Materials of the Conferences

THE EFFECTIVENESS OF USE SMALL FISHES AND FISHES OF LITTLE VALUE AS STERN WHEN MANUFACTURING OF STURGEON ACIPENSERIDAE

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Amongst the fundamental biological problems the main is the problem of natural and artificial reproduction of fish at sea and freshwater reservoirs.

In Azov and Black Sea basins the reduction of the general catch and change of proportions valuable and fish of little value has been existing since the middle of 20th century. Against the background of the reduction of production of a small fish volume, earlier referred to little value, started to form a new base, such as: sardelle Clupeonella delicatula, black sea Sprattus phalericus, Azov khamsa Engraulis encrasicholus maeoticus and others. In recent years the catches of Azov sturgeon have sharply decreased from 1228,4 ton (in 1984) to 158,6 ton (in 1999). And it continue to be on extremely critical level, not providing natural reproduction, in spite of introduction since 2000 moratorium on the industrial catch of sturgeon type of fish.

In relationship with reduction of the catch of sturgeon kinds of fish in natural reservoir, the problem of sturgeon production leaves on the first plan of the development of aquaculture as a whole. The development of manufacturing of sturgeon supposes not only the reception of sturgeon for sale using different methods of growing (in ponds, fish tanks, pools), but also making and conservation of the uterine live-stock of sturgeon fish, searching for the most efficient objects for breeding, but all these problems comes to the global program of the conservation genetic resource – the genofund of sturgeon (Nikitina, 2003).

One of the conditions of making success in breeding sturgeon kinds of fish is providing growing fish with provender of good quality. At present recipes of domestic mixed fodder are created with fish meal with different additives (Kiselev and others, 2004; Golovin, Korabelinikova, 2004; Denisenko, 2005; Voropaev and others, 2006). Many import additives are also used. But breeding sturgeon fish becomes unprofitable because of their high cost.

The most simple and efficient type of stern for sturgeon is the mincemeat made of fresh or frozen fish (Zhukovskiy, 1965; Burcev, 1965; Romanycheva, 1973; Abaev, Dorofeeva, 1979; Nikitina, 2003). Fish used as stern - the most balanced provender for sturgeon kinds of fish and it is also the main type of food for the majority of fish in the natural environment.

In our opinion, there are no problems with fish provender in the south Russia in Azov and Black Sea pool, where fish manufacturing enterprises and private enterprises annually gain about 38 thousand ton of little value type of fish and small Clupeidae. Moreover this catch is realized for the whole year. The cost of stern fish is low: 4 - 4,5 rub./kg or on official course rate of the Central Bank to Russia on 1.04.2006 0,1444 - 0,1624 $ /kg or 0,1189 - 0,1338 €/kg.

Therefore breeding sturgeon fish was conducted with using as stern little value freshwater fish, small Clupeidae and sea type of fish of little value.

The studies were being organized in the ponds (the area of each pond - 0,1 hectares) during three years. The objects of growing for sale were “burtsevskaya” Huso huso x Acipenser ruthenus and “vnirovskaya” Huso huso x (Huso huso x A ruthenus) and beluga Huso huso.

2-year sorts of ”burtsevskaya” at the end of the vegetation period had an average mass 800 gram, sorts of “vnirovskaya” - 1140 gram, belugas - 1400 gram.

3-year sorts of “burtsevskaya” at the end of the vegetation period reached the average mass 1990 gram, of “vnirovskaya” 2010 gram, belugas - 2200 gram.

The stern expenseses for breeding sturgeons by fresh fish were no more than 5,0 kg/kg increase.

We have got the result that physiological factors of the condition of surgeon (Nikitina, 2005) during the breeding have confirmed the

conclusion: this intensive method of growing surgeon fish for sale in pond with using fish of little value and small-herring type of fish as stern helps us to get product of a high quality. Using only the part catch, in fish-breeding and farming facilities it is possible to get about 10 ton/ha goods sturgeon of fish.

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