

**APPLICATION OF 1-MCP IN ORDER TO MAINTAIN THE QUALITY OF
BLUEBERRY FRUITS (*VACCINIUM CORYMBOSUM L.*)**

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Abstract

Blueberry (*Vaccinium corymbosum L.*) belongs to the berry group, and due to the very thin skin, its fresh storage is very limited and the fruits deteriorate relatively quickly. Due to the deterioration of the fruits, blueberries lose their quality and nutritional value, and therefore their market value decreases, as well as the possibility of placing them on the market in general. By inhibiting the synthesis of the hormone ethylene in the fruit, the possibility of storing the fruits, in this case blueberries, is extended, as well as the preservation of quality, nutritional value and the possibility of better transporting the fruit to the market. 1-methylcyclopropene is an inhibitor of the hormone ethylene, and it has no negative effects on fruits and vegetables. 1-Methylcyclopropene is a gas released in cold storages with normal or controlled conditions with the help of an activator. As part of this experiment, tests were carried out on blueberry fruits that were treated with 1-MCP and fruits that were not treated. The parameters that were monitored were the weight of the fruit, the content of soluble dry matter (°BRIX), the composition of total acids, the firmness of the fruit and the amount of released ethylene. The content of soluble dry matter was measured using a refractometer, and total acids were determined by titration. Differences were observed when measuring the released ethylene with the SCS56 device, expressed in ppm, and with the firmness of the fruit, which was measured using a hand-held penetrometer FT327. Differences in the obtained results were observed in the loss of fruit weight, where the dehydration of the fruits that were not treated was greater compared to the treated fruits, average by 9.6%. Significant differences were observed in fruit firmness, where treated fruits maintained a 14,3% higher average fruit firmness compared to untreated fruits.

Key word: blueberry, ethylene, 1-MCP, sugar, acids