

Bioplastics – Stop the Greenwashing!

11 facts that show why bioplastics are part of the waste problem, not the solution



here is no other country in Europe that generates as much packaging waste as Germany. We are the frontrunner in Europe with approximately 228 kilograms per person per year, due to the increased use of to-go packaging, food pre-portioning and small packaging sizes among others. As a result, the increasing amounts of waste not only impacts the climate and exhausts resources, but also leads to more and more plastic waste ending up in landscapes and the oceans. Instead of relying on environmentally friendly strategies that are evident such as waste prevention and reusable packaging, bioplastic products are increasingly being presented as a potential solution to the waste problem. A recent representative survey conducted by the Public Opinion Research Institute Kantar on behalf of Deutsche Umwelthilfe (DUH) shows that more than 75 percent of more than 1000 consumers surveyed believe that bioplastic packaging is more environmentally friendly than packaging made of conventional plastics. Slogans such as "compostable", "degradable", "made from renewable raw materials", "0 percent waste" or "plastic-free" are used to disguise the fact that bioplastics are often just as problematic as conventional plastics made from fossil raw materials such as petroleum. To counter misunderstandings and misleading statements, DUH has created a fact check demonstrating that packaging made from bioplastics cannot solve the problem of too much waste. Real solutions are only provided by a resolute waste prevention, reuse and recycling policy.

What are bioplastics?

Bioplastics refers to plastics that are either declared as degradable or produced partly from plant-based raw materials - or have both properties:



Fact 1:Bioplastics are often just as harmful to theenvironment as conventional plastics

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hen considering all environmental impacts, there is usually no overall ecological advantage for bioplastic products - regardless of whether they are degradable or not. This is because the agricultural cultivation of plants also affects the environment, for example through land consumption, soil erosion or the intensive use of fertilizers. In German 'Bioplastic' translates into "organic plastic". However, the plants used are not "organic", but often come from conventional agriculture. This means that many pesticides and synthetic fertilizers may be used, as well as genetically modified plants. In addition, the production of bioplastics is energy-intensive and often emits high greenhouse gas emissions from the transport, as cultivation usually takes place outside of Europe.



Fact 2: Bioplastics are a burden on the climate

B ioplastics are often advertised as particularly climatefriendly or even climate-neutral. When in reality, considerable amounts of greenhouse gases are released both during agricultural production and industrial processing. It is regularly not taken into account that pasture land is lost due to the cultivation of for example sugar cane, which in turn can lead to rainforest clearing for new cattle pastures elsewhere. If this so-called 'indirect land use change' would be included into climate assessments, typical bioplastics based on sugar cane would have an even worse climate balance.

Fact 3: Bioplastics remain "plastics"

ven if plastics have not been produced from fossil raw materials such as petroleum, but from plants, the newly produced materials remain "plastics". A variety of different plastics can be produced from plants. For example, the commonly used "bio-PE" is chemically similar to conventional PE and is just as non-degradable, even though it was produced from plant-based materials. Even degradable plastics can remain in the environment for a long time, and can therefore be harmful to humans and animals, so that terms such as "plastic-free" are not appropriate for products made from bioplastics.

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Fact 4:Biodegradation of bioplastics in theenvironment is problematic

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B ioplastic packaging made from plants does not automatically have compostable properties. Only packaging designed as "compostable" promises composting and degradability by microorganisms. However, even for such packaging, problem-free degradation is not guaranteed. Even official certifications as "compostable" mostly refer only to

composting under special laboratory conditions. These assessments are not transferable to degradation in natural environments such as forests, meadows or the sea, where conditions are quite different. Even degradable plastics from plants can thus remain in the environment just as long as conventional plastics and, therefore, may cause similar damages.

