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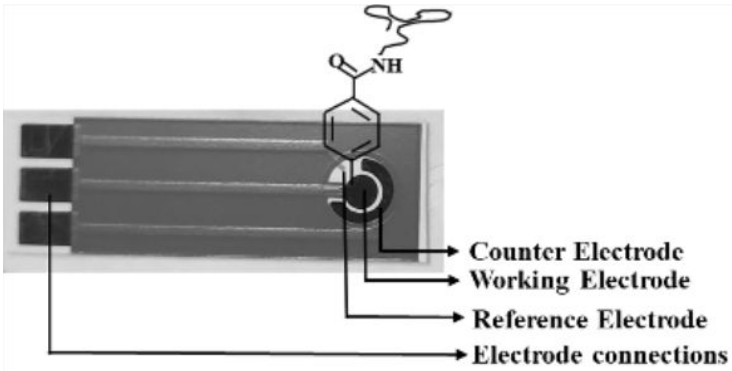
PENDING

(IN202011047905) DNA aptamer for detection of acephate



NEED

Over 60% of food samples in pesticide-prone regions test positive for unsafe residues. Conventional detection methods are slow, expensive, or require lab infrastructure. But what if pesticides like acephate could be detected instantly—without chemicals or machines?

MARKET ANALYSIS

Global pesticide residue detection market to reach $7.9B by 2033 (6.4% CAGR); Indian food testing sector growing at 8.1% CAGR. Key drivers: food export safety, health regulations, rapid diagnostics. (Sources: MarketWatch, IMARC)

TECHNOLOGY OVERVIEW

This technology introduces an 80-base DNA aptamer that selectively binds to acephate molecules in food or water samples. It enables rapid detection through a sensor or kit format, offering a portable, user-friendly, and specific solution that works in both field and lab environments without complex equipment.

Target Industries

, Food quality testing platforms; agri-biotech service providers; portable sensor developers; enterprises in field diagnostics for food, water, and environmental safety.

TECHNOLOGY KEY FEATURES

DNA aptamer specificity; 80-base single-strand design; contact-based detection; sensor-integrated; non-lab dependent; kit-ready format; detects acephate at low concentrations; includes controls; field-deployable; scalable for food and water safety testing.

AT A GLANCE

- SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production)

Read more here

Technology is available for licensing/ co-development.

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