

Biochemical examination of leaf lettuce, grown in aquaponics

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Abstract

The article at the first time was explored the possibility of using the total antioxidant activity of leafy greens in the practicing the technology of growing it under aquaponics. This technology stands out among other because of high quality organically clean foods with significantly saving water resources, which is an important problem for installations with closed water supply. Food plants feed on bacteria - the waste products of fish, while the water returns to the pond in purified form. Comparison of drying at room temperature and at 105 °C (an indicator of thermal stability) showed increase the total antioxidant activity by 5.25% for the Mahagon salad and 7.18% for the Lollo Bionda salad compared to the calculated values found with taking into account the humidity of the samples. The phenomenon of synergism was fixes for samples dried at room temperature with increasing the total antioxidant activity of the Mahogany salad by 21.07% and 13.62% for the Lollo Bionda salad because of the oxidation of water extracts of salad samples by 3% medical hydrogen peroxide. For samples dried at 105 °C synergism phenomenon were fixed with increasing the activity of the Mahogany salad by 2.97%, while the activity value of the Lollo Bionda salad were not changed. More active growth was observed in salads planted in plastic containers with pebbles than on a mesh cloth, while the length of their leaves increased from 12 mm to 130 mm, the root system became more branched by the end of the experiment, the color of the leaves was bright green.

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