Fact 5:Bioplastic packaging does not belong into theorganic waste collection bin



ccording to the German regulation on organic waste (Bioabfallverordnung), disposal via separate organic waste collection is prohibited for all packaging made of bioplastics and for almost all other bioplastic products, even if they are labelled as "compostable", "degradable" or "made from renewable raw materials". A representative survey conducted by the Kantar Public Opinion Research Institute shows that many people in Germany are not aware of the correct disposal methods: 50 percent of those surveyed would dispose of packaging labelled "compostable" in the organic waste collection bin. In practice, however, bioplastics are usually classified as contaminants by composting plants and are often sorted out and incinerated at great expenses. This is because the degradation of supposedly "compostable" packaging in the compost plants is often incomplete, so that the quality of the compost produced can be impaired by bioplastic residues, microplastics and pollutants.

Fact 6:Bioplastics do not turn intovaluable fertilizers

n addition to the practical problems of degrading bioplastics in composting facilities, the degradation process also does not produce valuable fertilizer. The composting of degradable bioplastics hardly produces any nutrients or soil substrates. At best, bioplastics degrade to CO_2 and water. The composting of bioplastics thus has no benefit from an environmental point of view, but is a destruction of energy- and resource-intensive manufactured materials.

Fact 7:Bioplastics can aggravatethe waste problem

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By advertising bioplastics with terms such as "degradable", "compostable" or even "made from renewable raw materials", environmental littering could get even worse. According to a representative survey conducted by the Kantar Public Opinion Research Institute, a quarter of the surveyed people believe that degradable bioplastics can be left in nature unconsidered. This reveals that bioplastic slogans are misunderstood and suchlike advertised packaging is particularly likely to end up in nature. In addition, around 50 percent of respondents consider bioplastics to be a solution to the problem of too much packaging waste and are thus less open to truly environmentally friendly behaviour.

Fact 8:Bioplastics made from plant-basedraw materials may contain pollutants

f plastic packaging is made entirely or partially from plants, this does not mean that it is free of chemicals or does not contain pollutants. As for conventional plastics, plasticizers, dyes, stabilizers or other additives are also added to bioplastics in order to optimise their plastic properties - and may be harmful to human health or the environment. Pesticide residues from agricultural production can also not be ruled out. Even for packaging that is certified as "compostable", a harmlessness of its components to humans and nature cannot be guaranteed. All in all, bioplastics can thus have a similar toxicity when compared to conventional plastics and should not be released into the environment under any circumstances.

Fact 9:Bioplastics compete withfood production

Iready now, land use for the production of bioplastics leads to environmental impacts, such as deforestation or soil erosion. Also, the land used is no longer available for food production, thereby tightening the global food supply. It would require almost 5 percent of the world's arable land to replace the entire global demand for plastics

with bioplastics, corresponding to 75 million hectares of land, which is more than twice the area of Germany. Also, the use of agricultural residues for the production of bioplastics is not automatically environmentally friendly, because there are often alternative uses that exist locally, such as animal feed.

Fact 10:Degradable bioplastics are incinerated - notrecycled - when disposed of in the plastic waste bin

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egradable bioplastics disposed in the plastic waste bin are usually not recycled in Germany, but sorted out and incinerated. Extra sorting followed by specialized recycling of such a large variety of degradable bioplastics is often not worthwhile. In addition, there is a trade-off between the degradability of the plastic and good recyclability. Compostable bioplastics can actually interfere with the recycling of other plastics. Only non-degradable bioplastics that are chemically similar to conventional plastics can be recycled alike.

Fact 11:There are evidently more environmentally friendlyalternatives to packaging made from bioplastics

e should not be misled by promises about bioplastics, because there are many alternatives that are evidently more environmentally friendly. Above all, this includes the prevention of packaging, use of reusable and refillable packing solutions and packaging made from recycled materials. Single use packaging is harmful to the environment, regardless of the material because valuable resources are wasted, climate emissions generated and natural environments littered by incorrect disposal. All plastics should be used sparingly and as long as possible through reuse and recycling.

Conclusion

his fact check shows: Bioplastics are a burden to the environment. Disposable items made from bioplastics require a lot of energy and resources during production, can litter the environment after use and can be ecologically just as damaging as fossil-based conventional plastics. DUH is therefore calling for a real solution to the waste problem, so that unnecessary waste is not created in the first place, packaging is reused as often as possible and plastics are recycled and kept in cycles.

For more information, survey results and graphics on bioplastics, please visit our website: https://www.duh.de/bioplastik/

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