

Fact bite #25



Bioplastics

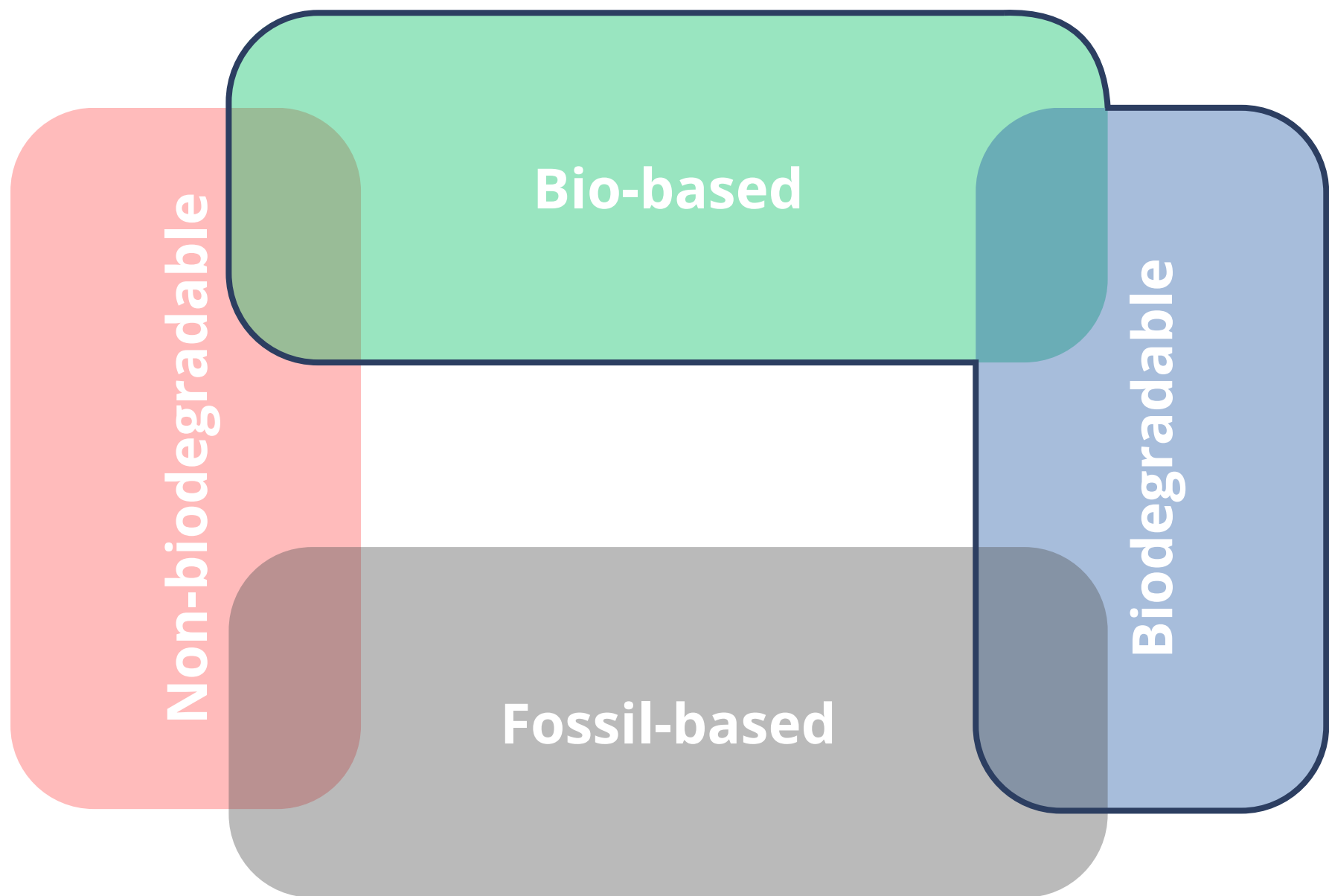


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The term bioplastic refers to plastics composed of bio-based polymers and plastics that can biodegrade.



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Bio-based plastics are often made from renewable feedstock sources such as corn and sugarcane that have been chemically processed, or from natural polymers or fibers such as starch, cellulose, and bamboo mixed with synthetic polymers.

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Biodegradable plastics are designed to be broken down by microbes into CO₂, methane, biomass, and mineral salts. The speed and extent of this degradation depend on temperature, humidity, and the presence of needed microorganisms. The conditions for complete degradation are often not met - even not in industrial processing facilities.

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While "biodegradable" is not a regulated term, "compostable" is defined e.g., in the EU according to standard EN 13432. Compostable materials are a subset of biodegradables certified to fully degrade within a specified time and under defined conditions.

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Just like conventional plastics, bio-based and biodegradable plastics are chemically complex materials. To function better (e.g. be flexible, have a nice color, resist degrading too quickly), they can contain a large variety and quantity of synthetic chemical additives.

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Many of the types, amounts, and hazard properties of these chemicals in bioplastics are not publicly disclosed (and sometimes not even known to their manufacturers), even though they might transfer into food or enter the environment after being placed in landfills or home composts.

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