THE ASIAN JOURNAL OF HORTICULTURE
Volume 7 | Issue 2 | December, 2012 | 473-477

Research Paper

Article history :
Received : 11.07.2012
Revised : 18.10.2012
Accepted : 18.11.2012

Effect of plant biostimulants on flowering, fruit drop, yield and return bloom of pomegranate cv. KANDHARI KABULI

AZIZ RAHMAN ABUBAKAR[1], NAIRA ASHRAF AND MOIEZA ASHRAF[2]

Members of the Research Forum

Associated Authors:
[1]ATVI, KABUL (AFGANISTAN)

[2]P.G. Department of Environmental Science, Kashmir University, KASHMIR (J&K) INDIA

Author for correspondence :
NAIRA ASHRAF
Department of Fruit Science, S.K. University of Agricultural Sciences and Technology (K), Shalimar, SRINAGAR (J&K) INDIA
Email : naira.ashraf@gmail.com

ABSTRACT : In order to study the effect of foliar application of plant biostimulants on flowering, flower drop, yield and return bloom of pomegranate cv. Kandhari Kabuli**,** a field experiment was conducted in the pomegranate experimental block of the Department of Fruit Science, Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan, Himachal Pradesh. The experiment consisted of 19 treatments with three replications. The pomegranate trees cv. Kandhari Kabuli under investigation were subjected to different concentrations of biostimulants *viz.* Vipul (TRIA) (5 ml/l, 10 ml/l, 15 ml/l), Spic cytozyme (1 ml/l, 2 ml/l, 4 ml/l), Homobrassinolides (Godrej Double) (0.5 ml/l, 1 ml/l, 1.5 ml/l), Biozyme Crop Plus (1 ml/l, 2 ml/l, 3 ml/l) and Vipul + Homobrassinolides (0.5 + 5 ml/l, 1 + 5 ml/l, 1.5 + 5 ml/l, 5 + 0.5 ml/l, 5 + 1 ml/l, 5 + 1.5 ml/l). The results revealed that the plant biostimulants significantly improved flowering, yield, return bloom and reduced the fruit drop. The highest flowering, yield/plant and minimum fruit drop was recorded in trees treated with Spic cytozyme (4 ml/l) whereas the highest return bloom was observed with the application of Vipul (15ml/l).

KEY WORDS : Pomegranate, Flowering, Yield, Return bloom, Biostimulants

HOW TO CITE THIS ARTICLE : Abubakar, Aziz Rahman, Ashraf, Naira and Ashraf, Moieza (2012). Effect of plant biostimulants on flowering, fruit drop, yield and return bloom of pomegranate cv. KANDHARI KABULI, *Asian J. Hort.*, **7**(2) : 473-477.

Pomegranate (*Punica granatum* L.)is a small tree cultivated in Iran, Spain, Egypt, Baluchistan, Russia, France, Argentina, Iraq, Afghanistan and India. It also exists in wild/semi-wild in Syria, Mt. Carmel, Himachal Pradesh and Jammu and Kashmir (Himalayan ranges of mountains) of India. Generally, flowering in pomegranate is characterized as having both hermaphroditic (bisexual) flowers and functionally male flowers on the same plant, a condition referred to as andromonoecy (Wetzstein *et al*., 2011). In Himachal Pradesh, pomegranate is mainly cultivated under rainfed conditions and flowering occurs in April-May, when high temperature is an issue. Application of plant growth regulators can influence the sex expression and distribution of flower types in pomegranate. Gibberellic acid induced more male flowers and reduced hermaphrodite flowers, whereas ethrel and maleic hydrazide induced more hermaphrodite and fewer male flowers. Optimizing cultural conditions may be a means to promote the development of greater numbers of bisexual flowers with high vigor to obtain maximum fruit set and yield (Wetzstein *et al*., 2011).Vipul is a commercial formulation of triacontanol (TRIA) which is a long chain 30 carbon primary alcohol and occurs in nature as a natural constituent of bee wax and plant waxes. Biozyme Crop Plus is a commercial formulation of seaweed extract (*Ascophyllum nodosum*), enzymes and hydrolyzed proteins whereas, Spic cytozyme contain gibberellic acid, auxins, cytokinins, seaweed extract (*Ascophyllum nodosum*), hydrolysed proteins and trace elements. Godrej Double is a commercial formulation having homobrassinolides, belongs to brassinosteroids group of plant hormones. Brassinosteroids are relatively new endogenous phytohormones which was first isolated from pollen grains of *Brassica napus*, participate with other plant hormones in the regulation of numerous aspects of plant development, including shoot and root growth, vascular differentiation, fertility, and seed germination. The present study was therefore, carried out to find the suitability of these chemicals on the flowering and production of pomegranate.