

THE INFLUENCE OF ENVIRONMENTAL CONDITIONS ON BIOGENIC AMINES, NITROGEN, NITRITE AND NITRATE CONTENT IN LEAFY VEGETABLES

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Summary. The aim of this study was to investigate the accumulation of biogenic amines – putrescine, histamine, cadaverine and tyramine – in carrots, beetroot, onions, cucumbers and tomatoes. Further, biogenic amine amount dependence on soil, fertilization, outdoor and hothouse conditions, growing phase were established. The amount of biogenic amines in immature root vegetables and outdoor cultivated vegetables were significantly lower ($P < 0.05$) compared to mature and in hothouse cultivated vegetables. The fertilization with nitrogen content dung influenced biogenic amines fraction composition, but had no influence on the total amount of biogenic amines in fresh vegetables. The total amount of biogenic amines in organic carrots was not influenced by the second slender fertilization through leaves. Nitrate content in organic carrots was reduced by 20-70% with potassium fertilizer application through leaves compared to carrots on calcium-magnesium nitrate. The fertilization with calcium-magnesium nitrate manure (Ca:Mg=6:1 solution) resulted in a higher amount of biogenic amines and nitrates in hothouse cultivated vegetables.

Key words: biogenic amines, nitrate, fertilization, organic carrots, leafy vegetables.