

Title Quality maintenance of ripe pineapple as affected by application of wax associated to 1-methylcyclopropene

Author F.L.C. Machado, R.E. Alves, R.W. Figueiredo and A.S. Teixeira

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Abstract

The greatest hurdle for the export of locally produced ripe 'MD-2' pineapple to overseas markets is the poor visual quality of the fruit, usually affected by shipping time and/or marketing conditions. Quality changes of ripe (shell color with 3/4 yellow surface and degree Brix above 14) 'MD-2' pineapples have been studied after treatment with 1-MCP applied before and after carnauba based wax. The fruit storage environment and the experimental period studied simulated shipping and marketing conditions considering Ceará State in Northeast Brazil as the production site and the Netherlands in Europe as the market place. Evaluation included fruit visual quality, degree of shell yellowing, mass loss, firmness, flesh translucency and color, content of soluble solids (SS), titratable acidity (TA), pH, SS / AT ratio, contents of vitamin C, total and reducing sugar, carotenoids, and flavonoids. Temperature was the key factor for the maintenance of fruit visual quality. Waxing kept fruit visual quality and delayed shell yellowing, but these effects were not improved by application of 1-MCP, neither before nor after waxing. The addition of 1-MCP to the application of wax increased contents of flavonoids and carotenoids toward the end of the storage time, but did not affect flesh luminosity or color, which remained stable throughout storage. TA was reduced by the application of wax, while SS to TA ratio increased. The decrease in total sugar and vitamin C contents, as well as the increase in reducing sugar and pH, were higher after transfer of fruits from shipping to market conditions than throughout the shipping period. Translucency of the flesh seemed to be increased by application of the treatments, but only near the end of the experiment.