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Short communication

Evaluation of annual statice (*Limonium sinuatum* L.) cultivars

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ABSTRACT

A field study was conducted during *rabi* season of 2003-2004 to evaluate the potential of statice cultivars as cut flower crop in the field of Department of Floriculture and Landscape Gardening, K.R.C. College of Horticulture, Arabhavi. The experiment was laid out as a Randomised Block Design with four replications. The panicles of each variety were harvested when calycys of individual flower have mostly opened and showing colour. The cultivar Turbo White recorded maximum plant height (21.78 cm), panicle length (80.94 cm), stem diameter (0.61 cm), no. of leaves (186.60), maximum fresh weight of panicles (530.09 g/plant), plant spread 62.15 cm^2 and remained superior over others. The results are in agreement with the findings of Angadi (2000) in China aster. Maximum panicle production per plant (25.64) was recorded in cv. Turbo White, which was on par with the cultivar Turbo Carmine (22.54). The results were in line with the findings of Kumar *et al.* (1998) in annual statice Turbo White. The cultivar Turbo White was good in quality parameters by recording maximum panicle length, girth and number of branches per panicle. It was also vigorous in vegetative growth. Therefore, the cultivar could produce better quality panicles and found to be suitable for semi arid regions.

Key words: Evaluation, annual statice, growth, yield, quality.

Limonium (*Limonium sinuatum* L.) is the modern name of 'Statice' and sometimes it is also called as 'Sea Lavender'. Limonium belongs to the family *Plumbaginaceae* and genus *Limonium*. It is native of Europe, Mediterranean regions, Asia, the Canary Islands and Africa. Limonium adds variety in terms of colour, flower size and shape to the beautiful world of flowers. The production of annual statice is of special interest as the flowers can be used either fresh or dried and are available in an assortment of colours. The plants are grown in the border, rockery and for cut flowers in greenhouses. They are used as filler in baskets and other flower arrangements. The flowers may be dried and used as everlasting ones. Eventhough the crop has great significance in the market, there are some bottlenecks associated in its cultivation. Non-availability of planting material, lack of improved varieties and high market fluctuation are some of the problems often faced by the farmers. Efforts in the field of crop improvement lead to the introduction of different cultivars having different forms and colours. Although general cultural information for this crop is available, very few studies describe the flowering habits and yield potential of various cultivars. Therefore, a systematic attempt was made to evaluate the varieties for their performance during 2003-04 *rabi* (November) season under Ghataprabha Command Area in the field of K.R.C. College of Horticulture, Arabhavi during the year 2003-04.

The experiment consisted of five cultivars of annual statice collected from M/s. Indo American Hybrid Seeds, Bangalore. The experiment was laid out as Randomised Block Design with four replications. Healthy and uniform sized seedlings of 45 days old were transplanted in the field at a spacing of 60 cm x 45 cm with one seedling per hill. Recommended dose of nitrogen, phosphorus and potassium (100:100:100 kg/ha) were applied. At the time of transplanting, half the dose of nitrogen and full dose of phosphorus and potassium were applied as basal dose and the remaining dose of nitrogen was top dressed at 30 days after transplanting.

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The panicles of each variety were harvested when calycys of individual flower were almost opened and their colour was seen. The data collected on various vegetative and flowering parameters from the five randomly tagged plants in each plot (2.6 m x 2.25 m) were subjected to statistical analysis and the significance level among treatments was compared at 5% probability level.

The cultivars differed significantly with respect to plant height (Table 1). The cultivar Turbo White recorded maximum plant height (21.78 cm) and remained superior over others, while the cv. Turbo Blue recorded minimum plant height (14.08 cm) and was followed by Turbo Peach (14.64 cm) whereas, the cv. Turbo Yellow (17.69 cm) and Turbo Carmine (16.24 cm) were medium in plant height.

Among the cultivars, Turbo White recorded significantly higher plant spread (62.15 cm^2), while Turbo Peach recorded minimum spread (47.67 cm^2) and was on par with Turbo Blue (49.96 cm^2). Turbo Carmine and Turbo Yellow were at par by recording 57.10 cm^2 and 55.97 cm^2 per plant, respectively. The results are in agreement with the findings of Angadi (2000) in China aster.

