

SARA, Kasaoka:

Japanese venture unveils plans for large scale semi-closed greenhouse

A group of Japanese entrepreneurs have unveiled plans for the largest single site advanced glass greenhouse project in Japan. On April 27, SARA Incorporated from Okoyama broke ground for the US\$125 million glasshouse project on the 1,000 hectare Kasaoka bay reclaimed land area. The project will soon start with the construction of a first 11.16 hectare semi-closed greenhouse project for the production of tomatoes, bell peppers and lettuce.

SARA, which stands for 'Smart Agribusiness Research and Alliance', was founded by Japanese entrepreneurs Mr. Kobayashi, Mr. Sano, and Mr. Wada in April 2016. Taizo Sano, the Chief Operating Officer at SARA, has been investigating modern horticulture technology and production practices during his extensive career in the Japanese fresh produce industry. Sano got acquainted with international suppliers, researchers and sustainable energy solutions in order to design a business plan that prepares the Japanese horticulture sector for the next generation of greenhouse farming.



The new Japanese venture will grow a combination of three high value crops to supply distributors, retailers, and consumers. Over a total of 11.16 ha, the company will grow 5.68 ha of tomatoes, 3.25 ha with bell peppers and 2.23 ha of lettuce. The produce will be marketed through supermarkets, CVS, home delivery and various other food service customers in Japan. The company also considers exports to Asian cosmopolitan consumers.

Hygroscopic Adiabatic Cooling

Sano's SARA project takes advantages of the latest innovative technology in order to enable efficient production in the hot, humid day and night climate. "The challenging climate makes it very difficult to grow greenhouse vegetables over the summer season in Japan and other semi tropical climate regions in Asia", Sano said. "Therefore, we teamed up with Dutch greenhouse manufacturer Van der Hoeven and developed a new climate system for a semi-closed greenhouse setting. This new and patented dehumidifying Hygroscopic Adiabatic Cooling (HACO) climate control system enables greenhouse production of healthy vegetables during the difficult hot and humid seasons.



Taizo Sano at the construction site.

Biomass Tri Generation

The SARA project phase 1 will be powered by a state-of-the-art Biomass Tri Generation (BTG) power plant jointly designed and manufactured by Japanese company Takuma Co., Ltd. The biomass power plant generates 10,000kW electricity and is directly connected to the grid to sell the surplus electricity to a local power company.

According to Sano, the steam from the boiler will be used to empower air conditioning, heating and de-humidification. SARA and Takuma also jointly developed an exhaust gas cleaning system to source clean CO2 from the biomass power plant and use this to fertilize the crops inside the greenhouse.

Hoogendoorn & Hitachi

Japanese tech company Hitachi Co., Ltd. and Dutch greenhouse automation company Hoogendoorn are contracted to jointly develop the IOT computer, monitoring and control system of the project. This system will also include both the greenhouse energy management and labor management system platforms.



The partners in the SARA project.

125 million USD investment

The total investment of the SARA project is estimated at 125 million USD. This required capital has been granted from syndicated loans provided by several Japanese banks. The local greenhouse construction from foundation to mechanical installation is supervised and coordinated by a partnership between Van der Hoeven and Daisen Co., Ltd., one of the largest greenhouse builders in Japan.

Construction starts

"All together, this project will be the largest single site glass greenhouse project in Japan's horticulture history. With the opportunity to expand, the Kasaoka reclaimed land area has the potential to become an important high-tech megafarm site in South East Asia", Sano proudly concluded.

The project site is already prepared and finalized by Kasaoka city. The actual construction work starts in May 2017. SARA plans to hire about 200 employees, with the first crop to be expected in April 2019.

For more information:

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