Green Innovation Oji is aiming for

Development of products utilizing forest resources

The abundant forest resources

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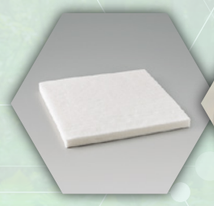
Core technologies for paper manufacturing and forestation

Development of new materials derived from wood fiber

- Biomass plastics
- Bioethanol
- Cellulose Nanofiber (CNF)
- Cellulose mats
- Biomass plastic films
- Cellulose composites

Biomass plastics

Cellulose Nanofiber (CNF) sheet

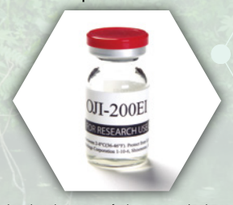


Cellulose mats

Cellulose composites, Resoil-Green

Challenge to the medical and healthcare field

- Wood-derived pharmaceutical products
- Culture substrates for controlled cell orientation
- Medicinal plants



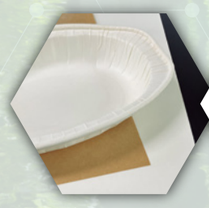
Under development of pharmaceutical products
- Arthritis drugs for animal use
- Anti-coagulant drugs

Example of cultured human iPS cell-derived cardiomyocytes

Large-scale cultivation of licorice

Development of Eco-Friendly Paper Products

- Sustainable solutions



Laminated paper using plant-derived polylactic acid

Paper pillow packaging

Paper food trays that lead to both plastic reduction and food loss reduction

Cardboard that enables prolonged shelf life and attractive presentation of fresh foods

Sustainable, heat-sealable package

Oji's Future

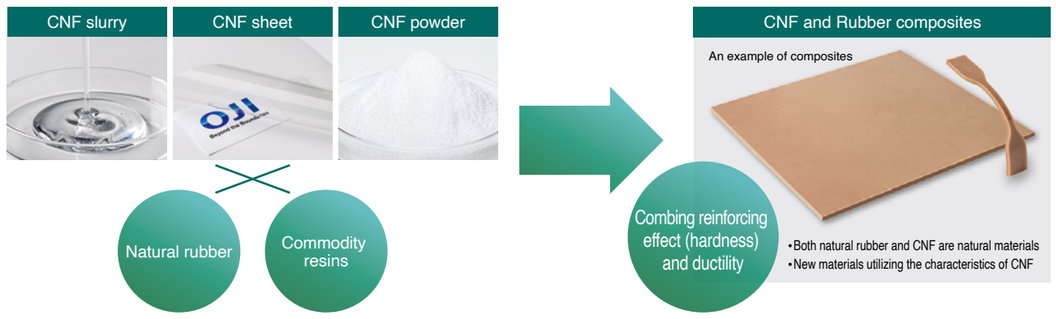
Green Innovation Oji is aiming for FOCUS!

The Oji Group is promoting innovation based on the diverse core technologies it has developed over 150 years of paper manufacturing and forestation since its founding, and is actively working on the following three themes as new materials derived from wood fiber.

CNF

Cellulose nanofiber (CNF) is produced by nanofibrillation of pulp to a nanometer order (1nm = 0.000001mm). Taking advantages of its functions and features such as transparency, lightness, and durability, we will continue development of CNF for further practical use to meet a wider range of needs, including construction sites, sports products, and cosmetics.

Natural materials made from wood fiber with diverse properties



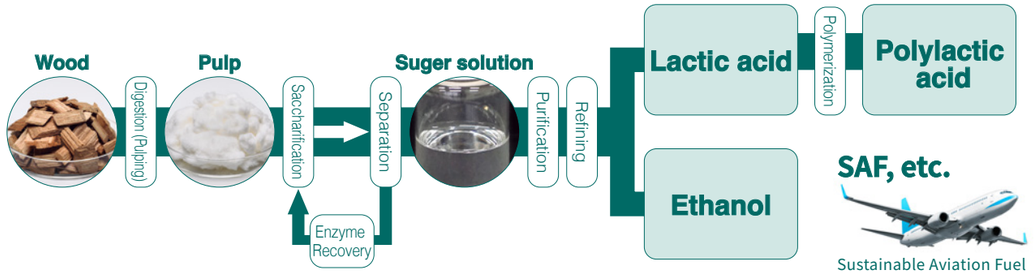
CNF has great potential as a structural member of composite materials, and its role as a reinforcement material will be a focus in the future.

Composites made from natural rubber and cellulose are expected to replace existing materials with fossil fuel-derived fillers.

Biomass plastics Bioethanol

We have succeeded in producing polylactic acid and polyethylene as wood-derived biomass plastics, and will continue to establish mass synthesis methods and develop applications. The knowledge of producing polyethylene from ethanol may also be applicable to the production of "Sustainable Aviation Fuel (SAF)," and we will examine the possibility of providing wood-derived ethanol as raw materials for SAF.

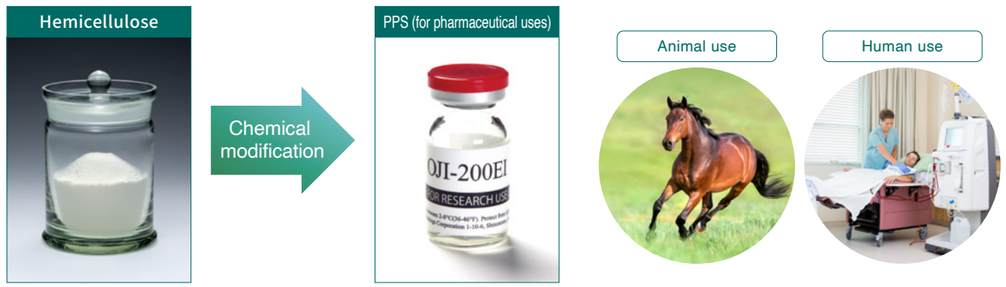
From petroleum-derived plastics to wood-derived biomass plastics



Wood-derived pharmaceutical products

With the super-aging society and growing interest in extending healthy life expectancy, there is a need for new and different form of medicine and healthcare. The Oji Group has developed a technology to produce active pharmaceutical ingredients from wood. We are going beyond our traditional businesses to enter the medical and healthcare field and meet new needs for human and animal medicine and healthcare.

Challenge to a new field in light of the future medicine and healthcare



Oji's proprietary technology is purification of hemicellulose, one of the major components of wood, to a high degree of purity for pharmaceutical use.