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Effect of soil humidity deficit on development of sesame (*Sesamum indicum* L.)

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Abstract

Trials with sesame (*Sesamum indicum* L.) variety "PIRITU" and the induced "107412" mutant, were conducted to study the effect of the deficit of humidity on yield and other agronomical characteristics, in soils surrounding Maracaibo. The different levels of humidity were achieved watering each: 3,5 days as the control (F1), 7 days (F2), 14 days (F3), 21 days (F4) and 28 days (F5). A drastic reduction of the biomass and yield was observed when water deficit was increased (F3, F4, and F5), with highly significant differences for both substances ($P \leq 0.01$). The mutant 107412 turned out to be more resistant to insect attack , more precocious in the beginning of the flowering and with a smaller vegetable covering that could permit a higher plant density. The biggest yield value (574 Kg/ha^{-1}), was obtained with weekly watering (F2) and the mutant 107412, for a vegetative cycle shortened to 90 days (20 days less). The values of consumption of water were compared by an analysis of simulation of rains with a probability of occurrence of 70%, thus determined the possibility of growing the mutant "107412" during the second cycle of rains (September - November), and obtaining probable yields to 600 Kg/ha^{-1}.

Key words: sesame, frequency of irrigation, deficit of humidity, mutant.

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