

## Effect of Biostimulants Application on Quali-Quantitative Characteristics of Cauliflower, Pepper, and Fennel Crops Under Organic and Conventional Fertilization

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**Abstract :** Nowadays, the main goal for modern horticultural production is the increase of quality. In the recent years, the use of organic fertilizers or bio stimulants, that can be applied in agriculture in order to improve the quanti-qualitative crop yields, has encountered an increasing interest. The bio stimulants are gaining importance also for their possible use in organic and sustainable agriculture, avoiding excessive fertilizer applications. Consecutive experimental trials were carried out in Apulia region (southern Italy) on three herbaceous crops (cauliflower, pepper and fennel), grown in pots, under conventional and organic fertilization, with and without bio stimulants application, to verify the effects of several bio stimulants (Siapton®10L, Micotech L and Lysodin Alga-Fert) on quanti-qualitative yield characteristics. At the harvest, the quanti-qualitative yield characteristics of each crop were determined. All experimental data were subjected to analysis of variance (ANOVA) and, when significant effects were detected, the mean values were compared using Tukey's test. Results showed great differences of yield characteristics between conventional and organic crops, particularly highlighting a higher yield in the conventional one. Variable results were generally observed when bio stimulants were applied. In this contest no effect were noted on quantitative yield, whereas a light positive effect of bio stimulants on qualitative characteristic, related to the higher dry matter content of cauliflower and the higher soluble solid content of pepper, was observed. Moreover, an evident positive effect of bio stimulants was noted in the fennel due to the lower nitrate content. The latter results are according with most of published literature obtained on other herbaceous crops.

**Keywords :** biostimulants, cauliflower, pepper, fennel

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