



biotuff

**EARTH FRIENDLY
COMPOSTABLE BAGS**

**For the sustainable choice,
use Biotuff™ earth-friendly
compostable bags**

A small step for a better future

Biotuff™ began with a simple vision to offer a better alternative to traditional plastic bags.

Today, **Biotuff™** is a leading manufacturer and supplier of high-quality biodegradable and compostable bags with a range of domestic and commercial products including non-woven reusable shopping bags, bin liners, dog waste bags and lunch bags.

Designed for strength and durability, **Biotuff™** biodegradable and compostable bags help to cut plastic use and make composting even easier.

Biotuff™ range of biodegradable and compostable bags only use natural corn starch and are certified to meet strict Australian, European and American standards – making them sustainable from start to finish.



Strong, sustainable & natural

Biotuff™ range of biodegradable and compostable bags have been designed specifically for Australian conditions. Made strong and sturdy, these products offer a host of advantages over others on the market:

- Independently verified and certified to Australian, European and American standards
- Made from natural corn starch that is GMO free
- Sized for Australian requirements
- Designed to be puncture, tear and heat resistant
- Unique soft touch with option of printable company logo
- Soy-based printing inks completely degrade without leaving any harmful residues
- Breathable and leak-proof making them great for controlling odour and dissipating moisture

A natural approach

Biotuff™ core philosophy is to be sustainable and friendly to the environment at every step of the process.

Our products are made from a combination of corn starch and biodegradable ingredients with some propriety elements, which result in the creation of the **Biotuff™** BF series resin.

The corn used in the **Biotuff™** BF series resin is sourced directly from tropical rural regions. Only second-grade corn, not usually fit for human consumption, is selected so that **Biotuff™** can convert what would otherwise be a waste into a valuable, sustainable product.

But **Biotuff™** takes their focus on creating a natural product one step further.

All of the corn used in the **Biotuff™** BF series resin is grown using natural rainfall instead of irrigation and is completely GMO-free with no pesticides used.

Biotuff™ is the natural option for biodegradable and compostable bags.

Are your bags really biodegradable and compostable?

With a variety of green and environmental products on the market, the terms 'biodegradable' and 'compostable' get thrown around a lot and it is easy to find yourself confused or misled.

But what do these terms mean and are your bags really biodegradable and compostable?

Here's a simple guide to help you choose the best option.

A biodegradable bag is biologically broken down by microorganisms that eat away at the biodegradable material leaving behind only the natural constituents of biomass, carbon dioxide and water that can be safely re-absorbed back into the earth.

A compostable bag involves the breakdown and recycling of organic or biodegradable materials within a composting environment.

Decomposition of these materials results in the addition of rich nutrients to the soil and can be an effective form of fertiliser for home gardeners and farmers.

A degradable bag is oil-based with an additive included to trigger the process of degradation. They are not biodegradable or compostable.

Degradable materials break down via a chemical reaction and do nothing more than turn the oil components into smaller fragments leaving behind the same amount of plastic dust.

Degradable bags require specific UV conditions in order to break down and will remain intact when composted or buried in landfill.

Biotuff™ products are certified as being both biodegradable and compostable – the best option for our environment.

Printing & Ink

Biotuff™ uses only soy-based non-toxic printing inks that are both biodegradable and compostable.

These eco-friendly inks comply with worldwide standards and are gentle on the environment leaving no harmful residues as they disintegrate and break down.

Did you know ...

Biodegradable products can be made from a variety of plant-extracted starches. Through extensive research and development, Biotuff™ concluded that corn starch is the best raw material to produce compostable bags because it provides additional strength and malleability over all other starches.

Rigorous tests. Proven results.

At **Biotuff™**, we want to truly stand behind our products. That's why we have rigorously tested our products and certified them to strict Australian, European and American standards as being fully compostable and biodegradable.



Composting

All **Biotuff™** products have undergone a detailed soil analysis as part of the certification process for the international standards.

A comparison of soil quality between a control sample and soil with added **Biotuff™** material showed that there was no notable difference in the quality of soil – meaning that the **Biotuff™** compostable products are 100% eco-friendly and completely break down in the soil.



Ecotoxicity

Following the disintegration of compostable materials in the soil, ecotoxic effects are measured to ensure that the compostable materials do not have an adverse impact on the soil, plant growth and germination.

