

Demonstration for the multi-site development and large-scale utilization of fully organic superabsorbent polymers (EF Polymer K.K.)



City	Year of Establishment	Founder
Onna-Village, Okinawa	2020	Narayan Lal Gurjar

Partner VC	Latest round of Fundraising	Valuation
MTG Ventures	Series A	Non-Disclosure

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○ Business Plan
By utilizing technology to produce 100% natural and biodegradable superabsorbent polymers from crop residues, we aim to support farmers suffering from droughts and achieve sustainable agriculture. We also support the green transformation (GX) initiatives of companies which are producing chemical polymers and/or products with chemical polymers as their product's raw materials.

○ Research Outline
This research and development aims to enable the production of a new superabsorbent polymer (biopolymer, BP) from domestic raw materials, different from the existing superabsorbent polymer (EFP) made from pectin, thereby achieving a multi-site and resource recycling model for superabsorbent polymers that are completely organic and fully biodegradable. Additionally, with an eye towards the dissemination of the BP developed through this research and development, investigations and studies will be conducted in collaboration with domestic and international partners to establish optimal usage methods in agricultural land, in addition to upgrading existing EFP and establishing new applications.

Business Area/Field	Research Period	Research Grant Amount	International collaborative technology demonstration
Food & Agriculture	PCA 2025～2027FY	JPY 811 million	US (California, Georgia, Nebraska, Texas) , Europe (Spain), India (Rajasthan)

- International collaborative technology demonstration
 - Detailed analysis of EFP effects in field utilization
 - a) Soil physical, chemical, and biological properties
 - b) Crop growth
 - Summary of optimal amounts and methods for fields
 - a) Summary of optimal amounts (by crop, by soil type)
 - b) Summary of optimal methods
 - Verification of GHG reduction effects of EFP
 - a) Verification of GHG reduction effects