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Current advances in science and technology for endocrine disrupting chemicals in food

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Endocrine Disrupting Chemicals (EDC's) in food are compounds involuntarily ingested by humans mainly due to migration of particular chemicals from agricultural waters and plastic/metal containers into food products. Endocrine disruptors can be classified based on its chemical properties (pharmaceuticals, food additives, nanomaterials, etc.), based on its cellular effect (DNA methylation, histone acetylation, etc.) or based on its risk assessment. An increasing amount of evidence associates EDC's exposure with endocrine-related diseases such as: obesity, diabetes, autism, among others. Recent studies indicate that the mother-infant pair during pregnancy might be the most vulnerable population to EDC's exposure due to critical development stages in the baby. Nevertheless, further studies are needed in order to clarify interactions among health issues and EDC exposure, types of chemicals, bodyweight and age group, among others. Consequently, world health organizations are currently developing a regulatory framework based on scientific evidence. For example, European Food Safety Authority (EFSA) has lowered the temporary tolerable daily intake (t-TDI) from 50 to 5 µg/kg-bw/day. Furthermore, France has proposed a precautionary ban on the use of BPA in food containers (currently discussed at the Constitutional Court). In this presentation a critical review on the status quo of EDC's in food is discussed. Furthermore, experimental findings related to BPA presence in Mexican fruits and vegetables from crop fields and can containers are shown.

Biography

Roeb Garcia-Arrazola is currently an Associated Professor in the Department of Food Science and Biotechnology at UNAM focusing on studying Emerging Contaminants in Food within three main perspectives: food processing technologies, risk assessment and Biomaterials.

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