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Document Title : *Effect Of Blue-green Algal Toxins On Ecological System*

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Abstract : Blue green algae, sometime called cyanobacteria are considered as growing problem in fresh and marine water. They also, well have known as producing toxins. Consuming untreated water could be very hazardous to the community around these sources. This investigation was showing the role of blue-green algae in aquatic ecosystem in Makkah area. Temperature, light , cultivation method and pH was examined. Optimal temperature for growth of tested blue-green algae isolates was 35oC. Optimal light intensity was determined as 2000 lux, after testing four different intensities including sun light. Comparing static culture and agitated cultures results revealed that, shaking culture at speed 80-100rpm considered as favourable for tested isolates. To determine preferable pH, isolates were grown in different degree of pH. Optimal pH was 6.5 and 7. Chemical factors including media components and nitrogen sources that affecting growth of tested blue-green algae isolates was tested. BG-11 and cyanophycean media was considered the best medium for growing tested isolates. For nitrogen sources selection, four sources of nitrogen were tested, Ammonium chloride, nitrate and sulphate, additionally to Urea. Biomass obtained in cultures provided with ammonium chloride and ammonium nitrate was higher than that provided with ammonium sulphate and urea. Both species show same response to nitrogen source. Toxicity investigation show that, culture of blue-green algae tested effect the development of Artemia as one of most important food chain and represent also, as one of aquaculture organisms. Death of both Artemia and Aedes larvae occurred during 24 hours of exposure. Barbus arabicus was affected by neurotoxin produced by tested blue-green algae isolates, symptoms showed as Lost of equilibrium, turned upside down, and rapid movement of gills observed after 18 hours of exposure. Death occurred after 24 hours. Histopathological investigation showed that enlargement of fish liver, red spotted liver, and degradation of cell wall and membrane. Exposing to swimming pool polluted water with tested blue-green algae isolates can cause irritated skin.

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