

# Sipping Sustainably: Bioplastics Fact Sheet



## What are bioplastics?



- The term “bioplastics” includes a wide range of materials. A material can be designated a bioplastic based on what happens to the material at its end of life (i.e., biodegradable) and/or what it is made of (i.e., whether it is bio-based) ([European Bioplastics Association](#)).
  - **Biodegradable:** The material can be broken down by microorganisms. This term is not recommended to be used as a marketing label because it is vague in terms of the length of time and the environment required for a material to break down ([Biodegradable Products Institute](#)).
  - **Bio-based:** Made (at least in part) from a biological material. Common bio-based bioplastic materials include starch, corn, and sugar cane ([Cazaudehore et al. 2022](#)).
- Due to the two ways of defining bioplastics, some biodegradable bioplastics are made from fossil fuels. Alternatively, some bioplastics are made from materials considered more natural but are not biodegradable ([European Bioplastics Association](#)).

## How is biodegradable different from compostable?



- **Compostable:** Compostable refers to a material’s ability to break down under specific conditions and time frame. While all compostable materials are biodegradable, not all biodegradable materials are compostable. ([Biodegradable Products Institute](#)).
- Usually, materials certified as “compostable” only refer to industrial composting which differs from home composting conditions. Only a subset of compostable products are able to be broken down in home compost ([Song et al. 2009](#)).
- The City of Toronto does not accept bioplastic products labeled “biodegradable” or “compostable” into their organics or recycling waste streams, instead these products are diverted to landfill ([The Benefits of the Green Bin, City of Toronto](#)).

## Why should we care about bioplastics?



- Estimates suggest that by 2027, manufacturing of bioplastics could increase to 6.3 million tonnes across the globe ([Zawieja, 2023](#)).
- If not disposed of correctly, bioplastics can break down into microplastic-like pieces in the environment ([Weinstein et al. 2020](#); [Lambert and Wagner 2016](#)).
- Impacts of bioplastic and micro-bioplastic litter in the environment is not well understood, but there is evidence to suggest their effects are similar to microplastics ([Venâncio et al. 2022](#)).

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