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EFFECTS OF DIFFERENT IRRIGATION REGIMES ON QUALITY PARAMETERS OF *STEVIA REBAUDIANA* BERTONI

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Stevia rebaudiana Bertoni is a herbaceous perennial belong to Asteraceae family and its originating in the Rio Monday valley, an area in north-eastern Paraguay. The plant is one of the important source of natural sweetening agents with non-calorie that can be used as an alternative to artificial sweeteners. Stevioside and reb A concentration in stevia leaves is known to vary widely, depending on the growing conditions and agricultural practices. It is aimed to determine plant quality parameters in irrigation management of stevia grown under different irrigation regime. In this scope, plants were subjected to control (I100) and 5 different irrigation applications (I120, I80, I60, I40, I20) during 2015 - 2016 and the changes in the stevioside, reb-A, stevioside + reb-A and reb-A/stevioside ratios in the plants were examined. Irrigation schedule was based on A-Class evaporation pan and soil moisture level. The crops were harvested once each year. Quality analysis were performed with post-harvest dried leaves. In both years, the quality parameters varied according to irrigation regimes. In addition, the obtained results showed differences between two years. The results showed that the amounts of reb-A, stevioside and reb-A+stevioside in the second year of plants were maximum in I80 application, minimum in I20 application.

Keywords: Stevia rebaudiana, irrigation regime, stevioside, rebaudioside-A