

Application of 1-MCP to delay ripening of 'Mas Kirana' banana

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Acta Horticulturae 1011: 259-263. 2013.

Abstract

The main problem in bananas value chain in Indonesia is the long time distribution, for both export and local market, while the shelf life of bananas is relatively short. 'Mas Kirana' banana will reach full ripening 8 days after harvest. One of the substances that can inhibit the ripening process, hence, the activity of ethylene is 1-methylcyclopropene (1-MCP). The purposes of this research were to determine the shelf life of 'Mas Kirana' banana subjected to 1-MCP application, and to observe the changes in the banana quality characteristics, i.e., colour, hardness and total soluble solids. The 'Mas Kirana' bananas were packed in LDPE bag (one hand for one bag), sealed, injected by 100 µl LCP (liquid cyclo propene), from different ratios of LDA: CMP (2:1, 3:1 and 4:1), and exposure times (24 and 48 h). They were then stored at 25°C and analyzed for hardness, total soluble solids, and color, at initial condition, and every week after for 5 weeks. The best result was obtained by 'Mas Kirana' banana injected with LDA-CMP of 2:1 ratio under 24 h exposure time. The treatment was able to delay ripening of the bananas for five weeks at 25°C. The banana had 1009.33 g hardness, 20°Brix total soluble solids, and color value of 66.94 L, 2.57 a and 56.21 b.