

Renovation of Tsunami-damaged Farmland

Hitachi Zosen Corporation (headquartered in Osaka; President Minoru Furukawa; “Hitachi Zosen”) and Sumitomo Chemical Company, Limited (headquartered in Tokyo; President Masakazu Tokura; “Sumitomo Chemical”) are proud to announce that the two companies have jointly developed a system for renovating farmland damaged by the actions of seawater and pulverized debris¹, following the successful completion of field trials that had been underway since November 2011 in rice paddies at Watari-cho, Miyagi Prefecture, Japan.

The Great East Japan Earthquake of March 2011 and its accompanying tsunami caused extensive damage to farmland of affected areas owing to salt damage from seawater as well as the actions of sand and dirt sediment and pulverized debris brought in by the tsunami. Efforts to renovate the devastated farmland have been hampered by the lack of an efficient means for clearing away the sediment and debris.

In an effort to address this problem, Hitachi Zosen and Sumitomo Chemical joined hands in conducting series of field trials involving the Hitz LaRWS² washing and separating system, which removes salt and pulverized debris from soil taken from rice paddies, and those harnessing a high-precision GPS (Global Positioning System) technology that measures the height discrepancy between the ground and the topsoil layer³ thereby either removing or replacing soil as necessary.

After removal of salt and debris, the soil was restored in condition suitable for planting by adding fertilizers and then replaced in the ground. Rice was planted in May 2012 using the renovated soil, and the resulting rice crop was harvested in October. The harvested rice proved adequate in both taste and quality.

The trial was the combined efforts of Hitachi Zosen and Sumitomo Chemical capitalizing on respective areas of expertise. Hitachi Zosen has considerable expertise in high-precision GPS for measuring ground height and tide levels, as well as washing and separating system for soil cleanup and land treatment. Sumitomo Chemical possesses extensive experience in soil analysis and fertilization systems as it has gained through the businesses of crop protection chemicals and fertilizers. In the trial, Hitachi Zosen was responsible for soil removal and salt and debris extraction, while Sumitomo Chemical took charge of soil analysis, fertilizer design and crop maintenance.

Hitachi Zosen and Sumitomo Chemical are committed to continue working closely together to effectively utilize the established soil renovation system toward earliest possible restoration of agricultural land in Watari-cho and other areas affected by the Great East Japan Earthquake.

Notes

1. Primarily vinyl pieces, metal shards and wood scrap
2. Simultaneous washing and separation by size
3. Soil that is either plowed or ready for plowing