



Why Biodegradables?

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COMPOSTABLE | SUSTAINABLE | INNOVATIVE | EARTH FRIENDLY

We Solve Waste Problems



BioBag in short:

- Global pioneer in the compostable and biodegradable product industry
- Focus on environmentally friendly products includes also recirculated PE and renewable PE
- Established 1997
- HQ in Norway
- 140 employees in 10 countries from Australia to USA



Our Biodegradable Solutions

Industrial Applications

Compostable films for optimized performance



Waste Management

Smart solutions for sorting and collecting waste



Agriculture

Biodegradable Mulch Film – ideal for high value crops



Retail

Alternatives to regular plastic products



Special Products

Dog waste dispensers and BioBag toilet system



HoReCa

Liners and sacks for better hygiene and a cleaner environment



Why Are We Here Today?

- Debate about plastic, bioplastic and biodegradable plastics
- EU just announced a new plastic strategy for minimizing the amount of traditional plastic ending up in nature
- At the same time we should mitigate the climate change

We cannot make correct decision with incorrect facts



Composting

- Composting is microbes in soil digesting organic material resulting Carbon Dioxide CO_2 , Water and Biomass
- Microbes require humidity, oxygen and sufficient temperature for composting process
- In cold weather like winter composting is slower, or stopped, but if leaves from trees are getting composted, microbes will be eating biodegradable films, too
- In dry or poor soil microbial activity is lower than in rich soil



Biodegradability Standards

- EN13432 and EN17033 certify biodegradability of the product
- Test method is composting
- Certified products can be digested by microbes in nature similarly to vegetation rests
- In poor composting conditions EN13432 and EN17033 certified products will take longer to compost than in test conditions, but they still will be composted as materials can be digested by microbes

**European Standards (ENs) are approved by
34 CEN member countries in Europe**



Biodegradable and Bioplastic Terminology

- Biodegradable certified plastic is compostable
- Degradable plastic is typically oxo-degradable Polyethylene, that physically breaks down by UV-light in small pieces creating microplastics
 - Oxo-degradable PE does not pass EN13432 or EN17033 and will pollute
- Certified biodegradable plastic can be made either from renewable or fossil sources
- Biobased plastic is either partly, or fully, made from renewable raw materials, but biobased does not mean biodegradable

In general discussion bioplastic can mean both biobased plastic and biodegradable plastic, which is creating misunderstandings



Confusions

- Confusion of the terminology is creating incorrect claims
- Misunderstanding of the standards and materials is fuelling the debate
- Difficult for media, politicians, industry, waste management companies, municipalities, NGOs, and government to submit correct information

Risk that decisions are made based on incorrect information



News about Bioplastic

INCORRECT

Danish TV: "Kommuner om biposer fulde af plastik: "Skandaløst" og "en ommer"

= Municipalities' statement about biodegradable food waste bags being full of plastic: A scandal!"



No, they are not full of plastic. They are certified biodegradable plastic that is partly based on fossil raw material and partly renewable.

Swedish newspaper: "Bioplast eller bionedbrytbar plast är inte nedbrytbara i naturen."

= "Bioplastic or biodegradable plastic is not degradable in nature"



Mixing the terminologies create false statement. Certified biodegradable plastic is biodegradable in nature unlike traditional plastic made from renewable raw materials

Swedish newspaper: "Följande produkter förbjuds från år 2021... Bioplast eller bionedbrytbar plast"

= "The following products will be banned 2021... bioplastic or biodegradable plastic"



European Union: "The following products will be banned in the EU: Products made from oxo-degradable plastic... This type of plastic contributes to microplastic pollution in the environment, is not compostable..."



Statements about Bioplastic

INCORRECT

Danish waste company: *"Det skyldes ikke mindst et stærkt uigennemsigtigt marked for bionedbrydelige poser, der i dag kan markedsføres som sådanne, såfremt blot 30 % af poserne består af bionedbrydeligt materiale, som i øvrigt først nedbrydes endeligt ved 60-70 grader celsius, mens resten så meget vel kan være fossilt."*

= ...Only 30% of a biodegradable bag is biodegradable breaking down at 60-70°C, the rest can be fossil...

CORRECT

Also the 70% fossil raw material is biodegradable and compostable.

EN13432 is using for test method optimum industrial composting that is typically in 50-55°C.



Statements about Bioplastic

INCORRECT

Danish organisation: "Men at bionedbryde plast kræver et kontrolleret miljø, dvs. kontrol af bl.a. fugtighed og temperatur og tilstedeværelse af mikroorganismer– betingelser som kun kan styres i industrielle anlæg."

="...biodegradable plastic requires conditions that can only controlled in industrial unit..."



CORRECT

Certified biodegradable products are biodegradable also in nature. EN17033 is actually for biodegradable mulch films for fields.

There is also a commercial certification "OK compost HOME" that tests products in home composting conditions.



Danish waste company: "Brug af såkaldt bionedbrydelige poser kan således resultere i præcis det modsatte af det ønskede, nemlig at pulpen bliver forurenset med fossilt baseret plast."

="Use of so called biodegradable bags will result spreading plastic in the fields through composting/biogas sludge"

Pieces of certified biodegradable bags will not cause plastic contamination because they will biodegrade in the fields.

Traditional plastic will accumulate, and contaminate the soil, and create micro plastics



Let's sum it up

Littering:

- Certified biodegradable are biodegradable and compostable also in nature
- They do not accumulate in the nature nor do they create microplastics

Climate change:

- Certified biodegradable plastics contain usually renewable raw materials

Decision making:

- Be careful with terminology when communicating
- Use reliable sources for information and double check
- Please correct false claims, when you hear and see them
- Make decisions based on correct facts





Thank You! Any
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Questions?

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Back-up Slides

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Standards & Certifications

- There are two European standards for compostable and biodegradable plastic
 - EN13432 - The standard define the technical specification for the compostability of bioplastics products
 - EN17033 - The standard is designed to be a clear reference for farmers, distributors, and stakeholders, and to be the basis for further certification and according labels for biodegradable mulch films.
- Compostable certifications are made by TÜV Austria



- All certified compostable and biodegradable plastic can compost and biodegrade also if the raw material used is based partly on fossil content

