P 13. DETERMINATION OF TOTAL AND ACTIVE IRON CONTENT OF STRAWBERRY GENOTYPES GROWN IN TURKEY

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ABSTRACT: Strawberry is a fruit that is available in the market when fresh fruits are limited, cultivated in different climatic zones, its investments are returned in short time, is suitable for small family business and preferred for consumption by human being. Due to cultivation of strawberries under various soil environments, producers face several challenges. Central Anatolian region of Turkey with arid and semi-arid climate suffers from iron deficiency due to low organic matter content, high pH and lime characteristics of the soil. This causes chlorosis in plants that are sensitive to iron deficiency. The occurrence of iron deficiency may vary between species and even genotypes. For the determination of iron deficiency in plants, it is not possible to determine the amount of iron available in plants by only analyzing the total Fe content of the plants. Hence, it is necessary to determine the active Fe content which is metabolically used by the plants. For this study, 12 strawberry varieties grown in Turkey with 4 replicates each, were tested under greenhouse conditions to determine their response towards different iron supply, that were 0 ppm Fe and 10 ppm Fe. Results demonstrated that G2, G11, and G12 genotypes had the highest total Fe content during the flowering periodwith respect to Fe fertilization. However, active Fe concentrations were found to be the highest in G4, G1, and G3 strawberry genotypes under Fe application. The results showed that the use of iron-enriched fertilizers increased the active iron content in plants.

Keywords: Strawberry, Iron, Total Fe content, Active Fe content