

**DIFFERENT CONCENTRATIONS OF BIOSTIMULATORS IMPACT
COLORIMETRIC PARAMETERS OF INTENSIVELY MANAGED TOMATO
(*Solanum lycopersicum* L.) FRUITS**

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Negative impacts of artificial fertilizers on the agro-environment drive farmers to moderate agrochemicals use. Reduction or abandonment of the easily accessible nutrients would cause decreases in yields; alternative solutions, such as soil and plant biostimulators can contribute to balanced nutrient management. Technologies and nutrient supply solutions of organic farming systems can serve as an example for conventional farmers to substitute agrochemicals and to sustain higher yields, as well as favorable nutritional quality and marketability.

In this study, two biostimulants (Kondisol[®], Amalgerol[®]) were applied in three different doses (2, 4, 6 l/ha) in an intensively managed open field tomato (*Solanum lycopersicum* L. cv 'UG 13577') cultivation system, in Szarvas, Hungary (46°53'09"N 20°38'16"E). The applied doses were determined as 50%, 100%, and 150% of the suggested values. Tomato plants were arranged in rows, one plot consisted of 20 plants. Together with control plots, each treatment was done in triplicate; randomized complete block design was applied for the total of 21 plots. Biostimulants were sprayed out in four repetitions, according to the suggested technology of the manufacturers. Intensive tomato cultivation practices were applied according to the cultivation practice of the company owner. After harvesting the fruits in full ripening stage, homogenates were prepared and colorimetric parameters (L*, a*, b*, CIELAB) were measured with a Konica Minolta CR 410 colorimeter in three repetitions. Hue (h°) and chroma C*), as well as a*/b* values were calculated; data were analyzed using one-way analysis of variance (ANOVA) (p<0.05). Chroma values were significantly decreased by using the biostimulants in 2 and 6 l/ha doses. Increases of hue values were experienced after using Kondisol[®] in 2 and 4 l/ha doses. The most favorable a*/b* values were measured in the case of applying biostimulants in 4 l/ha dose. The results suggest that the applied doses had higher impact on the measured colorimetric parameters, than the biostimulant itself. Deviations from the suggested technology can ruin the color traits of intensively managed tomato fruits.