International Journal of PharmTech Research
CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563
Vol.9, No.7, pp 24-32, 2016

Comparison of yeast extract and Nicotinaminde foliar applications effect on quinoa plants grown under sandy soil condition

[1]Abdallah M.M.S., [2]El Habbasha S.F., and [3]El Sebai T.

[1]Botany Department, Agriculture and Biology Division, National Research Centre
[2]Field Crops Research Department, National Research Centre, El Dokki, Giza, Egypt
[3]Agricultural and microbiology Department, Agriculture and Biology Division, National Research Centre, 33 El Bohouth St., Dokki – Giza - Egypt- P.O. 12622

Abstract : Two field experiments were conducted at the Research and Production Station, National Research Centre, El-Nubaria Province, El-Behira Governorate, Egypt, during the two successive winter seasons of 2013/2014 and 2014/2015, to study the foliar application with either dry bread yeast (DBY) fungi or Nicotinaminde on growth characteristics, yield and yield attributes and some chemical constituents of quinoa plants grown under sandy soil condition. The plants were sprayed twice during vegetative growth at 45 and 60 days after sowing with yeast (5, 10 and 15 g/l) or Nicotinaminde (50, 75 and 100 mg/l), while control plants were sprayed with distilled water. The obtained results show that increasing the concentration either yeast extract or nicotinamide treatments were significantly differ in the studied characters i.e., number of leaves /plant, length of shoot /plant, weight of fresh shoot/plant, dry weight of shoot/plant, fresh weight of root /plant except, dry weight of root/plant. The results of photosynthetic pigments parameters illustrate that different photosynthetic pigments as chlorophyll a, b, carotenoids as well as total pigments were positively significance responses to the different foliar application with nicotinamide and yeast extract foliar application at 45 and 60 days after sowing during the both assigned seasons. Increasing of yeast foliar application concentrations from 0 to 15 g/l increased shoot length, fruiting branches number /plant, shoot weight/ plant and seed weight /plant by 81.21, 75.90, 69.05 and 91.09 %, respectively compared to control treatment while increasing the nicotinamide foliar application concentrations from 0 to 100 mg/l increased the studied characters by 71.67, 50.11, 55.77 and 77.00 % for shoot length, fruiting branches number /plant, shoot weight/ plant and seed weight /plant, respectively. Significant differences among different treatments on the studied characters of chemical constituents were observed except, seed oil content, filavonoids % and DPPH.
Kay words: Quinoa – dry bread yeast – nicotinamide- growth characters- photosynthetic pigments- chemical constituents.

*****