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Impact of different plant densities on quality cut spike production in Tuberose (*Polianthes tuberosa* L.) Rashmita Toppo

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A n experiment was conducted at the Horticultural Research Farm, Mondouri, Bidhan Chandra Krishi Viswavidyalaya during March 2011 to March 2012, to find out the impact of plant densities on production of cut spike in tuberose (*Polianthes tuberosa* L.) cv. Prajwal. Tuberose bulbs of medium (2.5-3 cm) sized were planted in nine different spacing viz. 10x15 cm, 30x30 cm, 15x30 cm, 30x20 cm, 20x20 cm, 30x45 cm, 20x45 cm, 45x45 cm and 45x60 cm as different treatments with four replications laid out in RBD (Randomised Block Design) and the results were analyzed statistically. Significant difference in treatment effects were found in case of number of leaf, number of floret, spike diameter, spike weight, yield, blooming period (field life) and chlorophyll content. Among all the treatment maximum plant height (80.03cm) and higher leaf length (63.76 cm) were observed with the spacing 20×20 cm whereas the treatment 45×60 cm showed the highest leaf number (45.06). The highest leaf area and leaf length were recorded with 10x15 cm. The spacing of 30×30 cm recorded optimum plant height, number of leaves, leaf breadth, leaf area, number of spike/plot, spike length, spike diameter, number of florets/spike and weight of ten florets. The maximum blooming period and vase life were observed with the spacing 45×45 cm and 45×60 cm. From these results it can be concluded that tuberose cv. Prajwal may be planted at spacing of 30×30 cm was considered to be better treatment among all for quality cut flower production.

Biography

Rashmita Toppo is pursuing her Ph.D. in Floriculture and Landscaping has from Orissa University of Agriculture and Technology, Bhubaneswar. She has completed her M.Sc. (Gold medal) in Horticulture at the age of 23 years from Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, West Bengal during 2012.

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Performance of biopesticides, botanicals and chemicals on growth and yield parameters of wheat in relation to the management of seed-borne infection of *Bipolaris sorokiniyana*

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The use of biological agents as biopesticides in agriculture is becoming an increasingly important alternative to chemical control against microorganism. Microbial biopesticides represent an important option for the management of plant disease. A study was undertaken to explore the fungicidal potential of certain plant parts and biocontrol treatment with Trichoderma harzianum against black point incidence of wheat crop. Pot experiments were conducted during Rabi season to control the black point incidence of wheat caused by Bipolaris sarokiniana and Alternaria alternata with two organic formulation of T. harzianum along with other plant extract treatment. It was observed that seed priming with mycelia preparation of the antagonist T. harzianum at 4 g/kg of seed and organic formulation at the antagonist in vermicompost along with 20% neem cake (w/w) gave best results for disease control followed by plant extracts and talc base formulation and seed treatment with carbendazim at 2 g/kg of seed. Seed priming with mycelial mat of the antagonist showed improvement in the growth and yield parameters viz. the length, fresh and dry weight of root and shoots and the no. of grains for each spike. Soil application of Trichoderma in vermicompost + 20% neem cakes gave better disease control over the others. Natural products produced by plants are definitely a new source of potential pesticides as different botanicals in the present studies gave encouraging results. These plants can possibly be exploited in the management of seed borne pathogenic fungi and prevention of bio deterioration of wheat in an eco-friendly way. The use of fungicides has resulted in the buildup of toxic chemicals potentially hazardous to man and environment and also in the buildup of resistance by pathogens. Biocontrol agents like, Trichoderma, has been proved as a potential biocontrol agent because of their ability to reduce the incidence of disease and found to be safe for humans and environment health. Therefore, the development of bio pesticide which provide potential benefits to agriculture and public health and which is an ecofriendly alternative to chemical pesticides has been focused as a viable pest control strategy in recent years.

Biography

Neha Pathak completed her M.Sc. in 2007. She was enrolled in MPhil in 2008 and got registered for Ph.D. in 2011. Her area of research is in plant pathology and plant protection. She got many research papers published in internationally reputed journals.

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