



Research article

## Assessing effect of potassium silicate consecutive application on forage maize plants (*Zea mays* L.)

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### Abstract

Silicon (Si) beneficial effects reported to improve growth, biomass and yield of wide range of plants including monocotyledonous crops that have the ability to accumulate high amounts of Si in their organs. This research study aimed to assess the effect of using consecutive rates of potassium silicate foliar sprays on forage maize plants. A field experiment performed to achieve this purpose by applying three foliar application treatments of Si as potassium silicate source. Results denoted that weekly foliar spraying of potassium silicate in a gradual increased series of concentrations (5, 6, 7, 8, 9, 10 cm<sup>3</sup>/L) resulted in a significant effect on all growth parameters: plant height, stem diameter, leaf area, no. of leaves/plant, fresh and dry weight of leaves and stem of maize. Also, the same treatment helped improving some photosynthetic pigments, macro and micro nutrients by plants which translated finally to an increment in forage maize yield as compared with the using of weekly constant rates 5cm<sup>3</sup>/L or 10cm<sup>3</sup>/L and the control.