Abstract

The Benefits of Applying Compost in Agriculture as Aronia Crops Fertilizer †

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Introduction: This paper presents the preliminary results of a study that aims to emphasize the compost effect, when used as fertilizer, in Aronia melanocarpa crops [1–3]. The study was conducted at the Research Institute for Fruit Growing Pitesti-Maracineni, Arges county, Romania, during the 2019–2020 growing season on Aronia melanocarpa five-year-old plants. Materials and methods: Two different origin composts, A (in 30 and 40 t/ha doses) and M (in 20 and 40 t/ha doses), were administrated, and the results compared to those of untreated plants. Dry weight (DW), total titrable acidity (TTA), total sugar content (TSC), vitamin C (Vit. C), total phenolics, and total anthocyanins content, as quality indicators, were quantified in berries and N, P, K, Ca, Mg, Zn, Cu, Mn, and Fe levels were determined in Aronia leaves. Conclusions: As the ANOVA test results showed, in the first experimental year, the influence of compost treatments was focused on berries and less on vegetative organs (leaves). The M-40 type compost significantly increased berries DW, only if compared with A-type compost treatments, and M-20 reduced TPC and A-type fertilizer, significantly decreasing DW (A-30), TTA (A-40), Vit. C (A-40), TAC (A-40) and increasing total sugar content (A-40) in Aronia berries; compost application reduced the foliar content of Zn (A-30), Cu (M-40), Fe (A-40); by decreasing TPC and TAC, compost fertilization proved a helpful instrument in reducing plant abiotic stress.

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