



Xingyuan Packaging Co., Limited

*The environmentally friendly alternative to traditional plastics*

### ***Xingyuan Packaging Co., Limited***

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## ***About Us***

XingYuan Packaging Co., Ltd is a manufacturer and supplier of biodegradable and compostable products. Established in 2002, XingYuan Packaging Co., Ltd has been developing an entire range of environmentally friendly alternatives to traditional plastics. Primarily focused on targeting our the global reliance on single use plastic bags, XingYuan Packaging Co., Ltd has expanded its biodegradable and compostable product range to some revolutionary products including a replacements for a wide range of every day housekeeping requirements.

For more information about XingYuan and how we aim to develop environmentally friendly alternatives to petroleum based products and our extensive range of Biodegradable and Compostable products, please Email us: [kevin@xybiobags.com](mailto:kevin@xybiobags.com).

## ***Cornstarch based Non-Plastic***

### ***Mailing bags and Clothing Bags***

Our range of compostable and biodegradable clotng bags are the perfect alternative to traditional plastic bags, which are made from corn starch and break down within 45 days in an ideal compost environment, without any toxins and heavy metal residues.

From our raw materials, ink , to a finished product,you can be sure that any item we produced will break down and not harm the environment in the process!



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## Biodegradability & Compostability

With a variety of green and environmental products in the market, it is easy to find yourself confused or misled by various terminologies including the definition of **biodegradable**, **compostable** and **degradable**.

**Biodegradable:** indicates the process of biological breakdown by microorganisms including bacteria, fungi and enzymes. These microorganisms eat away at the biodegradable material leaving behind only natural constituents of biomass, carbon dioxide and water. Subsequently these natural materials can be safely re-absorbed back into the earth.

**Compostable:** refers to the biological breakdown and recycling of 'Organic' or 'Biodegradable' materials within a composting environment. An ideal composting environment is subject to certain heat or moisture conditions. Decomposition of such materials results in the addition of rich nutrients to the soil and can be an effective form of fertiliser for home gardeners and farmers.

**Degradable:** products are 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 the end results of degradation do nothing more than break down 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.

All of XingYuan's products are both biodegradable and compostable. Despite the terms biodegradable and compostable having different definitions, both terms are commonly used interchangeably - If in doubt, ask your retailer and should you require any further information, please contact any one of our offices!

## Printing & Ink

At **XingYuan**, we use only soy-based non-toxic printing inks that are both biodegradable and compostable. All our inks comply with the relevant worldwide standards for biodegradability and compostability and do not cause any harmful effects upon disintegration and break down.

**DID YOU KNOW...** Biodegradable products can be made from a variety of plant-extracted starches. Through our extensive research and development, **XingYuan** has concluded that cornstarch is the best raw material for the production of compostable blown film bags, as it provides additional strength and malleability over other starches.

## Raw Materials

Our products are made from a combination of cornstarch, biodegradable ingredients and some proprietary elements, which result in the creation of our BF Series Resin.

Our corn is sourced from the Northern regions of China where there is an abundance of corn - it is estimated that Northern China produces over 800,000 hectares of corn per annum. Our production team takes only the spoilt corn which is unfit for human or animal consumption. This is approximately 5% of the corn grown, and from this 5%, we extract and convert the cornstarch for use in our resin.

Being an environmentally friendly company, **XingYuan** takes pride in knowing that all our processes and actions affect the environment in a positive manner. Hence the non-food grade corn is grown using natural rainfall rather than irrigation so as to minimise the impacts our precious water resources.



## Eco-Toxicity

Following the disintegration of compostable materials within the soil, eco-toxic effects are also measured to ensure that not only do the compostable materials not have an adverse effect on the soil, but also on plant growth and germination.

Results were derived from a comparison between a compost environment that included the addition of **XingYuan** BF90 series material and a compost environment without our material.

Both samples included a portion of your every day garden mix used to create a soil for plantation. Two varying species of seedlings were then selected and planted into each sample of the soil.

Results from the seedling growth show no visible phytotoxic effects from either samples of the soil and no statistical difference in levels of biomass and germination. In fact, the presence of our BF series compostable material in the soil showed added nutrients to the soil, resulting in enhanced growth and an increased level of biomass production, producing a healthier plant.

## Worm Test

The Australian Standard, AS4736-2006 is the most stringent of all the worldwide Compostability standards due to the inclusion of the Worm Test. The Worm Test assesses the condition of worms within a compost environment with the inclusion of a compostable material in comparison to one without.

Overall results from the worm toxicity test showed no difference between worms placed in both sample compost environments.

Positive results obtained from the combination of the compost quality, eco-toxicity and worm tests mean that **Xingyuan** materials sufficiently comply with the Australian Standard (AS4736-2006), the European Standard (EN13432-2000) and the American Standard (ASTM D6400) and are hence safe to process in composting environments.

## Composting

As composting is an integral part of waste management in many countries, worldwide standards are required to test and assess the quality of the soil when compostable materials are processed through this avenue.

All **XingYuan** products have undergone a mandatory soil analysis as part of the certification process for the international standards. When compared to the soil quality of a control sample without any **XingYuan** material added, there was no significant difference identified in the quality of soil - hence indicating no negative effects on compost quality following the decomposition of our compostable materials.

## Certifications

At **XingYuan**, we recognize that with an array of products in the marketplace, it is important to ensure that our product claims of biodegradability and compostability are true and certified. Worldwide standards have been introduced for both 'Compostability' and 'Biodegradability' and each of the standards are tailored to meet the specific requirements of various regions across the world.

Our raw materials along with all of our products have been awarded certifications by various professional bodies as seen below..



**DID YOU KNOW...** Most worldwide legislations that ban traditional plastic bags will only allow certified biodegradable or compostable alternatives. Don't get caught out - Check with your local government and always ask for certification!