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〈news release〉

Suntory Holdings Limited

TOWING Co., Ltd.

Suntory and TOWING Launch Pilot Test on the Feasibility of High-Performance Biochar

— Aims to upcycle manufacturing byproducts and improve crop efficiency in regenerative agriculture —

High-performance biochar

This high-resolution image has been posted on https://www.suntory.com/news/index.html

Tokyo, JAPAN (May 29, 2025) - Suntory Group and TOWING Co., Ltd., a green AgriTech startup, have launched a joint pilot program to explore the potential of high-performance biochar[*1] produced from manufacturing byproducts in Suntory Group's supply chain.

This pilot program has two key objectives: 1) to upcycle manufacturing byproducts, and 2) to reduce greenhouse gas (GHG) emissions by suppressing the use of chemical fertilizers through the use of high-performance biochar.

1. **Achieve Upcycling by Using Manufacturing Byproducts as Ingredients to Create High-Performance Biochar**

   Agricultural waste, such as food loss and crop residues, is said to account for approximately one-fifth[*2] of Japan's total industrial waste each year. Many of this waste is incinerated or landfilled, causing concerns due to its increasing environmental impact and the wasting of valuable resources.

   In this pilot, a biochar was produced by carbonizing beverage residues (used green tea leaves) from Suntory Group's manufacturing processes. This was then combined with TOWING's multifunctional microbial groups, such as microbes that accelerate the decomposition of organic fertilizers, to create high-performance biochar.

   In the future, the two companies plan to produce high-performance biochar from other manufacturing byproducts generated within its supply chain, thereby expanding and promoting upcycling.

2. **Using High-performance Biochar in Regenerative Agriculture[*3] to Balance Crop Efficiency Improvements and Agricultural GHG Emissions Reductions**

   Agriculture and forestry account for approximately 13%[*4] of global GHG emissions, with chemical fertilizers, which require large amounts of fossil-derived raw materials to produce, being a significant contributor. While the use of organic fertilizers, one of the regenerative agriculture methods, is said to reduce GHG emissions by decreasing the use of chemical fertilizers, it faces challenges of low fertilizer efficiency and reduced yields compared to the use of conventional chemical fertilizers.

   The use of high-performance biochar together with organic fertilizers on agricultural land is expected to improve fertilizer efficiency, leading to improved crop quality and yield. Additionally, this approach is anticipated to contribute to the reduction of GHG emissions by suppressing the use of chemical fertilizers.

   In this pilot program, the two companies plan to study and compare the effects of conventional organic fertilizers with organic fertilizers treated with high-performance biochar at Suntory Group's contract farm where tea plants[*5] are grown. The first harvest has already been completed where results show that crops grown in soil treated with high-performance biochar maintained the same quality while improving the yield compared to the use of conventional organic fertilizers. Based on these outcomes, the two companies will continue to conduct this pilot program to verify the effects of high-performance biochar and the various conditions necessary to improve crop efficiency. The goal is to establish a regenerative agriculture method that can achieve the same yield rate as the conventional farming methods.

(left) Pilot site (right) Agricultural soil treated with high-performance biochar

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Suntory Group has long supported regenerative agriculture as one way to reduce GHG emissions in the agricultural sector. The group collaborates with suppliers and contract farmers to transition to sustainable farming practices, such as cover cropping[*6], organic fertilization, and no-till farming. Notable projects include barley cultivation in the UK (2022) and sugarcane cultivation in Thailand (2024). Led by Suntory Global Innovation Center in collaboration with TOWING, this pilot program is attracting attention because it has the potential to establish a regenerative agriculture process through improved efficiency in the use of organic fertilizers and to build a new resource recycling model that utilizes unused biomass resources. Suntory Holdings has also invested in TOWING to strengthen their strategic partnership.

