How nature re-invents itself...

Pan Pacific / Ecoplas Bringing Earth-Friendly Bag Solutions to the Packaging Industry

Finally a solution! Consumers are demanding environmentally friendly packaging, but how do retailers balance this desire and not break the bank? How can retailers be environmentally sensitive and adhere to the call of local legislatures seeking to eliminate low cost plastic carryout bags?

Ecoplas holds the key...

- Ecoplas bags are renewable: As high as 60% of the bag comes from a starch made from the Tapioca Root.
- Ecoplas bags are biodegradable and break down to micron level particles in water, soil, landfill or compost within one year or less (on average). Conventional plastic bags take 1000 years to do the same.
- Ecoplas bags are comparably priced to what most major chains would pay for regular plastic bags.
- Ecoplas bags are as strong or stronger than what most major foodservice chains now use in terms of burst tests and jog tests.
- Ecoplas earth-friendly bags meet or exceed the new standards that cities and state legislatures are putting into place regarding plastic bag consumption.
- Ecoplas has a lower carbon footprint, because we use significantly less power in the production process. Some alternative corn based products actually have a higher carbon footprint than ordinary plastic because they require more energy to produce.
- Ecoplas is truly renewable, as it is made primarily from the Tapioca Plant. Depending on its use, our product may also qualify for carbon credits.
- Ecoplas is made with sustainable agricultural practices. Our raw materials are not grown using huge input of heavy machinery, powerful chemicals, or large amounts of water. Our plants grow like a common weed in marginal tropical farmlands.
- Ecoplas is grown from a non-genetically modified crop unlike that of our corn based competition.

GO GREEN

ecoplas®

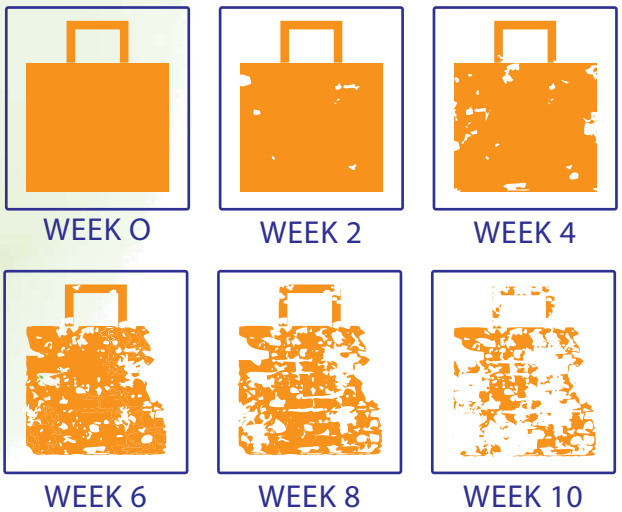
the earth friendly bag

ECO2

the next generation offering strength at thinner gauges

DEGRADATION PROCESS*

**Degradation period depends on Microorganism activity in the soil.*



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The Facts

Bag Characteristics	Plastic Bag	Oxy Bag	Paper Bag	Corn Starch Bag	Ecoplas Bag
Renewable - *Product is made from plant material*	NO	NO	YES	YES	YES
Biodegradable - *Degrades with micro-organism activity*	NO	NO	YES	YES	YES
Compostable - *Degrades in a compost*	NO	NO	YES	YES	YES
Length of decomposition - *Biodegrades in one year or less*	NO	NO	NO	NO	YES
Recyclable - *Can be re-processed and re-used*	YES	YES	YES	NO	YES
Carbon Credits - *Qualifies for carbon elimination credit*	NO	NO	NO	YES	YES
Re-Usable - *Can be used several times*	YES	NO	YES	YES	YES
Degrades- *Does it break down to a molecular level*	NO	NO	YES	YES	YES
Stable - *Lasts indefinitely on a store shelf*	YES	NO	YES	YES	YES
Toxic - *Harmful to biological plants or animals*	NO	YES	NO	NO	NO
Ground Water - *Does it harm ground water*	NO	YES	YES	NO	NO

The Science

Like water and oil, Starch and Polyethylene do not mix well when blended. Our patented technology bonds these two elements together at the molecular level and therefore provides micro-organisms found in soil and water both a food source and building block in which to flourish. The micro-organisms found in the form of Bacteria and Fungi eat the starch polymers found in Ecoplas by excreting enzymes that break the polymers down into small molecular levels. The cells then pull the small molecules into themselves via specially built proteins on their surfaces. The Glucose is then broken down ultimately into carbon dioxide and water as per the Krebs/citric acid cycle. This is the basis of cellular respiration in all organisms.

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