

"NATURAL SPROUTS WRAPPED IN NATURAL PACKAGING"



ANNUAL CONVENTION

Turning packaging and your business green and profiting from it.



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Points covered in todays presentation



Why Green Packaging?



The packaging myths debunk and real options presented which should give you as an industry and individual companies options.



European, American and Asian/Australian approval standards described.



Methods and systems on how to buy factory direct with international approvals to save significant amounts of money on green packaging.



Why and how to turn your business and operation green.







WHY GREEN PACKAGING?

Why green packaging?

- When you grow and supply natural foodstuffs
- Why pack your natural products in oil based packaging
- Oil based packaging is a major problem for the earth
- Supermarkets are looking to differentiate suppliers

Supermarkets and Foodservice operators know that the expectations of the consumer packaging stewardship is around 54% and growing in choosing their supplier

- Bio Prices for resins have reduced dramatically
- Your product sales should grow by developing an bio based packaging solution
- What are Bio Plastics?





Today we are taking social and product stewardship of our packaging by looking at options that is not wrapping our naturally grown products up in oil based packaging.

Your eventual consumer is becoming more and more conscious on what impact brands and product centric companies are doing to eradicate pollution in the form of none degradable materials.

You as an industry need choices and information on what is possible.

This presentation will take us on a journey and deliver vital information that you can apply to your businesses quickly.





Certified Bio-Plastic

BIOPLASTICS = a whole family of materials(600) which are bio-based, biodegradable, or both.

Derived from renewable biomass sources:







Certified Bio-Plastic *F*

Already used in:

- → Packaging
- → Agriculture
- → Gastronomy







Retail food, coffee capsules, salad and clear bags, deli containers



Produce containers, cake and bread, tea bags, meat trays





Bio-plastic Material Names 🥟

Bio-plastics are a diverse family of materials with differing properties. There are 3 main groups:

(Partly) Bio-based durable plastics

Bio-based and biodegradable, compostable plastics

Bio-based and biodegradable, compostable plastics

So-called drop-in solutions: Bio-based polyethylene (PE) Polyethylene terephthalate (PET)

Bio-based technical performance polymers



- Numerous polyamides (PA) (Partly) Bio-based
- polyurethanes (PUR)



- Polylactic acid (PLA) Polyhydroxyalkanaoates (PHA)
- Polybutylene succinate
- (Biorenew)
- Starch blends

Polybutyrate (PBAT)

Polycaprolactone (PCL)

They may well be produced at least partly bio-based in the future.



Compostable packaging vs. biodegradable packaging

COMPOSTABLE

It assimilates back to nature within 120 days or greater than 90% of the mass within that period

BIODEGRADABLE

It breaks down into smaller pieces in commercial composters

To be certified as compostable and carry the seedling logo, suitable bio-polymer materials must undergo a stringent test regime outlined by the standards.





The packaging myths debunk and real options presented which should give you as an industry and individual companies options. (General overview) The packaging myths debunk and real options presented which should give you as an industry and individual companies options. (General overview)

- → Global production of oil based packaging 370 million tons pa(source(Eur Plastics assoc)
- → Global production of Bio based packaging
 2.44 million tons pa (Eur Bio plastics)
- → Recycling on a global scale of oil based packaging less than 14 percent and declining (less markets for products)
- → Resins for Bio based plastics approx. 25% higher than oil based
- → Bio based are recyclable and or compostable





PLASTIC PACKAGING IS PRESENT THROUGHOUT OUR EVERYDAY LIFE



Water and soft drink bottles, salad domes, biscuit trays, salad dressing and peanut butter containers

Milk bottles, freezer bags, dip tubs, crinkly shopping bags, ice cream containers, juice bottles, shampoo chemical and detergent bottles

Cosmetic containers, commercial cling wrap

Squeeze bottles, cling wrap, shrink wrap, rubbish bags



PLASTIC PACKAGING IS PRESENT THROUGHOUT OUR EVERYDAY LIFE



Microwave dishes, ice cream tubs, potato chip, bags and dib tubs

CD cases, water station cups, plastic cutlery, imitation "crystal glassware", video cases

Foamed polystyrene hot drink cups, hamburger take-away clamshells, foamed meat trays, protective packaging for fragile items

Water cooler bottles, flexible films, multi-material packaging

WORLD ECONOMIC FORUM, ELLEN MACARTHUR FOUNDATION, MCKINSEY & COMPANY, A NEW PLASTICS ECONOMY; RETHINKING THE FURTHER OF PLASTICS (2016) ELLENMACARTHURFOUNDATION.ORG/PUCLICATIONS Source Project MainStream analysic



PLASTICS PRODUCTION INCREASED TWENTY-FOLD OVER THE LAST 50 YEARS



WITH AND EXPECTED SURGE IN CONSUMPTION, NEGATIVE EXTERNALITIES RELATED TO PLASTICS WILL MULTIPLY



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Eliminate your packaging and leftover food from landfill!



Benefits of Bio based Plastics

Using compostable bioplastic products such as bags, fresh food packaging, food trays, food containers, bio film, salad bags, cups, straws or disposable tableware and cutlery increases the end-of-life options.

Composability is a clear benefit when bio plastic items are used because it goes back to the farmer as a fertiliser.