Masaaki Fujiwara, Chief Sustainability Officer of Suntory Holdings, comments, “Suntory Group aims to achieve net-zero GHG emissions across our entire value chain by 2050, as outlined in our Environmental Vision toward 2050. To achieve this goal, we are continually testing various methods and technologies such as regenerative agriculture, and we see high-performance biochar as a new technology that can contribute to achieving this vision. We are collaborating with TOWING to explore the utilization of high-performance biochar technology towards our common goal of carbon neutrality.”

Kohei Nishida, the founder and CEO of TOWING, comments, “We are truly delighted to be able to collaborate with Suntory Holdings on solving the supply chain challenges. Suntory Group operates a wide range of businesses both in Japan and overseas. They are not only focused on addressing supply chain issues, but also actively committed to realizing sustainable agriculture and food systems – an area we also uphold as part of our mission. Their dedication to being a key player who takes real action, exemplifies a sincere approach to tackling global issues. We hope that this pilot program will serve as a starting point for global project development, and that we can contribute, even in a small way, to advancing Suntory Group's vision.”

Suntory Group and TOWING remain committed to achieving carbon neutrality and building a circular economy through sustainable agriculture.

*1 A soil amendment created by adding soil-based microorganisms into carbonized unused biomass (biochar) developed by TOWING, which have functions such as accelerating the decomposition of organic fertilizers. TOWING has commercialized this product under the name “Soratan.”

*2 Ministry of the Environment of Japan: "FY2018 Status of Industrial Waste Treatment"

*3 Regenerative agriculture is a sustainable, outcomes-driven approach focused on restoring soil health, biodiversity, and improving farmer livelihoods by reducing the use of synthetic inputs.

*4 According to the United Nations Food and Agriculture Organization (2019)

*5 Tea plant is an evergreen shrub in the Camellia genus, cultivated for green and black tea production.

*6 Cover crops enhance soil quality by adding organic matter into the soil and preventing erosion.

About Suntory Group

As a global leader in the beverage industry, Suntory Group aims to inspire the brilliance of life, by creating rich experiences for people, in harmony with nature. Sustained by the gifts of nature and water, the Group offers a uniquely diverse portfolio of products, from award-winning Japanese whiskies Yamazaki and Hibiki, iconic American whiskies Jim Beam and Maker's Mark, canned ready-to-drink -196 (minus one-nine-six), The Premium Malt’s beer, Japanese wine Tomi, and the world-famous Château Lagrange. Its brand collection also includes non-alcoholic favorites Orangina, Lucozade, Oasis, BOSS coffee, Suntory Tennensui water, TEA+ Oolong Tea, and V energy drink, as well as popular health and wellness product Sesamin EX.

Founded as a family-owned business in 1899 in Osaka, Japan, Suntory Group has grown into a global company operating throughout the Americas, Europe, Africa, Asia and Oceania, with an annual revenue (excluding excise taxes) of $20.3 billion in 2024. Its 41,357 employees worldwide draw upon the unique blend of Japanese artisanship and global tastes to explore new product categories and markets.

For more information, visit www.suntory.com and Drink Smart.

DRINK SMART®

About TOWING

Founded in February 2020 at Nagoya University, TOWING is a green AgriTech startup working to build a “super-circular” society through next-generation sustainable agriculture. The company’s flagship product, Soratan, is a high-performance biochar developed by combining technologies from research institutions, the National Agricultural Research Organization, with the company’s proprietary innovations. Made from carbonized, locally sourced biomass and enhanced with functional microbes, it delivers various benefits when applied to agricultural land, such as increased yield, improved crop quality, and enhanced soil carbon sequestration. In June 2023, a project of Soratan was registered under Japan’s J-Credit Scheme for “Biochar Application to Farmland” and already issued carbon credit for three times up to date. TOWING is also a recipient of the Green Food System Act Foundation Project and was selected in the first round of the Ministry of Agriculture’s SBIR Phase 3 Innovation Fund.

TOWING Website: https://towing.co.jp/pages/en