Journal

J. Biol. Chem. Environ. Sci., 2017, Vol. 12(2): 487-506
http://biochemv.blogspot.com.eg/

STUDY THE POSSIBILITY OF ENHANCING THE GROWTH, YIELD AND ESSENTIAL OIL OF ANISE PLANT BY USING SOME ORGANIC FERTILIZATION AND NATURAL SUBSTANCE TREATMENTS.

Ali, A. F., E. H. Hamad, and M. H.Hemdan,

Hort. Dept., Fac. Agric. Al-Azhar Univ. Assiut. Egypt

ABSTRACT

A field experiment was conducted during the two successive seasons of 2013 / 2014 and 2014 / 2015 to investigate the influence of organic fertilization and some natural substances as well as their interaction on the growth, yield and essential oil % and yield of anise plant.

Filter mud as organic manure was applied at the rates of 0, 5, 10 and 15m^3/fed. and spraying the plants with seaweed extract at 0, 1, 2 and 3ml/l and royal jelly at 0, 0.25, 0.50 and 0.75 g/l. The obtained results cleared that all filter mud levels, mostly led to an increase in herb dry weight / plant, number of umbels / plant, fruit yield / plant and / fed. essential oil %, essential oil yield / plant and / fed. and the highest values were detected due to adding the high level of filter mud (15 m^3/fed.). A foliar spray with the two examined natural substances at all concentrations augmented these traits and seaweed extract at the high one (3 ml/l) registered the highest values.

The interaction had significant effect on most of the studied traits and most combined treatments augmented these parameters. The most effective interaction treatments were noticed by using filter mud at the high level (15m^3/fed.) in combination with seaweed extract at the high concentration (3 ml/l) compared to other combination treatments. From the revealed results, it could be recommended to supply anise plants with filter mud at 15 m^3/fed. plus foliar spray with seaweed extract at 3 ml/l to enhancing the growth, fruit yield and essential oil yield under this invesitigation conditions.

Key words : anise, filter mud, seaweed extract and royal jelly.