the age of 3 years, sexual productivity ranges from 75 to 180 thousand eggs per 1 kg of body weight of the fish. The comfortable temperature required for the incubation period of Tops is 23-26 ° C, and the duration of time (for incubation) is from 1 day to 32 hours. In the Bukhara region, incubation of the silver carp is usually carried out using the VNIPRIX equipment. Large representatives of the silver carp reach 45-55 kg .

The white amur **- *Ctenopharyngodon idella*** - Ctenopharyngodon idella is a type of fish that is loved not only by residents of Bukhara, but also by the whole of our republic, white amur and several types of fish are very popular on the market due to their delicious taste and high quality. One of the most widely grown fish species in fish farms, it is grown in ponds, natural and artificial lakes. In fishing farms, this type of fish is widely used mainly in multicultural conditions to purify water from overgrown in excess of higher algae. In several literatures, and as a result of observations, it has been studied that the white amur is a species of fish that likes warm temperatures, although it grows slower than the silver carp. The weight of commercial white amur fish ranges from 3 kg to 4.5 kg, and the length of the largest representatives reaches 1.5 m, and the weight is 45-50 kg. The white amur grows well at 24-30 ° C, this temperature is considered favourable for this type of fish, it can withstand even higher temperatures in our steam conditions, but if the temperature falls below this optimal (for the white amur) level, this can seriously affect the intensity of feeding of the white amur, that is, if the feeding pattern worsens, the weight of the fish will also be sufficient not to grow at the level. In addition, the optimal oxygen level in the water for the white amur is 6-6. 5 mg/l. If the oxygen content drops below this level, it will harm the fish dramatically and even lead to death.

The white amur (Ctenopharyngodon idella) belongs to the order of herbivorous fish. It feeds mainly on soft-leaved higher aquatic plants. Adult representatives also continue to feed on tough leaved algae. To increase the productivity of amur fish, higher algae with a high content of biologically active substances are used. A striking example of this is the algae Duckweed (Lemna) and Azolla. In 100 g of the dry mass of the Duckweed plant contains: 39-42% protein, 6-8% fat, 18-25% fiber, in addition, elements such as calcium, phosphorus, magnesium are

preserved in it. Azolla, on the other hand, contains 20-33% protein, 4-7% fat and 20-27% fiber. To increase the body weight of the silver carp per 1 kg, 35-48 kg of higher algae is required, this figure refers to macrophytes with a low content of biologically active substance, in comparison with azolla and duckweed, this amount is somewhat reduced. The puberty period of the female of the white amur is on 4-5 years, from 63 to 88 thousand eggs per 1 kg of body weight, that is, this indicator is the sexual productivity of the female representative of the white amur. The equipment VNIPRIX is also used for incubation of this fish in the conditions of the Bukhara region.

In the Laboratory of Biotechnology, located at the Faculty of Agronomy and Biotechnology of Bukhara State University, work is underway on the reproduction of microscopic and higher algae, in this laboratory mainly such algae as Chlorella vulgaris, Scenedesmus obliquus, Duckweed - Lemna, Azolla are grown. The purpose of breeding these higher and microscopic algae is to increase the productivity of herbivorous fish when using these algae in the fish ponds of variety of regions of our country. The high content of biologically active substances in these algae is relatively high, the fish feeding on these algae has an increased weight, as a result of which the productivity of fish and the percentage of the population with fish and fish productivity increases.

List of Used Literature

1. A.M.Kobilov, S.B.Buriev, H.Esanov, L.T.Yuldashov. Distribution and taxonomy of high plant species in lake Karakir Bukhara region. American Journal of Plant Sciences 10 (12), 2203, 2019.
2. A.M.Kobilov, S.B.Buriev. Distribution of High Water Plants of Lake Karakir in Bukhara Region in Ecological Groups. American Journal of Plant Sciences 10 (12), 2203, 2019.
3. S.B.Buriyev, E.B.Jalolov. Biotechnology of highwater plants and their fishing in fishing funds in Bukhara area. Bulletin of Gulistan State University 2019 (4), 26-34, 2019.
4. S.B.Buriyev, E.B.Jalolov. Southern foreign funds-high water plants and system of the fish water. Scientific and Technical Journal of Namangan Institute of Engineering and Technology, 2019.
5. S.B.Buriyev, E.B.Jalolov, H.Ikramova. Biotechnology of producing white amur (ctenopharyngodon idella) with high water plants. Журнал: Агропроцессинг 2-том.
6. M.S.Khodjiyeva. Forage water plants are the key for improving fish productivity. Spectrum Journal" of Innovation, Reforms and Development.
7. М.С.Ходжиева. Кормовые водные растения без БЭВ залог улучшения продуктивности рыб. The journal of integrated education and research.
8. M.S.Xodjiyeva. O'zbekistonda Baliqchilikni Rivojlantirish Biotexnologiyalari. Материалы конференции "Tafakkur va Talqin" mavzusidagi Respublika miqyosodagi ilmiy-amaliy anjuman.
9. M.S.Xodjiyeva. Typha angustifolia - Ingichka bargli qo'g'a o'simligining xalq xo'jaligidagi ahamiyati."O'zbekiston Respublikasi hududidagi suv havzalarida o'suvchi tuban va yuksak suv o'simliklarini ko'paytirish, ularni xalq xo'jaligida qo'llash" ilmiy anjumani.