

Fruitful Innovations: Compostable Labels and the Science of Stickiness

In this talk, I examine the shift from petrochemical-based fruit labels to fully compostable alternatives, tackling key environmental, regulatory, and technical challenges.

Drawing on produce industry examples, I trace the evolution of Price Look-Up (PLU) labels and the rise of scannable barcodes amid growing sustainability pressures. I highlight innovative compostable label developments that align with UN Sustainable Development Goals and green chemistry principles.

The discussion covers hurdles like paper-label limitations, inconsistent global regulations, and achieving the perfect balance of adhesion, durability, and degradability. I compare compostable labels with plastic films and laser marking across energy use, waste, and supply-chain impacts.

Finally, I call for deeper research into fruit surface chemistry and label-free solutions to drive truly sustainable produce packaging.