Leaves are the functional units for photosynthesis on which growth and yield are greatly dependent. Number of leaves was significantly more in cv. Turbo White (186.60), while it was least in Turbo Blue (128.20) followed by Turbo Peach (129.07). Production of more leaves in Turbo White might be due to vigorous vegetative growth in terms of more plant height and spread. Similar variation in leaf production among cultivars has been reported previously by Vijayalaxmi (1998) in marigold. The cultivars of annual statice differed significantly for number of panicles produced per plant and plot. Maximum panicle production per plant (25.64) was recorded in cv. Turbo White, which was on par with Turbo Carmine (22.54). The least panicle production was observed in Turbo Peach (16.68). Similar trend was observed for panicle yield per plot also. The superiority of the cv. Turbo White was mainly due to higher leaf number. The lesser number of panicles in Turbo Peach was possibly due to the poor performance during vegetative phase. The results are in line with the findings of Kumar *et al.* (1998) in annual statice.

The cultivars differed significantly in fresh weight of panicles per plant. Turbo White recorded maximum fresh weight of panicles (530.09 g/plant) and cv. Turbo Yellow weighed minimum (290.60 g/plant). The cv. Turbo Carmine produced 402.71 grams of fresh panicle per plant and stands next best to Turbo White, while cv. Turbo Blue (324.69 g/plant) and cv. Turbo Peach (318.47 g/plant) were at par. The increased flower yield in cv. Turbo White was due to increased number of panicles per plant. Similar variation in yield among cultivars was also reported by Whipker and Hammer (1994) in annual statice.

Panicle quality is more precisely measured in terms of panicle length, girth and number of branches per panicle. Significant variations were observed among the cultivars with respect to panicle length. Among the cultivars, Turbo White produced the largest panicle (80.94 cm), while Turbo Blue produced the shortest panicle (28.47 cm). The cvs. Turbo Yellow (59.42 cm) and Turbo Carmine (52.80 cm) stored next best ones to cv. Turbo White. Stem diameter varied significantly, which ranged from 0.39 cm to 0.61 cm. Cultivar Turbo White recorded maximum stem diameter (0.61 cm) and cv. Turbo Peach, the minimum (0.39 cm). The cvs. Turbo Carmine (0.45 cm), Tubro Blue (0.43 cm) and Turbo Yellow (0.41 cm) were at par. Similarly, number of branches per panicle also differed significantly among the cultivars. It ranged between 2.67 in Turbo Blue to 5.07 in Turbo White. The cultivars Turbo Carmine (3.87), Turbo Yellow (3.67) and Turbo Peach (3.14) were statistically at par. The cultivar Turbo White was good in quality parameters by recording maximum panicle length, girth and number of

Table 1. Growth, yield and quality parameters of five cultivars of annual statice (*Limonium sinuatum* L.)

Cultivar	Plant height (cm)	Plant spread (cm)	Number of leaves	No. of panicles per plant	Panicle yield per plot (5.85 m^2)	Fresh weight of panicle / plant (g)	Panicle length (cm)	Stem diameter (cm)	No. of branches per panicle	Days to 50 per cent flowering
Turbo White	21.78	62.16	186.60	25.64	512.67	530.09	80.94	0.61	5.07	82.67
Turbo Carmine	16.24	57.10	146.74	22.54	449.34	402.71	52.80	0.45	3.87	75.00
Turbo Yellow	17.69	55.97	140.34	19.00	380.00	290.60	59.42	0.41	3.67	70.00
Turbo Peach	14.64	47.67	129.07	16.68	333.34	318.47	33.22	0.39	3.14	90.68
Turbo Blue	14.08	49.06	128.20	19.80	396.00	324.69	28.47	0.43	2.67	78.34
CV%	4.52	4.490	6.600	10.760	10.640	8.420	3.110	3.48	7.720	2.000
SEm±	0.150	1.425	5.544	1.287	25.454	15.120	0.915	0.010	0.164	0.919
CD at (*P=0.05*)	0.460	4.648	18.085	4.198	83.028	45.522	2.984	0.032	0.535	2.997

branches per panicle. It was also vigorous in vegetative growth. Therefore, the cultivar could produce better quality panicles. While cultivars Turbo Peach and Turbo Blue were poor with respect to quality parameters and cvs. Turbo Carmine and Turbo Yellow were fairly good on quality parameters. Similar variation among cultivars was observed by Kumar *et al*. (1998) and Whipker and Hammer (1994) in annual statice.

From this study, it can be concluded that cvs. Turbo White and Turbo Carmine are promising for cut flower production.

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