

BIOPOLYMERS

In today's modern world, bioplastics and biopolymers play an important social and economic role. European Bio-Plastics estimates that the global production capacity for all bio-based plastics in 2009/10 is 750,000-1,500,000 tonnes and projects are to increase to 2.3 million tonnes by 2013. Currently, bio-based plastics take 3.5% of the global plastics market (\$80bn) and, by 2013, the market in Western Europe will grow by 30.8% annually.

Due to their use of renewable and expandable resources and decrease in the dependency on limited and increasingly expensive fossil resources, biopolymers deliver environmental benefits with lower toxicity and can be produced with fewer resources. The best known benefits of biopolymers are their biodegradable ability which contributes to the reduction of the amount of plastic contamination on land and in our waters. Packaging is the area with the highest impact, after which biopolymers are used as composite materials for automotive and construction.

Barriers and issues:

- high raw materials costs
- Bioplastics material performance
- uncertainty of recycling routes and end of life scenarios
- supply chain issues

Main product applications:

- Packaging
- Catering
- Agriculture
- Horticulture
- Personal care
- Textiles
- Other

These barriers can be broken by;

- higher volumes
- improved efficiency of bioplastics manufacture
- incentives and legislation
- obligations for renewable
- developed performance standards
- product labelling
- funding support
- infrastructure for collection & disposal systems.

DURABLE BIOPOLYMERS

Not all biopolymers are used for packaging. Durable biopolymers that are made from plant sources have the same properties as their chemically-derived counterparts and can be used in either packaging, or electronics, automotive, and construction and can also be manufactured using the same machinery and can be recycled.

MARKET DEMAND

European countries with the highest demand are:

- Germany
- UK
- France
- Italy
- Netherlands

In individual applications, bioplastics are increasingly being used in Belgium, Norway, Austria, Spain and Switzerland.

There is a growing market between local authorities and regional governments for compostable food or garden waste bags and, with the rise of anaerobic digesters in Europe as alternative to landfill the demand for starch based refuse bags has increased. Future uses for bioplastics will include the replacement of the complex polyolefin based barrier films used in food packaging and the demand for durable biopolymers in automotive and electronic applications will grow.

LMI

The European Commission's Lead Market Initiative (LMI) is pushing the introduction of the bioplastics into the market by promoting development of product performance and end-of life standards for bio-based products and by carrying out an inventory of the legislation affecting the sector and encourages green public procurement.

WHAT INCROPS DOES:

InCrops is building links with UK based companies developing and supplying biopolymers and actively participates in the work of external organisations pushing this agenda. InCrops is a member of the UK Renewable Packaging Group led by the NNFCC and a member of the DEFRA stakeholder group for biopolymers. InCrops is also a member of the UK group mirroring the work of the CEN (European Committee for Standardization) on the development of the EU standardisation for bio-based products.

INCROPS CAN HELP YOU BY:

- Providing information on bio-based plastics and biopolymers, standards, and legislation
- Carrying out market research on bio-based plastics or biopolymers
- Source samples of materials
- Facilitating relationships with UK and EU suppliers, and with national and European associations supporting/promoting biopolymers
- Offering links with testing and certification organisations
- Assisting in Life Cycle Analysis or referral to organisations that can provide this
- Advising on available funding opportunities in this sector
- Assisting in preparation of a bid/project application to develop applications and find suitable partners