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Seed production in marigold with special reference to seasons

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ABSTRACT

The present study was conducted during 2008-09 to study the effect of seasonal influence on seed yield and quality in marigold and results revealed that significantly tallest plants (90.80cm), more number of primary branches (11), number of flowers per plant (32), number of seeds per plant (165), seed yield per plant (14.51g) and test weight (2.63g) were recorded during *Kharif* season. Whereas, significantly maximum flower size (6.55cm), highest germination (88.40%), seedling length (12.46cm), seedling dry weight (0.994mg), vigour index I (1102) and vigour index II (88) were recorded in *Rabi* season in case of African marigold. In case of French marigold, tallest plants (38.61cm), more number of flowers per plant (54.90), flower yield per plant (96.49g), number of seeds per flower (44.00) and seed yield per plant (4.86g) were recorded during *Kharif* season. Whereas, more flower size (4.03cm) and better seed quality parameters *viz.*, germination (86.30%), seedling length (10.73cm), seedling dry weight (0.89mg), vigour index I (928) and vigour index II (77) were recorded during *Rabi* season.

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Key words : Marigold, Seasons, Seed yield, Seed quality

INTRODUCTION

Marigold is widely cultivated as bedding plant in landscape design. Besides, the pristine used as loose flower, marigold occupies anthelmintic, analgesic, antiinflamatory, aromatic, bronchodilatory, digestive, diuretic, emmenagogue, sedative and stomachic properties. It is also widely used in perfumes, herbal gulal, insect and nematode repellent, organic manure, nutrient supplement for poultry feed, anticarcinogenic agent, antioxidant in retinotherapy and for *Tagetes oil* extraction. In order to make its successful cultivation, the knowledge and performance of different genotypes is essential and the genotypes which perform better than others are only to be grown commercially in a particular location rather than to go for growing all the genotypes (Singh and Kumar, 2008).

Seed is considered as the best propagating material for annual flowers like marigold. But due to lack of scientific information on seed production of marigold, the large scale production of seed is limited. Though the seed yield and quality are primarily a genotypic character, it is greatly influenced by the seasons and climatic factors. These influence both vegetative and reproductive phases of the plant, ultimately leading to variation in performance. There is a general feeling that marigold can be grown throughout the year except in very cold winter when the plants are likely to be damaged by frost. Desai (1962); Randhawa and Mukhopadhyaya (1986), Swarup (1989) and Arora (1990) reported as a monsoon crop, while Yadav (1992) reported its cultivation is possible in all the three seasons. Hence, the present investigation was planned with an objective to study the influence of sowing season on seed yield and quality of marigold spp.

MATERIALS AND METHODS

The field and laboratory experiments were conducted during *Kharif* and *Rabi* 2008-09 at floriculture unit, Department of Horticulture and Department of Seed Science and Technology, University of Agricultural Sciences, Bangalore. The topography of the experimental site was fairly uniform. The soil type was of red sandy loam with pH of 7.2. Seeds of marigold cv. Pusa narangi (African) and Chintamani local (French) were procured from the Department of Horticulture and raised in nursery bed by using coir pith and vermicompost as filler materials. Experimental site was prepared well to obtain fine tilth. Fifty per cent of N and entire quantity of P and K were applied as basal dose and mixed well with soil. Top dressing with N was done at 15 days and 30 days after first application. Irrigation was given timely at 3-4 days

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