

**FISH BRANCHIOMYCOSIS PREVENTION MEASURES.****G.I.Abdusalilova**

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Annotation: Branchiomycosis - decay of wounds. Acute infectious disease is characterized by injury of the blood vessels of the wound apparatus and necrosis of the tissue of the wound sheets.

Аннотация: Бранхимикоз – загнивание ран. Острое инфекционное заболевание характеризуется поражением сосудов раневого аппарата и некрозом тканей раневых листов.

Annotatsiya: Branximikoz -jabralarning chirishi. O'tkir kontagioz kassallik, jabra apparatining qon tomirlari jarohatlanishi va jabra varaqlari to'qimasining nekrozga uchrashi bilan xarakterlanadi.

Key words: Branchiomycosis, leukogram, Branchiomyces sangiunis, Branchiomyces sanguinis, epizotia, enzotia.

Ключевые слова: бранхимикоз, лейкограмма, Branchiomyces sangiunis, Branchiomyces sanguinis, эпизотия, энзотия.

Kalit so'zlar: Branxiomikoz, leykogramma, Branchiomyces sangiunis, Branchiomyces sanguinis, epizotiya, enzotiya.

Introduction: Among the vertebrates, fishes are of special importance, and today 84 species of fishes are recorded in the reservoirs of our republic. Carps are widespread in the water bodies of Uzbekistan and consist of more than 45 species and subspecies (Mirabdullayev et al., 2001; Shernazarov et al., 2006). Fish products are important in meeting the population's demand for protein and vitamins. That is why the government of the republic has been paying great attention to the development of fisheries in recent years. In particular, the decision of the Cabinet of Ministers of the Republic of Uzbekistan No. 350 dated August 13, 2003 "On measures to remove monopoly and deepen privatization in the fishing industry", adopted by the Cabinet of Ministers of the Republic of Uzbekistan on August 26, 2009 On the basis of the "Program on Measures for the Development of the Fisheries Network in the Republic" adopted in February, fisheries development programs were developed in the Republic of Karakalpakstan, regions and all districts. However, there are many factors that seriously hinder the development of the industry. One of such factors in the development of fisheries is fish diseases, which have a negative impact on the development of the sector. The development of fisheries diseases and their prevention measures is of great importance today.

Relevance of the topic: Fish diseases caused by fungi are characterized by the fact that they cause mass death among all fish diseases. It poses a great danger, especially in the conditions of intensification of the fishing network. Despite the fact that these diseases originated in fishing farms a long time ago, they have not been well studied until now. An absolutely accurate method of diagnosis has not been developed, the epizootology and pathogenesis of the disease have not been well studied, and effective methods of measures to prevent and combat the disease have not been developed. [1]

Causes of the disease: The causative agent of the disease is 2 types of parasitic fungi. One of them - *Branchiomyces sanguinis* - infects crucian carp, small crucian carp, heeler, and stone carp. The second type, *Branchiomyces demigrans*, infects cod. Both species parasitize finfish. *Branchiomyces sanguinis* is a special blood parasite. The hyphae of the fungus are unobstructed, highly elongated, 8 μm thick, and are found only in the blood vessels of the gill arches, sheets, and respiratory folds. The mycelium of *Branchiomyces demigrans* is composed of woody branching hyphae. The hyphae are up to 30 μm wide and 0.5 to 0.7 μm thick. As the fungus parasitises the veins, it also parasitises the connective tissue of the wound. [2,5]

Clinical signs: The disease is acute and lasts from 5 to 12 days. Sick fish do not feed, lose weight, the response to external influences is weakened, accumulate on the surface of the water, swim vertically, but do not breathe air. As a result of observations, we can see uneven "marble" coloring of gill leaves, turning into gray, reddish, brown and blue colors. Some parts die and turn dark gray. Injuries remain as if eaten. [7]



The condition of the wound in branchiomycosis.

The mortality rate of one-year and two-year-old fish rises to 70%. In surviving fish, the disease turns into a slightly acute and chronic period. Recovery of injuries can be extended for 1 year or more. At the beginning of the disease, when the fungus *Branchiomyces sanguinis* enters the blood vessels of the affected areas, there are cases of spot bleeding, then hyphae of

the fungus grow inside the affected blood vessel, causing its filling (parasitic embolism) and blood circulation disorders. , as a result, the blood supply to some parts of the injured tissue deteriorates, it becomes pale. Some parts die and the corners of the wound become uneven. Other parts of the wound become bluish due to the accumulation of blood in the blood vessels. Diseased fish do not take food, the response to external stimuli is sharply reduced or does not respond at all, floats to the surface of the water, but does not take in air, like a "zamor" and it becomes much easier to catch fish by hand. Heavily infected fish lie on their side and die in this position. The death rate reaches 50-70%, and in the fish that did not die, the disease passes in a semi-acute or chronic form. It seems that the fish that have recovered from the disease have been eaten. It takes years to recover.[6,4]

Disease treatment and prevention measures: For the treatment of infected fish, 0.05 g/kg mini feed of fungicide antibiotic grisin is given continuously for 3 days. As soon as the first symptoms are noticed, quarantine is announced on the farm, water flow is accelerated, oxygen is enriched with aerators, water is purified using quicklime at 150 kg/ha, this work is carried out from May until the pH rises to 8.0. Fish dead from branchiomycosis are cleaned. The dead are buried. Healthy fish are sold, and poor quality fish are boiled as feed for birds and animals.[3]

Conclusion: The difference between branchiomycosis and zamor disease is that fish do not lift their heads out of the water to breathe. As soon as the first symptoms are noticed, quarantine is announced on the farm, water flow is accelerated, oxygen is enriched with aerators, water is treated with 150 kg/ha of quicklime, this work is done from May until the pH rises to 8.0. activities are important factors in disease treatment and prevention.

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