TAIHEIYO CEMENT
NEWS LETTER

October 7, 2015

Taiheiyo Cement Concludes Contract for Collaborative Research into the Reclamation of Fukushima Agricultural Land

Taiheiyo Cement Corporation has concluded a contract for collaborative research with the Fukushima Future Center for Regional Revitalization of Fukushima University and commenced research using Minamisoma City as a case study. The goal of the project is to promote research into preserving and utilizing agricultural land damaged by the 2011 Earthquake Disaster and to respond to the need for regional revitalization and agricultural recovery through recovering agricultural land by cultivating energy crops[1] and converting them into energy.

The preservation and usage of underutilized agricultural land and the revitalization of regional agriculture will be promoted through two approaches: 1. Using Taiheiyo Cement's biomass-related technologies to cultivate sorghum[2] and other energy crops in abandoned farmland and generating electricity by fermenting them to produce methane, and 2. Producing cooking oil and biodiesel fuel through the cultivation of rape blossoms and other oil-bearing crops.

An economy of scale provided by 500-1,000 ha is necessary in order to ensure profitability through business development specialized to the production of energy crops, which makes the introduction of such technology unlikely in Japan at present.

The current research aims for efficient and integrated land-use by a combination of the following:

- Selection of energy crops suited to the climate of Minamisoma City
- Maximization of yield per unit area by a double-cropping system of rape blossoms and other oil-bearing crops
- Usage of methane fermentation residue as a liquid fertilizer

Taiheiyo Cement anticipates this will enable commercialization at a smaller scale by diversification of the revenue structure while exploring business development grounded in the ecology and society of each region.

The company will also investigate business development such as local energy supply through biogas generation using methane fermented from energy crops in the future.

Taiheiyo Cement is currently experimenting with the cultivation of several varieties of energy crop in the fields of Minamisoma and is conducting investigations into their methane generation efficiency by fermentation, while Specially Appointed Associate Professor Hideki Ishii of Fukushima University is surveying the current state of land use of the area. Moving forward, Taiheiyo Cement will evaluate biomass and energy production per unit area, and Fukushima University will estimate energy production potential of Minamisoma as a case study. Furthermore, the local Minamisoma Agricultural Land Reclamation Council are cooperating by managing cultivation and optimizing farming work, providing guidance in the construction of planting systems, and in other ways.

Taiheiyo Cement has worked to dispose of waste generated by the Great East Japan Earthquake and to develop decontamination technologies for agricultural land contaminated by radiation. The company will continue to respond to local needs and cooperate in the restoration of the area struck by the disaster.

For more on this project, please refer to today's announcement "Commencement of Collaborative Research with Minamisoma Agricultural Land Reclamation Council and Taiheiyo Cement Corporation into an Agricultural Revitalization Model Combining Energy Crop and Oil-bearing Crop Production" by the Fukushima Future Center for Regional Revitalization.

1: Energy crop: A plant grown primarily as a source of energy or as a product material.
2: Sorghum: An annual plant similar to corn that grows exceptionally quickly. Primarily used as green manure and fodder.