ACADEMIC INN INTERNATIONAL

ISSN NO : 2523-1189

Journal of AGRICULTURAL AND RURAL RESEARCH

open access

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Mona M. Abd El-Wanis, Heba H. Mohamed and Azza M. Salama

To cite the article: Mona M. Abd El-Wanis, Heba H. Mohamed and Azza M. Salama (2020), Magnetic and sea water influence on seedling characteristic of three genera of solanaceae, *Journal of Agricultural and Rural Research*, 4(2): 94-114.

Link to this article:
http://aiipub.com/journals/jarr-200403-010099/

Article QR

Journal QR

MAGNETIC AND SEA WATER INFLUENCE ON SEEDLING CHARACTERISTIC OF THREE GENERA OF SOLANACEAE

[1] Mona M. Abd El-Wanis, [1] Heba H. Mohamed and [2] Azza M. Salama

[1]Protected Cultivation Dept., Horticulture Research Institute, Agriculture Research center

[2]Department of Agricultural Botany, Fac. of Agric., Cairo Univ., Giza, Egypt

ARTICLE INFO

Article Type: Research
Received: 25, Mar. 2020.
Accepted: 08, April. 2020.
Published: 08, April. 2020.

Keywords:
anatomy, eggplant, magnetized, pepper, saline water, tomato.

ABSTRACT

This experiment was carried out during the fall seasons of 2017 and 2018 to study the effect of magnetic and non- magnetic saline water on seed germination percentage, the time required to germinate and seedling productivity of tomato, sweet pepper and eggplants and behavior of seedlings growth irrigated by different concentrations of seawater. Results showed that with the increasing of saline water concentration a significant reduction in germination percentage was observed, the contrary occurred with the time required for seed germination of the tested plants compared to control. Irrigation with magnetized water significantly increased the germination percentage and the time required of germination was decreased. In the nursery experiment, irrigate the seedlings with magnetized water significantly increased the length of shoot and root, leaf width and number, fresh and dry weight of seedlings than those irrigated with non-magnetized water. In addition magnetized water reduced the accumulation of Na and proline and increased the leaves K, Ca and Mg contents. As a result of salinity, all the anatomical characters recorded the lowest values, especially at 3500 ppm salinity level. The application of magnetic water enhanced the anatomical characters of tomato, pepper and eggplant leaf and stem compared to plants irrigated with non-magnatized water.