بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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POTTED GERBERA GROWTH AND FLOWERING CULTIVATED UNDER DIFFERENT FERTILIZATION AND BIO-STIMULANT

By

ISLAM ABD-ELMONEAM AHMED ALI
B.Sc. Agric. Coop. Sci., Agric. Higher Institute for Agric. Coope., 2012

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Ain Shams University

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Under the supervision of:

Dr. Ayman Farid Abou-Hadid

Prof. Emeritus of Vegetable Crops, Department of Horticulture, Faculty of Agriculture, Ain Shams University (Principal supervisor).

Dr. Soheir El-Sayed Mohamed Hassan

Prof. Emeritus of ornamental, medicinal and aromatic plants, Department of Horticulture, Faculty of Agriculture,Ain Shams University.

Dr. Mohammed Hewidy Mahmoud

Lecturer of ornamental, medicinal and aromatic plants, Department of Horticulture, Faculty of Agriculture, Ain Shams University.

ABSTRACT

Islam Abd El-Moneam Ahmed Ali Taha: Potted Gerbera Growth and Flowering Cultivated under Different Fertilization and Bio-stimulant. Unpublished M. Sc. Thesis, Department of Arid Land Agricultural graduate studies and Research Institute (ALARI), Faculty of Agriculture, Ain Shams University, 2021.

The current study aimed to investigate the effect of growth medium composition, type of chemical fertilization and biostimulant treatments on growth and flowering of Gerbera (*Gerbera jamesonii cv.* Jaguar Yellow) plant under unheated plastic greenhouse conditions. This study was carried out for two successive seasons of 2016/2017 and 2017/2018 at the farm of the Arid land Agriculture graduated studies and Research Institute (ALARI), Shoubra Elkheima district, Qalyobia governorate, Egypt.

The experiment was laid out in a completely randomized design (CRD) with 3 replicas, and results have been statistically analyzed by the method of analysis of variance (ANOVA).

Freshly extracted gerbera seedling were planted into pots filled with peatmoss + sand (1:1), peatmoss + sand + vermicompost (1:1:1), peatmoss + sand + compost (1:1:1) with or without biostimulants (250ml of *Azotobacter* + *Azospirillum* mixture) and either slow-release NPK (4.2g/plant) or fast-release NPK (2.5g/plant) fertilizer, to determine the effect of growing medium, chemical fertilizer and biostimulant on potted gerbera production, growth, and flowering characteristics.

Results indicated that medium combination of peatmoss + sand + vermicompost (1:1:1) with biostimulant, regardless of the fertilizer type, gave significantly highest records in all measurements, compared to all other combinations. In terms of vegetative parameters, plants grown in medium composed of peatmoss + sand + vermicompost (1:1:1) with fast-

release fertilizer and biostimulant (T4) showed significantly higher measurements in number of leaves per plant, plant height, leaf width, leaf greenness, and leaves fresh and dry weight. Number of daughter plants/pot was higher in same growth medium combination with biostimulant but with slow-release NPK fertilizer (T6). Treatment composed of peatmoss + sand + vermicompost (1:1:1) with biostimulant with either slow or fast-release NPK fertilizer (T4 and T6) produced the highest records in roots parameters (fresh and dry weight, length, and number/plant). Flower measurements were also at its highest in the same combination, regardless of the NKP fertilizer type (T4 & T6). In conclusion, vermicompost and biostimulant application had significantly higher influence on all measured parameters compared to compost and no-biostimulant, respectively.

Key words: *Gerbera jamesonii*, Vermicompost, Compost, Biostimulant, *Azotobacter*, *Azospirillum*, Slow-release fertilizer, Fast-release fertilizer, NPK, growing medium.

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