A comparison between a sample compost batch and one that included **Biotuff™** material showed no visible phytotoxic effects and no statistical difference in levels of biomass and germination. In fact, the presence of **Biotuff™** in the compostable material showed added nutrients to the soil, resulting in enhanced growth and increased levels of biomass production.



Worm test

Biotuff™ participated in a worm test to assesses the condition of worms within a compost environment with the inclusion of its products.

The results from the worm toxicity test demonstrated that there was no difference between worms in the sample compost environment compared to worms in the compost that included **Biotuff™** material.



A small step for a better future

The tough and versatile range of Biotuff bags and bin liners get tested every day by consumers like you.

But they also stand up against the most stringent international standards.

Biotuff put forward its products to be assessed for compost quality, ecotoxicity and worm toxicity – and passed with flying colours.

Biotuff's products are 100% compostable and biodegradable, and have full certification with Australian standards (AS4736-2006 and AS5810-2010), European standards (EN13432-2000) and American standards (ASTM D6400).

Bio-plastics are better for the environment

To make conventional plastics – the ones we all know such as PE, PP and PET – we dig up fossil fuels to refine into petrochemicals. That's a hefty process which releases carbon dioxide into the atmosphere and, after the bags are made and used, they can never break down so they clutter landfills for centuries to come.

Bio-plastics are the better alternative.

They are made using natural resources so they often consume – rather than emit – carbon dioxide and are verified as compostable so they can be easily disposed, composted and have a useful purpose at the end of their life.

It's time for a change away from traditional plastics to a more sustainable and renewable future with Biotuff's biodegradable and compostable bags.



The sustainability of bio-plastics

A key tool to measure the sustainability of bio-plastics is a lifecycle assessment. It's the standard to measure the environmental impact of products or services.

A lifecycle assessment considers every stage of the product's life. From extracting the resources to make the product through to its disposal. **Biotuff™** has completed lifecycle assessments on all of its products.

With corn starch as the main ingredient, **Biotuff™** products tick the box for being both biobased and biodegradable. And, because **Biotuff™** products are plant-sourced, they break down much faster and more easily than petro-chemical based products.

That's why **Biotuff™** is confident to stamp our products with a label of sustainability. It's a win for everyone and the planet.

Did you know ...

Did you know ... Most legislation that bans traditional plastic bags will only allow certified biodegradable or compostable alternatives.

Don't get caught out - check with your authority and always ask for certification!



The world's first fully certified biodegradable & compostable non-woven bag

For too long shoppers have been forced to use the current style of non-woven "green" bags made from polypropylene – a type of plastic manufactured from an oil based non-renewable resource. Sure, they help to reduce the circulation of traditional single-use plastic bags, but they won't break down for centuries and most just end up clogging landfills.

The solution is Biotuff's biodegradable and compostable non-woven tote bag.

The non-woven bag is made from all-natural plant starch, stitched using biodegradable natural cotton thread and uses water based eco-friendly inks for printing. The entire bag completely degrades to carbon dioxide and water in just a matter of weeks without leaving any harmful residues in the process.

And with the wide-ranging requirements of shoppers in mind, the **Biotuff™** non-woven bag has been engineered to match the durability and strength of traditional polypropylene non-woven "green" bags but without using any petrochemicals. Now you can offer your customers a truly "green bag" that does not harm the earth.



I am not an ordinary reusable carry bag
I am 100% biodegradable & compostable
I am made of corn
I am nature's friend

biotuff™

Certified compostable to OK Compost
Please dispose of thoughtfully



Bin liners and bags

Biotuff™ uses its BF series resin on purpose-built biodegradable resin extruders to produce a range of tough and tear-resistant domestic and commercial waste bin liners, retail bags, produce bags, meat storage bags, deli bags, coffee knock bags, dog waste bags, nappy waste bags and food service gloves.

All of these products are available in our standard sizes or they can be manufactured to your specific designs and requirements.

- Kitchen bin liners
- Council bin liners
- General use liners
- Xtratuff garden sacks
- Dog waste bags
- Nappy waste bags



If you would like to talk with Biotuff
about our products or services
don't hesitate to give us a call on

1300 246 883

or drop us an email at

info@biotuff.com.au

Thank you and we look forward
to hearing from you!