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NewHyPe – New Hybrid Paper

European consortium to develop optimized mulch paper



NewHyPe – New Hybrid Paper

In the NewHyPe project, research institutes and companies from Norway, Finland and Germany have come together to develop new mulch papers. The project is designed in a way that in each country a partner from industrie can complete and support the research activities of the institutes. When designing the consortium, it was important to ensure that the entire value chain is covered later and values can be created in the participating countries.

BACKGROUND AND GOALS – Despite of many good characteristics of fossil-based plastics, especially of the non-biodegradable ones, the problem is that in some applications and areas significant shares thereof are not recycled or incinerated, but end up as waste material in nature after a relatively short time of use. Thus biodegradable solutions are much sought after. Replacement of fossil-based plastics with bio-based alternatives is (also) a step towards carbon neutral society.

Cellulose

Cellulose is the most abundant biopolymer on earth, and is one of few sustainable raw materials available in sufficiently large quantities to meet the world's future demands for new materials which can replace traditional plastics in various products. In some applications, the ductility and water resistance of cellulose-based materials and composites have to be improved. Furthermore, the **water resistance should be adjustable** so that variable degradation times relevant for the specific use of the product can be obtained.

Target

The **project aim** is to develop novel and sustainable cellulose-based and biodegradable materials as a long-term solution that can substitute some of the fossil-based plastics, in particular plastic that is now used for a relatively short period of time and possible left in the environment afterwards. The target of the project is to improve the basic stability of cellulose-based materials/cellulosic fibres significantly by a combination with specific inorganic-organic hybrid polymers (ORMOCER®).

Application

mulch papier & food packaging

A **partly water resistant but still degradable paper** to replace non-degradable **plastic mulch films** for use in agriculture. This replacement aims at solving the littering problem caused by non-degradable plastic mulches. The replacement would also decrease the work load and costs of farmers.

Nanocellulose-based degradable films with sufficient strength, water resistance and ductility for the replacement of fossil-based plastic films used as **food packaging**.

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