BIOSTIMULANTS EFFECTS ON PHOTOSYNTHESIS PROCESS TO BASIL PLANTS

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Abstract

Biostimulants are natural or synthetic substances that can be applied to seeds, plants, and soil. These substances cause changes in vital and structural processes in order to influence plant growth through the improvement of tolerance to abiotic stresses and increase seed and/or grain yield and quality. In addition, biostimulants reduce the need for fertilizers. Sweet basil is one of the most widespread spices in the world. Its dried leaves are used commonly as a flavoring in many food products. Biostimulants have the capacity to improving quality and quantity of essential oils from basil plants by stimulating physiological processes such as photosynthesis. This research was conducted to determine the effects of two biostimulants on photosynthesis processes of two basil cultivars, in greenhouse conditions. This study was carried in 2021 at the ICAM (*Research Institute for Agriculture and Environment*) Iasi under greenhouse condition. The biological material was represented by two basil cultivars (*Ocimum citriodorum* and *Ocimum basilicum var. gigante napoletano*). The bifactorial experience was conducted in a pots experiment in randomized blocks with three repetitions. The application of biostimulants (*Bactamin* and *Terra-Sorb*) was done every seven days by foliar spraying throughout the vegetation period. Research was focused on the influence of biostimulants on the photosynthesis process. Plants treated with biostimulants had higher values of the total chlorophyll content compared to the control group, which demonstrates an intensification of the photosynthesis process. The yield of the *Bactamin* stimulator gives better results in terms of the increase in chlorophyll content in the varieties studied and as a result, will also increase the production in essential oil.

Key words: basil, biostimulants, photosynthesis