The effect of plant spacing on saffron (Crocus sativus L.) production in Egypt


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INTRODUCTION

Saffron (Crocus sativus L., Iridaceae) is the world’s most expensive spice selling for over $ 2000/kg. Saffron is composed of the dried, dark-red stigmas of Crocus sativus L., and is currently used mainly for flavouring and colouring food. This spice is also being investigated for therapeutic use as an anticancer agent, but its low productivity, 6 kg saffron/hectare from about 900,000 flowers, limits availability. Recent studies also show that saffron has other health benefits in learning and memory processes, as an agent for antidepression, antitussive, antioxidant and for neuroprotection. The red gold; saffron spice (Crocus sativus L.) would be one of the plants most suited for cultivation on Egypt’s reclaimed desert lands. Last year in the market the price for 1kg of saffron spice reached ~US$ 5,000. Here we report for the first time the cultivation of saffron in Egypt in particular at South Tahrir. The effect of plant spacing on saffron production was investigated under reclaimed desert lands cultivation conditions in Egypt.

AIM OF STUDY

The presented work aimed to produce high quality saffron spice through a cultivation approach using differing plant spacings on reclaimed desert land in Egypt.

MATERIALS AND METHODS

A field experiments were carried out during the successive seasons of 2009-2011 at the premises of the Desert Development Center of the American University in Cairo, on reclaimed desert lands in Egypt to study the effect of plant spacing on saffron (Crocus sativus L.) production in reclaimed desert lands in Egypt. Corms of Crocus sativus L. (Iridaceae) of Spanish origin (accession #: BCU001584 from Minaya, Albacete, Spain) were provided by Professor J.A. Fernández (Biotechnology IDR, University of Castilla-La Mancha, Albacete, Spain). Three different plant spacings between corms as S1: 25cm, S2: 20cm or S3: 15cm were studied.

RESULTS & DISCUSSION

• The plant spacing of 25cm increased the number of leaves
• The maximum mean values of leave length were obtained as a result of 15cm plant spacing
• The number of sprouts per corm did not vary in relation to the different plant spacings

The experimental design was planned in the complete randomized block design. The combined data were statistically analyzed according to the procedure of Snedecor and Cochran (1980) where the means of the studied treatments were compared using LSD testing at 0.05 significance level.

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