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(57) Abstract :

The present invention introduces a ready-to-use kit designed for the detection of the Banana Bunchy Top Virus (BBTV) in banana plants. The kit incorporates a virus-specific array and essential PCR components in lyophilized form, providing a user-friendly, one-step method for both skilled and non-skilled individuals. Overcoming the limitations of existing technologies, such as Enzyme-Linked Immunosorbent Assay (ELISA) and conventional PCR, our 96-well plate, significantly reduces set-up time and minimizes the likelihood of errors. The present invention is particularly advantageous for industries requiring large-scale sample handling, offering a cost-effective solution compared to alternatives like RT-LAMP and Isothermal gene amplification kits. The kit's simplicity and efficiency mark a substantial leap forward in the field of agricultural disease diagnosis and plant quarantine, promising timely and precise detection of BBTV.