The use of compostable plastics makes the mixed waste suitable for organic recycling (industrial composting and anaerobic digestion), enabling the shift from recovery to recycling. This way, bio waste is diverted from other recycling streams or from landfill and facilitating separate collection – resulting in the creation of more valuable compost. Our Machine reduce the mass to 10% of the mass approx.

Global production capacities of bioplastics 2022 (by material type)





Biodegradable 44.5%

*Bio-based PP and PEF are currently in development and predicted to be available in commercial scale in 2020.

Source: European Bioplastics, nova-Institute (2017).

More information: www.bio-based.eu/markets and www.european-bioplastics.org/market



New Resins that degrade naturally in Landfill

BioRenew comparing to other Biodegradable Plastics





BIO-

PLA

Month

RENEW PBAT



European, American and Asian/Australian approval standards described

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EN 13432:2000 Packaging:

- Requirements for packaging recoverable through compositing and biodegradation
- I est scheme and evaluation criteria for the final acceptance of packaging
- ✓ This is a harmonised European standard linked to the European Directive on Packaging and Packaging Waste (94/62/EC). It allows for the presumption of conformity with essential requirements of the Directive. It has been translated and implemented in all the European Member States.



European, American and Asian/Australian approval standards described 🥟

EN 14995:2006 Plastics:

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Evaluation of composability

Test scheme and specifications

It broadens the scope of plastics when used in non-packaging applications. The EN 13432 applies when plastics are used for packaging.

S ASTM D6400 or D6868 USA



Australian Standards 🥟

- →The ABA notes that in order to comply with AS 4736-2006, plastic materials must meet the following requirements: minimum of 90% biodegradation of plastic materials within 180 days in compost
- →Minimum of 90% of plastic materials should disintegrate into less than 2mm pieces in compost within 12 weeks
- \rightarrow No toxic effect of the resulting compost on plants and earthworms.
- Hazardous substances such as heavy metals should not be present above the maximum allowed levels; and
- →AS 4736-2006 was developed by Standards Australia, and is designed to assist authorities in regulating polymeric materials entering into the Australian market. Read more at http://www.ferret.com.au/c/ferret-www-ferret-com-au/defining-biodegradable-plastics-the-as4736-standard-n1833128#RJpLLe0LLulCpXpo.99





- →This Australian standard is similar to the widely known European EN 13432 standard, but has an additional requirement of a worm test. In order to comply with the AS 4736-2006, plastic materials need to meet the following requirements: minimum of 90% biodegradation of plastic materials within 180 days in compost
- →Home composting HOME COMPOSTING
- →(Australian Standard AS 5810-2010)
- \rightarrow If plastic is labelled Home Compostable, then it can go in a home compost bin.

Products, bags and packaging that conform to the Home Composting Australian Standard AS 5810-2010 and are verified by the Australasian Bioplastics Association can be endorsed with the ABA Home Composting logo.









Methods and systems on how to buy factory direct from factories with international approvals to save significant amounts of money on green packaging. Methods and systems on how to buy factory direct from factories with international approvals to save significant amounts of money on green packaging.

- Go to sourcing web sites www.alibaba.com
- Go to bio-plastic associations globally www.european-bioplastics.org
- Or www.bioplastics.org.au
- Go to trade shows in USA, Europe an Asia



CERTIFICATES CRITICAL FOR OPERATIONS



Why and how to turn your business and operation green.



We value the earth and all that is great about her

We believe;

- → Seeing waste as food. So we produce materials that are made from naturally grown materials that can be returned as a resource back into the ecosystem,
- \rightarrow That this food has nutrient value of a continuous nature,
- → In supporting the biosphere and how to support the Technosphere,
- \rightarrow In never destroying the natural resources,
- → To reduce, reuse, recycle and above all renew!



We value the earth and all that is great about her

In all life and that mankind should not be the only species on the planet that produces waste that cannot be reused or assimilated back into the natural environment.

- \rightarrow In humans creating solutions to all its problems,
- \rightarrow In developing people,
- → Partnerships of people and cultures,
- → Performance and its capacity to motivate.

All our packaging looks the same as existing petrochemical products; in fact so good and completely natural you could eat our packaging!



Why and how to turn your business and operation green

Ry going on a journey to Zero Waste and turning your business green you enter a process of optimisation

Vour staff will be empowered by feeling good about the company's principles

You be able to develop cost savings

Your customers will embody your new beliefs and principles



Environmental Benefits Calculator

Bio-polymer

It is a tool developed to quantify the savings in non-renewable energy use and greenhouse gas emissions.







New product development with over 600 resins can be difficult

Dealing with interpretations in other languages is also difficult

Rapid NPD development is critical to your success





BioRenew Packaging System is:



We design bio packaging.



We supply bio-based compostable packaging at a very competitive price



We design and supply food and packaging composter



We consult and train on taking businesses to Zero waste.

Book turning food services businesses green and profiteering from it





Our composters are designed to suit all organizations, coming in a wide range of sizes from small machines that process 10 kilograms of waste per 24 hour cycle to composters that manage up to 100 tons of organic waste per 24 hour cycle.





Your Waste makes excellent Fertiliser



BioRenew



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