

عنوان مقاله:

Effects of 1-Methyl Cyclopropene (1-MCP) on Ethylene Production and Physicochemical Properties of Tomato Type Rapsona

محل انتشار:

سومین همایش ملی علوم و صنایع غذایی (سال: 1393)

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خلاصه مقاله:

Tomato is one of the main agricultural products in Iran. Unfortunately, about 30% of this product is ruined during the period from picking season to the consumption. High capacity of ethylene production is the main reason for rapid ripening of tomato after production. The main purpose behind the present research project was to study the impacts of different concentrations of 1-propene methyl cyclopropen on physicochemical properties of tomato type Rapsona picked during the color fracture. For this purpose 4 groups of tomato samples were at 20°C under 0.35, 0.7, 1 and 1.35 $\mu\text{L/L}$ MCP was dissolved. The fifth group was considered as the control group (without MCP), and then Total soluble solids, acidity, color and ethylene were measured. Experimental design included factorial experiment in a completely randomized design with 3 replications. Results showed that MCP solutions could control the effects of ethylene air around the tomato, so that the concentration of ethylene accumulated in containers of various treatments was significantly reduced. MCP at concentrations of 0.35, 0.7, 1 and 1/35 $\mu\text{L/L}$ reduced the ethylene for about 28, 80, 200 and 420 percent respectively. Moreover, the ripening time increased and led to the delay in the redness of the fruit, so that the R value for the samples treated by 0.35, 0.7, 1 and 1.35 $\mu\text{L/L}$ MCP increased respectively about 5, 15, 30 and 34%. Use of MCP at concentration 0/7 $\mu\text{L/L}$ and contact time of 24 hours, leads to 15-18 days delay in the ripening time of tomato. MCP at 1/35 $\mu\text{L/L}$ delayed the maturity successfully, but due to the lack of color uniformity of the product, is not recommended.

کلمات کلیدی:

Ripening, waste, tomato, Methyl Cyclopropene

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