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BANGKOK, THAILAND, April 22, 2025 /EINPresswire.com/ -- Professor Dr. Supaart Sirikantaramas, a lecturer at the Department of Biochemistry, Faculty of Science, and the Center of Excellence in Molecular Crop, Chulalongkorn University, has developed Arto Sucrose-Reduced Technology—a groundbreaking enzyme-based innovation that transforms sucrose in fruits into prebiotics. This technology enables up to a 65% reduction in sugar content while preserving essential nutrients, making high-sugar fruits such as durian, mango, and banana healthier for consumption.

Dr. Supaart was inspired by the dual challenge of managing Thailand’s oversupply of high-sugar fruits and addressing public health concerns related to excessive sugar intake, which is linked to chronic conditions such as diabetes and cardiovascular disease. Through a proprietary formulation of commercially available enzymes, the Arto process converts sucrose into prebiotic compounds—non-digestible carbohydrates that support gut microbiota health.

The technology is versatile, functioning effectively with both fresh and dried fruits, and is suitable for incorporation into a variety of food products. In collaboration with local farming communities, surplus produce is transformed into value-added items such as sugar-reduced dried bananas, mango smoothies, flourless banana cakes, and choco banana sherbet. Although Arto offers finished products, its primary focus is on the production and sale of sugar-reduced fruit purée for use in industrial food applications.

The project is supported by Chula Spin-Off and the CU Innovation Hub, which have provided essential resources, including business development training, funding opportunities, and commercialization guidance. Arto aligns with global health-conscious food trends, especially in

regions like Europe, where demand for high-sugar fruit juices is declining due to increasing awareness of sugar-related health risks.

Looking ahead, Dr. Supaart and his research team are expanding their work to explore enzyme-assisted conversions of starches into functional nutrients, further contributing to the development of health-promoting food technologies. However, scaling up production and integrating the technology into industrial food systems remain key challenges to widespread adoption.

Dr. Supaart emphasizes the critical need to bridge scientific research with real-world applications, fostering collaboration with entrepreneurs and communities to ensure the successful commercialization of Arto technology. For consumers seeking guilt-free desserts and healthier fruit-based alternatives, Arto's sugar-reduced innovations offer a promising solution.

For more information, visit www.innophytotech.com

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