

## **CAUSES OF HYPOVITAMINOSIS IN FISH**

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**ANNOTATION:** This in the article in fish Hypovitaminosis their diseases \_ come exit saba clinical signs and treatment methods, spread and economic harm and etiology about information cause passed.

**Key words:** Hypovitaminosis, symptoms, spread, nutrition, pathogenesis signs, eg and is a synergist, vitamins.

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### **INTRODUCTION.**

Vitamins animals in the organism each different biochemical and physiological processes in moderation the passing of which provides substances is considered Vitamins in the body enzymes synthesis for construction material being service does \_ They are animals in the organism anabolism and catabolism , biological asset substances synthesis , organism cell and in the tissues recovery processes manages \_ Vitamins less amount to be regardless of substance exchange to the process strong effect which biological asset substance that it was because of their name most of the time treatment features and physiological to the effects looking given \_

Protein biosynthesis is low in the body of fish and it is not enough for life. Therefore, fish get the main part of vitamins with food.

Hypovitaminoses are more common among fish grown in artificial ponds. Each hypovitaminosis disease has its own clinical features with signs. Some clinical signs are common in hypovitaminosis diseases: loss of appetite, lethargy, reduced mobility or increased oxygen demand, stunted growth, increased susceptibility to various infectious diseases, and mass fish kills. For example, in carp fish, diseases caused by certain fungi are more common, in winter, carp fish become dormant (avitaminosis) or krasnukha diseases are more common.

There are the following types of hypovitaminosis in fish: A (retinol deficiency), D (cholecalciferol deficiency), E (tocopherol deficiency), B<sub>1</sub> (thiamine deficiency), B<sub>2</sub> (riboflavin), vitamin C (ascorbic acid), Vitamin B<sub>3</sub> (nicotinamide). Vitamin B<sub>6</sub> (pyridoxine), Vitamin B<sub>12</sub> (cyanocobalamin), Vitamin D, Tocopherol, Vitamin C, Vitamin H (biotin), pantothenic acid, Vitamin mesoinosit (inositol), Vikasol (synthetic vitamin K) and other such vitamins are manifested. he did.

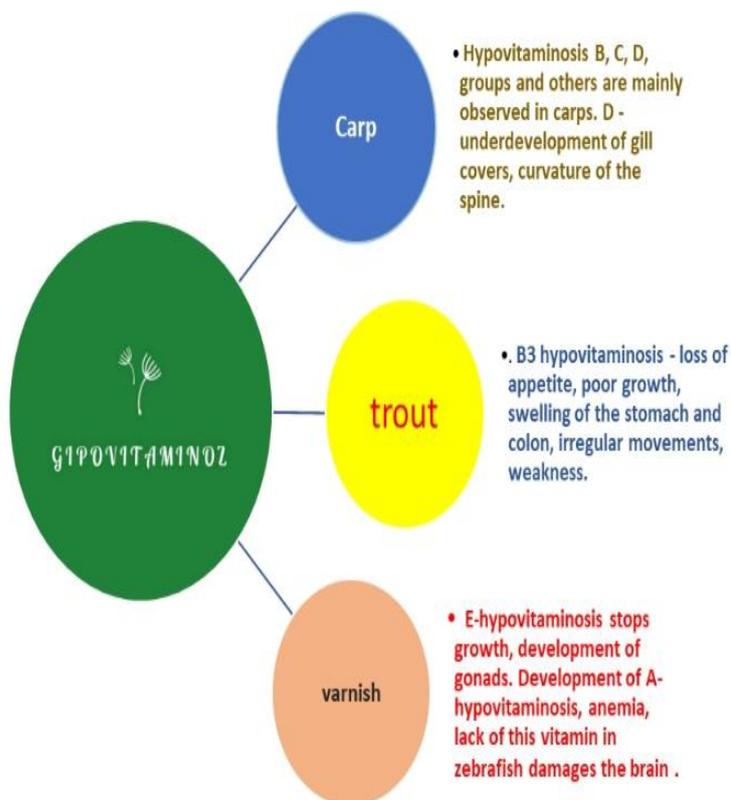
**ETIOLOGY:** Hypovitaminosis diseases in fish mainly occur when fish are fed with food that does not meet their vitamin needs. The disease is observed in fish of different ages, young fish are more sensitive.

