

Title What storage conditions after ripening induce peel darkening in hybrid bananas?
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Abstract

For fifteen years, CIRAD has been promoting alternative cropping systems, both economically and environmentally sustainable, by developing new varieties of banana which are resistant or tolerant to the main pests and diseases. Triploid hybrids, issued from conventional breeding techniques, are partially resistant to Yellow Sigatoka Disease and Black Leaf Streak Disease, tolerant to lesion nematodes, and the appearance and the taste of these fruits differ from traditional Cavendish varieties. Green fruits of hybrid varieties have been transported in the same conditions (13°C) as Cavendish varieties. When ripe fruits were put out in supermarkets, some dark marks appeared on the banana peel after being handled. This darkening was not observed on the Cavendish peel kept under the same storage conditions. To identify which storage conditions after ripening induce peel darkening in hybrid bananas, we tested 2 varieties: one hybrid, which is sensitive to peel darkening and one Cavendish. They were kept at 13°C and 16°C after ripening. A bruising test on the banana peel was applied at different stages of ripeness. The bruising impact was necessary to induce dark marks on peel. Cavendish bananas were insensitive to peel darkening whatever storage conditions and ripening stages. For the hybrid bananas, dark marks appeared when fruits reached an advanced maturity stage. The exposure at 13°C after gassing significantly increased the sensibility to dark marks. From this preliminary work, a methodology will be proposed to evaluate the new hybrids' sensitivity to peel darkening in order to select varieties suitable for export.