

## Significant Effect of "KEJIEJIA" Highly Active Humic Acid on Efficiency Increase of Organic Agricultural Materials of "Qiu Mao" - Xinyi Sumeng Fertilizer Co., Ltd.

The unique geographical location and topography in Taiwan have given rise to intricate agricultural conditions, characterized by four major geological types and four distinct seasons. These characteristics, combined with intensive and sophisticated agricultural practices, have resulted in challenges such as continuous cropping obstacles, soil acidification, compaction and salinization of soil, and the escalating threat of viruses and diseases, all of which have become bottlenecks for agricultural production.

Qiu Mao Cooperative (hereinafter referred to as "Qiu Mao Cooperative") in Changhua County, Taiwan, China, is an agricultural enterprise approved by Taiwan's Council of Agriculture. It operates under a comprehensive business model that covers the entire production and marketing chain of "R&D of organic agricultural materials - farm planning and cultivation - technical guidance - integration of transportation, marketing and processing". Given the problems in the agricultural production in Taiwan, "Qiu Mao Cooperative" partnered with Xinyi Sumeng Fertilizer Co., Ltd. (hereinafter referred to as "Sumeng Fertilizer") to explore solutions by integrating "KEJIEJIA" Highly Active Humic Acid produced by "Sumeng Fertilizer" with the organic agricultural materials of "Qiu Mao Cooperative".

### I. Organic Fertilizer with Biocarbon and Microorganisms for Efficiency Increase

"Qiu Mao Cooperative" has developed the "Organic Fertilizer with Biocarbon and Microorganisms" by combining the R&D technology of biocarbon with "KEJIEJIA" Highly Active Humic Acid, supplemented by the Qiu Mao 89 Bacteria. "KEJIEJIA" Highly Active Humic Acid has a remarkable decomposition property, while the carrier feature of "biocarbon" can provide a carbon source for the soil and plants and its adsorption capacity can be combined with the chelating capacity of "KEJIEJIA" Highly Active Humic Acid to effectively improve the physical properties and structure of the soil and significantly boost the water retention, fertilizer retention, air permeability, and microbial activity of the soil. Furthermore, the environmental resistance of Qiu Mao 89 Bacteria results in the production of organic acids, antibiotics and hormones, etc., which facilitate the balance of soil elements and microflora, root hair growth of plants, disease and pest resistance, and overall plant growth. The application of "Organic Fertilizer with Biocarbon and Microorganisms" improved continuous cropping obstacles, salt accumulation, acidification and compaction of soil, heavy metal pollution, as well as damping off, root rot and chlorotic disorder caused by fusarium hazards in the soil, root knot and other problems that hindered root absorption. Therefore, "KEJIEJIA" Highly Active Humic Acid is an excellent additive for soil conditioners or organic fertilizers.

### II. 533# Corn Enzyme for Efficiency Increase

533# Corn Enzyme is a phytoalexin that can expedite cell

division and promote crop growth. With the aid of the strong chelating force of "KEJIEJIA" Highly Active Humic Acid, the "Small-molecule Corn Enzyme" extracted through the unique cell wall breaking process of "Qiu Mao Cooperative" forms a chelating substance with a low molecular weight and a small molecular structure that can strongly penetrate into plant cells to enhance the absorption and metabolism of nutrients and stimulate the growth of plants. In practical agricultural applications, 533# Corn Enzyme plays a significant role in promoting flower bud differentiation. When applied in agricultural grafting technology, small-molecule chelates can easily traverse the micro tubes in rootstocks and during the scion engagement period, thereby significantly improving the success rate of grafting. Therefore, the addition of "Corn Enzyme" to "KEJIEJIA" Highly Active Humic Acid produces a multiplier effect.

### III. 633# Root Vigor for Efficiency Increase

In order to extract the amino acid nutrition from beetroot and other plants, "Qiu Mao Cooperative" utilized the non-hormonal "633# Root Vigor" amino acid for rooting and combined it with "KEJIEJIA" Highly Active Humic Acid to break down minerals with larger molecular structures and elements that become non-absorbable after combining with phosphate radicals. This could effectively mitigate the oxygen deprivation of roots, supply the energy necessary for the growth of root systems, provide an alternative to the conventional rooting method involving hormones that deplete plant energy, and create an environment favorable to the growth of root systems. Meanwhile, the interaction between the adsorption feature of "KEJIEJIA" Highly Active Humic Acid and chemical agents in the environment could quickly eliminate the poisoning of pesticides and heavy metals. Additionally, "KEJIEJIA" Highly Active Humic Acid is powerful in dissolving silicon. It can transform silicon to make it readily absorbable to plants, thereby helping plants develop better disease and pest resistance, improve immune system, and boost rooting.

### IV. Taiwanofungus Camphoratus Compound Extract for Efficiency Increase

Taiwanofungus camphoratus, reputed as the "treasure of Taiwan" and "ruby in the forests of Taiwan", provides anti-inflammatory, antioxidant, antibacterial, antiviral, immune regulatory and many other benefits. "Qiu Mao Cooperative" combined the "Taiwanofungus camphoratus" biological agent with "KEJIEJIA" Highly Active Humic Acid. It was proven through tests that this non-chemical, organic and natural material could, to some extent, prevent and control fungal, bacterial and even viral diseases in plants. The addition of "KEJIEJIA" Highly Active Humic Acid enhanced the plants' resistance to certain diseases. In a 2-year test conducted in the navel orange base in Anyuan, Jiangxi, this product healed about 70% of the citrus greening disease.

