Contribution to sustainable agriculture

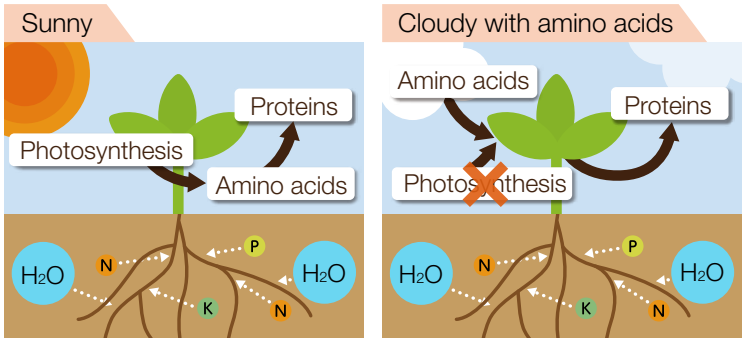
High value-added fertilizers made with co-products

Approach

GRI203-2

Plants synthesize amino acids from absorbed nitrogen and sugars gained through photosynthesis, then use amino acids to synthesize proteins necessary for growth. Even under poor photosynthesis conditions caused by cloudy weather or low temperatures, plant growth can be stimulated by supplying amino acids as fertilizer.

For more than 40 years, the Ajinomoto Group has effectively utilized the nutrient-rich co-products of amino acid production as organic fertilizer. By fortifying these co-products with suitable amounts of phosphoric acid and potassium, for example, we have developed fertilizers with higher added value. Continued experiments and research have shown these amino acid-enriched fertilizers enhance root development, plant growth, and harvest yields.



High value-added fertilizers used around the world

Approach

GRI203-2

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■ Japan

Ajinomoto Co., Inc. produces high-quality fertilizers, making effective use of co-product biomass generated during the amino acid fermentation process. Cell drying technology using heat from compost significantly reduces the amount of CO_2 emitted during the course of drying co-products created during the amino acid fermentation process. This fertilizer not only reduces environmental impact, but also increases the amino acid content and sugar content of crops, while stabilizing quality.

We are expanding sales channels for this superior product and contributing to a revitalization of agriculture in Kyushu area. In cooperation with value chain stakeholders, the company has created the *Kyushu Rikisaku* brand for products made using this fertilizer. AEON Kyushu Co., Ltd. has launched a project to sell products under the *Kyushu Rikisaku Vegetables* and *Kyushu Rikisaku Fruits* label.
In recognition of this contribution to a sustainable value chain the project was awarded the Deputy Chief's Award (by the Chief Cabinet Secretary) in December 2019 in the 3rd Annual Japan SDGs Awards.

Awards ceremony

Sustainable Materials Sourcing

■ Vietnam

Vietnam is one of the world's leading exporters of rice. The Mekong Delta in the south is a center of rice production, where rice cultivation takes place two or three times a year. Continued use of non-organic fertilizers in this region has degraded soil fertility, resulting in unstable quality and yields, making farmers difficult to make a living through rice cultivation.

In 2007, AJINOMOTO VIETNAM CO., LTD. began conducting research using a co-product called *AMI-AMI* (liquid fertilizer) in small-scale test farms. Today, this co-product business in Vietnam, which maintains soil fertility while keeping farm production costs down, is essential among local communities, leading to sustainable agriculture.

■ China

Many farmers working in agricultural areas other than in China's largest cities work part-time on very small farmland acreage (0.1 to 0.2 ha). These farmers have found themselves in an inability to buy high-quality fertilizers.

Agro2Agri, S.L. (Spain) is developing a single-dose packaged project in China to contribute solutions to challenges faced by small-scale farmers. The company manufactures dedicated packaging machines and provides technical support to farmers allowing for access to high-value-added fertilizers in a single dose at affordable prices. As a result, small farmers have achieved improved crop productivity, conserve farmland, reduce greenhouse gas emissions, and experience a better quality of life.

■ Thailand

In Thailand, we are seeing an evolution in the bio-cycle using co-product. Here, high-value-added fertilizers made using co-products are sold to contract farmers. These farmers produce cabbages purchased by the Ajinomoto Group and used as an ingredient in *gyoza* (Japanese-style dumplings), creating a win-win scenario.

In this way, we ensure traceability of the cabbages we purchase and contribute to stable revenue and agricultural revitalization for farmers. Since these cabbages grow nearly 1.4 times larger compared with conventional fertilizers, coring work has been reduced, which improves production efficiencies in the *gyoza* factory.

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■ Brazil

AJINOMOTO DO BRASIL INDÚSTRIA E COMÉRCIO DE ALIMENTOS LTDA. (ABR) mainly sells co-products such as *AJIFOL*® to coffee and fruit plantations in Brazil. Fertilizer provided by ABR has been used for more than 10 years. More recently, we have seen a movement among plantations toward sustainable management, making a full-scale transition from chemical fertilizers to fertilizers from ABR. In response to this development, ABR plans to offer wide-scale support to farms through co-products beginning in fiscal 2020.