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THE EFFECT OF NITROGEN AND IRON TREATMENTS ON NITRATE REDUCTASE ACTIVITY IN 'GALA' APPLE (MALUS DOMESTICA. BORKH) CULTIVAR IN V-SHAPED TRAINING SYSTEM

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Apple is one of the most favorite fruits in human life and health. Given the importance of nutrients and their effects on plants metabolism, this study performed to evaluate the effect of nitrogen and iron on nitrate reductase enzyme activity (NRA) in the 'Gala' apple. Treatments include three nitrogen levels (0, 40, and 60 mg/kg per each tree) and three iron levels (0, 5 and 10 mg/l). Parameters measured included leaf nitrogen, NRA, leaf area and chlorophyll content. Results showed that NRA and chlorophyll content were affected by the concentration of nitrogen and iron so that its rate significantly increased by higher levels of treatments. Nitrogen also caused increment in leaf area and nitrogen content. Leaf dry matter was not affected by nitrogen and iron concentration. This study indicated that feeding fruit trees have positive effects on their growth characteristics and NRA.

Keywords: Chlorophyll, Tree physiology, Fertilizers, Plant nutrition, Morphological indices