**Factors causing hypovitaminosis in fish:** The disease occurs in the hot season, when they are fed with high-protein but low-vitamin foods. The disease sometimes occurs when they take fatty foods that are low in vitamins. Infections, toxicosis, metabolic disorders and close keeping of fish play an important role in the origin of the disease.

**SYMPTOMS:** When vitamin metabolism is disturbed - hypovitaminosis in fish, loss of appetite, weakness, low movement or increased need for oxygen, growth and development lag, increased

susceptibility to various infectious diseases, and mass death of fish. For example, in winter, it is observed that carp fish are more often deficient during their hibernation period. Each hypovitaminosis has its own clinical symptoms. A lack of vitamins can lead to various diseases, and the symptoms of these diseases can be determined by the appearance of the fish.

Thus, in fish with hypovitaminosis A, there is a blurring of the cornea, bleeding in the fins, eye membranes, carp-echophthalmia, deformation of the gill covers, the brightness of the color of the fish is sharply weakened.



Vitamins A and B in fish mixed up without hemoglobin level and erythrocytes the number decreases , monocytes the number when it grows and of the liver oily degeneration observed . B vitamins lack of with in fish different different nerve diseases note will be done . So and vitamin B lack of with of fish balance breaks down , body color darkens , appetite disappears , drops and paralysis observed . Vitamin B (riboflavin) deficiency with the eye don't take it in membranes and of the body push in divisions blood departure , photophobia and of lenses blurring note will be done . Lack of vitamin B ( pyridoxine ) . with nerve diseases , anemia , fast breath get , belly space falls ,

convulsions and of fish high death observed , Folic acid lack of body color darkening , anemia , ascites , eyes swelling and of growth to slow down take comes , B<sub>12</sub> vitamin deficiency ( cyanocobalamin ) of appetite loss, growth delay and red blood of cells hard to defarming take will come. Hypovitaminosis D ( calciferol ) minerals of exchange violation of gill covers underdevelopment of the body curvature and muscles distraffia cause releases \_ Hypovitaminosis C ( ascarbin acid ) with of the body deformation ( scoliosis, lordosis ) and gill covers , different blood in organs ( skin , liver , kidneys , intestines, muscles ) . go away , wounds bad ending and of fish to diseases endurance low note done \_ - Trout symptoms to the carp than more precisely .

Diagnostics. Hypovitaminosis diagnosis clinical and pathanatomical symptoms , nutrition ration analysis to do and feed check based on each bilaterally is determined . Like this characters with described contagious and invasive diseases an exception to do need.

Supervision measures and prevention get \_ - Advance universal tool of hypovitaminosis development to stop for , Artificial to nutrients different different additions added : vitamins , mineral premixes , fish oil , official vitamin preparations , hydrolytic yeast ( up to 5% of the

diet), green mass ( up to 20% of the diet ), trout - fresh liver and spleen , milk powder and others fish for bait adding to give ok is considered.

Hypovitaminosis prevention get for long time during saved and especially broken from feed to use road not put because it is small in quantity vitamins own into takes and poisonous to be can.

## **CONCLUSION**

This in the article vitamin deficiency in fish ie hypovitaminosis illness appear to be many reasons seeing we went out If the fish food ration right unstructured As a result, we fish growth , productivity sharp down leave reasons observation possible In fish hypovitaminosis diagnosis to put because it is difficult their many clinical signs another it also occurs in diseases . That's why for diseases feed good quality learning and feeding ration analysis to do based on diagnosis will be done clinical view and pathoanatomical changes . With that together , like so to the clinic have has been contagious of diseases existence an exception will be done.

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