Stick-On Sensors
for Fruits

To reduce post-harvest fruit losses which may run into millions of dollars each year, EWTCOI researchers have collaborated with *NTUC Fairprice* and the *Agri-Food & Veterinary Authority of Singapore (AVA)* to develop non-invasive colorimetric sensors. These sensors react with gases emitted by fruits as they ripen and change colour, allowing handlers and consumers to assess the stage of their ripeness. Tests have been done on fruits such as mangoes and bananas to develop a quantitative database of ripeness correlated with the quality of the fruits, taking factors such as sweetness and firmness into consideration.

EWTCOI challenges norms to create innovations which raise productivity and efficiency.

Key Features & Benefits

- Non-invasive method of detecting fruit ripeness
- Small sensors that can be easily attached onto fruits
- Antibacterial sensors that prevent moisture accumulation
- Detectors that can determine the correlation between each fruit's colour and its other properties
- Potential mobile app development to determine the ripeness level of the fruit through colour detection

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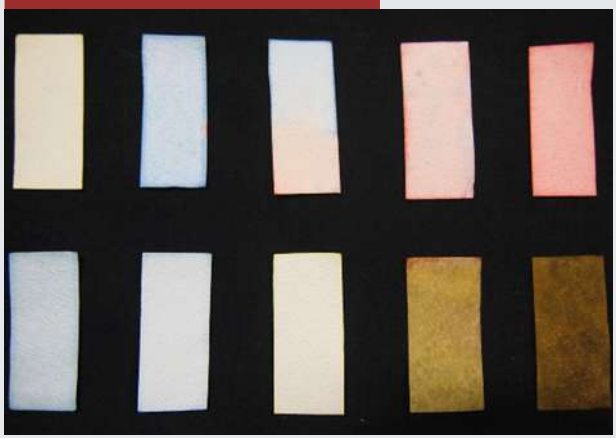
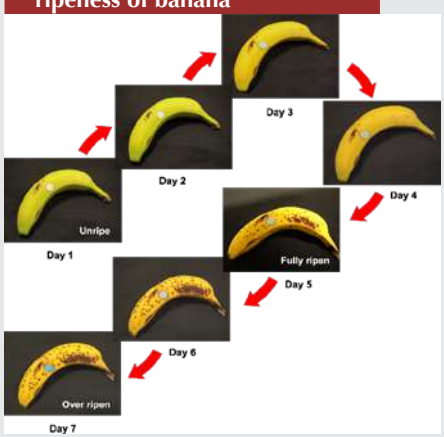
Applications

- Supermarkets
- Post-harvest value chain

Colorimetric Sensor



Change in sensor colour with ripeness of banana



Change in sensor colour with ripeness of mango