



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## Change in Tissue Mineral Elemental Concentration During Root Initiation and Development of *Salvia officinalis* L. Cuttings and IBA Effects

Filiz AYANOĞLU Mustafa Kemal Üniversitesi, Ziraat Fakültesi, Tarla Bitkileri Bölümü, Antakya, Hatay - TÜRKİYE Cevdet Fehmi ÖZKAN Narenciye ve Seracılık Araştırma Enstitüsü Müdürlüğü, Antalya - TÜRKİYE Abstract : Variations in the tissue elemental concentration in stem cuttings of sage ( *Salvia officinalis*) and the effects of IBA on the variation of plant nutrients and rooting were studied during the initiation and development of adventitious roots. In the study, three different treatments, 100 ppm, 200 ppm IBA application and no IBA application (control) were used on *S. officinalis* L. cuttings and on the 15 th and 30th days their rooting ability was investigated. In addition, macro and micro element concentrations of cuttings were determined on the 1 st day, 15 th day (root initiation) and 30 th day (end of the root development) of cuttings. IBA affected root initiation and rooting considerably. There was no root initiation on the 15 th day in the control treatment (no IBA) and the 100 ppm IBA treatment had the highest root initiation ratio with 35 %. The 100 ppm IBA treatment also had the highest rooting ratio (78.75 %), number of roots (22.35) and the longest roots (10.66 cm). Changes in selected macro and micro element concentrations coincided with root initiation and development of sage cuttings. The N, P and Mn concentrations declined while the Ca and Zn concentrations increased. The K concentration decreased during root initiation and development while the Mg concentration increased. The Fe concentration increased up to root initiation then declined with the root development. There were no changes in Cu concentration during rooting. Except the N and Mg concentrations, IBA did not affect the concentrations of selected macro and micro elements, but during root initiation accumulation of Fe increased with IBA concentrations. Key Words : Sage, *Salvia officinalis*, rooting, root initiation, root development, macro and micro element concentrations

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