Microplastic in Our Food and Public Health Implications

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ABSTRACT

Microplastic (MP), defined as plastic particles ≤5000 μm in size, is a ubiquitous pollution causing significant risk to environment and public health. MPs are formed by either physical or chemical degradation of plastic. MPs are categorized into primary and secondary types. Primary MPs are those intentionally produced in small sizes, such as resin pellets for manufacturing and microbeads used in personal care products, secondary MPs are formed as the result of the degradation of larger plastic items through environmental processes, such as weathering and the release of microfibers from laundry or paint flaking off marine vessels. Contributors of MP pollution include both industrialized nations and developed countries. One of the reasons of its ubiquitousness is its minute size that is easily transported within and across land, air, and water. MPs contaminate soil, rivers, lakes, oceans, shorelines, and groundwater; they have even been found in the Marianas Trench. Persistence of MPs is recorded across trophic levels, accumulating in organisms, including fish that are consumed by humans Many researchers are now studying environmental risks posed by MPs by determining their presence in the environmental and biological samples. This presentation will assess levels of MP contamination in fish and evaluate potential public health risks associated with fish consumption. This presentation is geographically limited to Laguna Lake in the Philippines; however, findings will provide valuable insights into MP contamination that likely be applicable to other regions or bodies of water.