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Evaluation of some flax genotypes under water stress conditions.

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ABSTRACT

Two-field experiments were carried out at El-Gemmeiza Agricultural Research Station, Gharbiua Governorate during the two successive seasons 2015/16 and 2016/17. The objective of this work was to evaluate the performance of some flax genotypes under different irrigation regimes. A split plot design with three replications was used. The main plots were assigned for the irrigation treatments; and ten genotypes of flax were plotted in sub–plots. The obtained results indicated that, irrigation treatments (three irrigations after life irrigation and two irrigations after life irrigation) recorded the highest straw yield per plant, biological yield per faddan, straw yield per faddan, number of capsules per plant, number of seeds per capsule, seed yield per faddan, oil yield per faddan, fiber length and total fiber percentage without significant variation between them. In addition, the highest plant height and technical stem length were scored by irrigation treatment (three irrigations after life irrigation), while the thickest stem diameter and the highest number of apical branches per plant, seed index and fiber yield per faddan were obtained from irrigation treatment (two irrigations after life irrigation). Also, one irrigation after life irrigation treatment recorded the highest oil percentage; whereas irrigate only life irrigation recorded the finest fiber.

Regarding genotypes, Sakha 3, Sakha 4 and Giza 9 genotypes scored the tallest plant height and the highest technical stem length, fiber length, total fiber percentage, fiber yield per faddan and fiber fineness with insignificant differences with Gieza11 and Geiza 12 regarding plant height and technical stem length. On the other hand, Sakha1, Sakha 2, Sakha 5, Sakha 6 , Giza11 and Giza12 gave the highest number of apical branches per plant, number of capsules per plant and number of seeds per capsule. Meanwhile, Giza11 and Giza 12 recorded the highest seed yield per faddan, oil yield per faddan and seed index. Finally, Sakha 5 gave the highest oil percentage and oil yield per faddan.