PACKAGING SYSTEM FOR BANANAS WITH BIOCHAR-BASED ETHYLENE ADSORBER

ABSTRACT OF THE DISCLOSURE

The present utility model relates to a packaging system for bananas incorporating a biochar-based ethylene adsorber to delay ripening. The system comprises a banana product, a primary polypropylene packaging, and an ethylene adsorber containing a biochar material selected from carbonized rice hull or activated carbon. The primary packaging may have a thickness of about 20 microns and dimensions of about 380 mm × 260 mm. The ethylene adsorber is housed in a perforated polypropylene sachet with a thickness of about 25 microns, an average perforation diameter of about 1 mm, and about 1,064 perforations. The carbonized rice hull may have a bulk density of 0.15–0.19 g/ml and a moisture content of 3.3–3.8%, while the activated carbon may have a bulk density of 0.60–0.66 g/ml and a moisture content of 5.9–6.3%. The ethylene adsorber reduces ethylene accumulation inside the package, maintaining peel greenness and extending storage life.