A novel edible spray formulation utilizing Malaysian herbal extracts has been developed to delay the enzymatic breakdown of carbohydrates, offering a natural approach to postprandial glycemic control. This innovation addresses the growing demand for functional food solutions that support blood glucose management, particularly among individuals at risk of metabolic disorders such as type 2 diabetes.The spray incorporates bioactive compounds from locally sourced herbs, including *Orthosiphon stamineus* (Misai Kucing), *Ficus deltoidea* (Mas Cotek), and *Labisia pumila* (Kacip Fatimah), all of which have demonstrated inhibitory activity against carbohydrate-hydrolyzing enzymes such as α-amylase and α-glucosidase in previous phytopharmacological studies.To optimize delivery and efficacy, the active ingredients are encapsulated in a food-grade colloidal nanoemulsion system. This colloidal carrier enhances the solubility, stability, and bioavailability of the phytochemicals while allowing for controlled release upon consumption. When sprayed directly onto food, the formulation forms a thin, tasteless film that begins to modulate enzymatic activity during digestion.This approach presents a practical, user-friendly method to reduce glycemic response without altering the sensory properties of food. By combining traditional herbal knowledge with advanced colloidal technology, this innovation contributes to the development of preventive dietary tools and functional food products aimed at promoting metabolic health and wellness.