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Influence of calcium and nitrogen fertilising to bitter pit progression during storage of apples of the cultivar 'Antej'

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Bitter pit is one of the most widely spread physiological disorders in apple, which damages not only the visual aspect of fruits but also fruit flesh, so causing significant losses to growers. The study was carried out from 2015 to 2016, in a trial planted in 2009, rootstock 'B396', with planting distances 1.5 × 4 m, and with regularly mown grass in alleyways. Drip irrigation is used only in tree rows, in all trial. Fertiliser treatments were provided in four variants: **1** — control, without calcium and nitrogen treatment; **2** — calcium and nitrogen treatment; **3** — calcium, without nitrogen treatment; **4** — nitrogen, without calcium treatment. Calcium was used as foliar spray fertiliser six times per season, nitrogen — only one time on ground (in spring). The content of chemical elements — nitrogen, potassium, calcium and magnesium was determined in apple leaves and fruit. The aim of this study — to find out calcium and nitrogen fertilising influence on the bitter pit progression during storage. The preliminary results confirmed that calcium foliar fertiliser decrease, but nitrogen fertiliser increase bitter pit disorders risk in storage time of apples. Significantly lower bitter pit disorders were found in apples which were not treated with nitrogen and spray calcium fertiliser.

Keywords: foliar spray, fruit quality, physiological disorders

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