

enormous quantities of cheap cellulose. In 1797, Louis Nicolas Robert created the first Fourdrinier machine, which was able to produce a 60-cm-long sheet. As demand for papermaking rags outstripped supply, alternative materials were sought, like wood pulp. With the development of new techniques for extracting fibres from trees, the price of paper fell dramatically, and paper soon became a product of mass consumption. In Britain alone, paper output soared from 96,000 tonnes a year in 1861 to 648,000 tonnes in 1900.

**The Environmental Impact of Paper.** Paper manufacturing uses significant amounts of natural resources: between 2 and 2.5 tonnes of timber and 30-40 cubic metres of water are required to make one tonne of paper. What's more, electricity and methane gas are needed to power the industrial machines used in the various production phases and, depending on the type of paper, a host of polluting chemical additives. [2]

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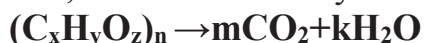
#### BIODEGRADABLE PLASTIC

The world has produced over nine billion tons of plastic since 1959s. 165 million tons of it have trashed our ocean, with almost 9 million more tons entering the oceans each year. Plastic pollution is one of the most dangerous of environmental issues, that kill our planet every day. Scientists think that exists two ways to solve this problem. One of them is try to reduce consumption of plastics all over the word. Other way is trying to use more biodegradable plastics and recyclable materials.

Although the process of recycling plastic is a good technology to reduce plastic waste in the environment, there are a lot of problems encountered during this process. Recycling costs are sometimes higher than the cost of production of new plastic. Petroleum based plastic is not a degradable material and can last for hundreds of years. Plastic is inert to microorganisms, ultraviolet, heat and water. Plastic not only cause disposal prob-

lems but also affect marine life. Landfilling is the most common and often used method to dispose of municipal solid waste. Nowadays a lot of synthetic polymers that are resistant to chemical and physical degradation are disposed of together with other waste. For agricultural plastic waste, an alternative method of disposal is biodegradation. Concern over the disposal problem, biodegradation has led to the development of degradation copy-right resistant plastic called biodegradable polymers.

Biodegradable plastic is plastic that can be broken down completely into water, carbon dioxide by the activity of microorganisms.



All plastics is degradable, but just because it can be broken down into tiny fragments doesn't mean that materials will ever return to nature. The researchers determined that bioplastics production resulted in greater amounts of pollution.

Two types of biodegradable polymers that have an important role in are polylactic acid (PLA) and polyhydroxyalkanoate (PHA). PLA is a biodegradable polyester, very versatile and is derived from 100 % renewable resources such as corn and starch. Starch is converted by microorganisms into lactic acid by fermentation. Then lactic acid molecules linked together in polymers. PLA is a biopolymer inexpensive to produce and can be produced in large quantities. PLA polymer is very attractive for biological and medical applications because it can be spun into filaments that can be used to make textiles or films.

Starting 1 January 2021 Belarus will introduce a ban on the use and sale of disposable plastic dishes in catering establishments. In this regard, the Council of Ministers set the task for Belarusian NAS conduct scientific research to determine the most promising and cost-effective technologies for obtaining biodegradable packaging.

Biodegradable can be obtained from a variety of biological bases. Here are some types of substances from which biodegradable plastic can be obtained: starch base; bacteria base; soy base; cellulose base; lignin base.

Europe and North America are two majors for biodegradable plastics is growing rapidly in Asia, especially in China and India, due to plastic restriction policies.

Widespread plastic pollution is a result of systematic problems that include over-consuming behavior, reliance on the single use connivence, and a non-sustainable linear economic model that ignores end-of-life waste disposal. Plastic waste has become a serious pollution problem because of overuse and lack of adequate waste management. Without reduction from the source, and without careful consideration of waste disposal, it will be challenging to solve the problem.

Ecological problems have no borders. However, environment disasters can be avoided if people broader ecological education and every person that our nature is extremely fragile. Using of biodegradable plastics can't solve the problem but they can help our planet.

The main advantage of biodegradable polymers is that they can be composted with organic waste and release back to enrich the soil. Their use will not only reduce threats to wildlife caused by dumping conventional plastic but will also reduce the cost of labor for removal of plastic waste in the environment because they are parsed by nature. Using biodegradable polymers in a variety of industries instead of synthetic materials can significantly help to protect the natural environment.

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#### **EL ESTUDIO DEL PAPEL DE LAS FIESTAS, LOS FESTIVALES Y LAS FERIAS GASTRONÓMICOS EN LA PROMOCIÓN Y DIFUSIÓN DE LAS MARCAS GASTRONÓMICAS TERRITORIALES DE ESPAÑA Y BELARÚS**

Hoy en día, en todo el mundo crece el interés hacia el turismo gastronómico y, en particular, hacia los auténticos productos gastronómicos que son marcas de un territorio determinado y hacia los eventos gastronómicos que promueven estas marcas. Como ha demostrado el estudio, en España este tipo de turismo está bien desarrollado; los eventos gastronómicos tienen su historia y sus tradiciones, por ejemplo, la Fiesta del Marisco de El Grove y la Fiesta del Pulpo de Carballiño en Galicia se celebran desde los años sesenta del siglo pasado [1]. En Belarús el turismo gastronómico está a comienzos de su desarrollo y aún existen pocos proyectos innovadores para promocionar las marcas gastronómicas. Al mismo tiempo, la gastronomía belarusa es muy variada, posee muchos