

Impact of face mask microplastics pollution on the aquatic environment and aquaculture organisms

ABSTRACT

Microplastic pollution in our environment, especially water bodies is an emerging threat to food security and human health. Inevitably, the outbreak of Covid-19 has necessitated the constant use of face masks made from polymers such as polypropylene, polyurethane, polyacrylonitrile, polystyrene, polycarbonate, polyethylene, or polyester which eventually will disintegrate into microplastic particles. They can be broken down into microplastics by the weathering action of UV radiation from the sun, heat, or ocean wave-current and precipitate in natural environments. The global adoption of face masks as a preventive measure to curb the spread of Covid-19 has made the safe management of wastes from it cumbersome. Microplastics gain access into aquaculture facilities through water sources and food including planktons. The negative impacts of microplastics on aquaculture cannot be overemphasized. The impacts includes low growth rates of animals, hindered reproductive functions, neurotoxicity, low feeding habit, oxidative stress, reduced metabolic rate, and increased mortality rate among aquatic organisms. With these, there is every tendency of microplastic pollution to negatively impact fish production through aquaculture if the menace is not curbed. It is therefore recommended that biodegradable materials rather than plastics to be considered in the production of face mask while recycle of already produced ones should be encouraged to reduce waste.