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Potassium Potential of the Soils of the Gevaş Region in Eastern Anatolia

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Abstract: Due to its semi-arid climate and sloping topography, Eastern Anatolia has limited soil resources for agriculture, strongly necessitating sustainable land management. Fertile soils occur only in limited areas such as the Gevaş region, where sugar beet is one of the main crops with a particular need for K. Unfortunately, studies on the non-exchangeable (slowly available) and exchangeable K contents, along with soil properties such as clay mineralogy, organic matter content and texture, which are closely related to soil production potential, are not sufficient in the region. Thus, 40 soil samples out of 7 soil series were collected for the determination of the K - potential of the region. Results revealed that the non-exchangeable K (potential) of the Gevaş region soils has predominantly originated from illite and exchangeable K (available) from organic matter and illite. The exchangeable potassium levels for Hasbey II, Yuva, Yemişlik II, Orak and İskele and Yemişlik, Hasbey, Hasbey III, Güzelkonak, Güzelkonak II are determined to be sufficient for the present non-intensive agriculture, but for the Mülk soils there is a need for K fertilisation. The results of this study are expected to partly relieve the low - income farmers of the area from the economical burden of fertilization for K practiced in the present non - intensive agriculture.

Key Words: K - potential, Clay mineralogy, Eastern Anatolia.

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