عنوان مقاله:

Cadmium toxicity reduction using EDTAand its influence on growth and biochemical parameters of Common Carp ((Cyprinus carpio

محل انتشار:

اولین کنفرانس بین المللی تصفیه فاضلاب و بازیافت آب، فناوری ها و یافته های نو (سال: 1388)

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خلاصه مقاله:

The effect of the ion-exchanging (chelating) agent EDTA on cadmium (Cd) toxicity and the impact on fish growth, food utilization and biochemical changes in Common Carp (Cyprinuscarpio)were studied. The fish (35-40 g) were exposed to 10 ppm Cd alone or with 0.1, 0.2 and 0.3 g EDTA l-1for 15 and 45 days. Cd exposure significantly (P <0.05) reduced the fish growth and feed utilization; however, these parameters were improved when EDTA was applied along with Cd. These were significant decreases in alkaline phosphatase activity and total protein (TP) in plasma, muscle and liver in fish exposed to Cd alone. The plasma glucose concentration, total lipids (LP), aspartate aminotranseferase (AST), alanine aminotransferase (ALT) and acid phosphatase (ACP) were increased significantly in fish exposed to Cd alone. Addition of EDTA to Cd contaminated medium enhanced biochemical parameters in fish and the enzyme activities returned to be as the control fish group. Addition of EDTA to Cd contaminated medium considerably reduced metal absorption and accumulation in fish tissues, while it was increased metals in water and feces. Fish exposed to Cd alone accumulates 2.16 and 5.972 mg Cd g-1 dry weight in liver tissue for 15 and 45 days respectively. Cd reduced significantly to 1.292 and 4.16; 0.94 and 3.79; and 0.42 and 2.45 mg Cd g-1 dry weight tissue in fishes exposed to 0.1, 0.2 and 0.3 g EDTA l-1 15 and 45 days, respectively. Similar trends were observed in .gills and muscle

کلمات کلیدی:

Cadmium, Common Carp, Cyprinus Carpio, EDTA, Growth, Biochemical Parameters