STUDIES ON ENVTRONMENTAL ASSOCIATION CORRELATION IN HYBRID TEA ROSE

DR. BHAWNA SAXENA
Dept. of Botany
Saraswati Mahila Mahavidyalya,Vijay Nagar, Kanpur

ABSTRACT

Rose is famous Ornamental and floriculture crop and its flower are demanded with handsome price. The production of flower is increasing which ensure the development of this industry. Investigation on present project dealing with flower yield component and genetic divergence in hybrid tea rose in 50 varieties of rose in randomenized block design with three replication were carried out at C.S. Azad University ofof agriculture and technology during 1998-99 and 1999-2000.

Finding reveled that length of Leaf (0.182888)number of flowers per plant (0.19207) and length of flower (0.12980) during the period of investigation. The quality of parameter of flower shows useful results.

Introduction-Rose is the Ornamental flower. In India along tradition of rose growing. Rose flowers are used at most of our social religious.

Commercial horticulture in India has become popular in last couple of years.

Growing flowers under proper careful environment for export purpose has been considered as potential area by corporate house.

The production of flowers in increasing with international market as target.

Roses have a great aesthetic value. Rose occupy an important position in flower markets of India and aboard.

There is an increasing awareness in the society for aesthetic value in human being.

In big cities people have an craze to grow new verities in foreign countries or in India.

Rose flower gives relaxing smoothing and refreshing effect on human beings mind.

Recently rose growing in the garden is also the earning source of money through selling them in the market in our country and board.

Rose have many varieties and it also have a large number of shades including bioclour.

It natural beauty has its own reward and lot of aesthetic value.

There and 12000 registered varieties of rose. Rose is the most important bushy flowering plant and its belong to family rosaceae.

In Flowering plant rose have the top position for lovely colour and bigger size of flowers which create a beauty.

Rose plant material has a lot of variability which gives a great scope for developing new varieties.

Scientists gave recommendation for making improvement by breeding means of new technology to hybridization pal (1959) swamp et al. (1971) and prasad (1986) also develop the varieties for export potential.

It would be very essential to carry out research work on heritability genetic advance magnitude, variality, correlation, coefficients, path coeffiecent analysis genetic divergence etc.

Material and methods- The observation is present investigation 50 varieties of hybrids rose were taken.

The treatment which were under taken named as T1, T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12,T13,T14 and T15----T49, T50 for various purpose in this investigation. Uniform free from the plants were planted and selected for present investigation. All the plants were planted with all care and precaution for the trials list of varieties have given in table-

List hybrid tea rose verities-

S.No	Name of variety	Symbol used
1.	Lake land princess	T2
2.	Christian Dior	T6
3.	Swarthmore	T7
4.	Folklore	T12
5.	Gimson glory	T13
6.	Bajazzo	T16
7.	Nobteesse	T33
8.	Sunny prophyta	T32
9.	Ambassador	T36
10.	Toplesse	T37
11.	Kalyani	T43
12.	Pink fantasy	T44
13.	Mohal	T45
14.	Covette	T47
15.	O Siana	T49
16.	Baroness	T48
17.	Skyline	T50
18.	Arjun	T28
19.	First Red	T31
20.	Barbara Bush	T34

The observation recording in experiment-

a. Vegetative growth characters
b. Height of plant
c. Diameter of stem
d. Length of primary Branches of the plant
e. Diameter of primary branches of the plant
f. Number of leaves/short
g. Length of width of leaf

h. Length of flower
i. Diameter of flower
j. Number of petals/flower

Statistical Analysis -In present studies following Statistical analysis method was applied for quantitative characters derive the results of information at varietal level. Environmental correlation. Environmental correlation coefficient was calculated by using the following formula :

$$r = \frac{EXY}{EX^2\ EY^2}$$

Where,

R- Environmental correlation coefficient
Exy Sum of prosucts in error line
Ex^2E= Sum of square due to error X
Ey^2E- Sum of square due to error Y

The observation according in experiment-

1. Plant height
2. Stem diameter
3. Length of branch
4. Diameter of branch
5. Length of leaf
6. Length of pedical
7. No of flower/plant
8. Length of flower
9. Weight of flower
10. No of petals/flower

Environmental correlation coefficient of ten characters of Hybrid Tea Rose (1998-99)

S.No	Characters	Plant Height	Stem Diameter	Length of branch	Diameter of branch	Length of leaf	Length of predicel	No of flower/plant	Length of flower	Weight of flower	No of petals/flowers
1.	Plant height	1.0000	0.00149	-0.32030	-0.10164	0.18288	-0.06282	0.19207	-0.017388	0.12980	-0.07264
2	Stem diameter	0.00149	1.000000	0.01520	-0.01101	0.04037	0.00362	0.106630	-0.25510	0.04034	-0.05019
3	Length of branch	-0.32030	0.01520	1.00000	0.29009	-0.13773	0.06144	-0.10417	0.12007	-0.06345	0.23035
4	Diameter of branch	-0.10164	-0.01101	0.29009	1.00000	-0.04633	-013230	-0.05388	-0.5388	-0.07321	-0.19184
5	Length of leaf	0.18288	0.040307	-0.15773	-0.04553	1.00000	0.01352	-0.05368	-0.05069	-0.8357	-0.11090
6	Length of pedicel	-0.06282	0.00662	0.06144	0.11496	0.01332	1.00000	-0.01012	-0.04785	-0.10404	-0.09143
7	No of flower plant	0.019207	0.6630	-0.16417	-0.18230	-0.09868	-0.01612	1.00000	0.03460	0.07720	-0.19492
8	Length of flowers	0.1738	-0.25510	0.12007	0.05388	-0.05069	-0.04786	-0.03460	1.0000	0.16192	0/21848
9	Weight of flowers	0.12980	0.04034	-0.06845	-0.07321	0.03257	-0.10404	0.7720	0.16192	1.0000	0.11026
10	No of petals/flower	0.07264	0.0519	0.23685	0.19184	0.11090	0.4943	0.19492	0.21848	0.11565	1.000000

Environmental correlation coefficient of ten characters of hybrid tea rose (1999-2000)

S.No	Characters	Plant Height	Stem Diameter	Length of branch	Diameter of branch	Length of leaf	Length of pedicen	No of flower/ plant	Length of flower	Weight of flower	No of petals/flowers
1.	Plant height	1.0000	-0.16602	0.12236	0.24003	-0.01759	0.03981	-0.08310	0.3981	0.03087	-0.16594
2	Stem diameter	0.16602	1.00000	-0.059980	0.20429	0.11973	-0.19581	0.15064	0.03313	0.06566	0.00529
3	Length of branch	0.12236	-0.36981	1.00000	-0.03243	-0.05226	-0.09929	-0.19581	0.15064	0.08066	0.005291
4	Diameter of branch	0.24003	0.20429	-0.032431	1.00000	0.1592	0.06850	0.17101	0.171010	-0.02218	0.16638
5	Length of leaf	-0.24003	-0.11973	0.07459	0.007459	-0.01592	0.01592	-0.19581	0.17101	-0.16727	-0.01935
6	Length of pedicel	-0.1759	-0.13028	-0.09929	-0.02909	-0.17101	1.00000	-0.06457	0.16477	-012228	0.03866
7	No of flower	0.03981	0.13619	0.19581	-0.06457	0.00404	0.0404	0.6850	0.09744	-0.02092	0.19523
8	Length of flower	0.08310	0.03313	0.15064	0.17101	0.16477	0.166477	0.09744	1.0000	-0.003878	0.05756
9	Weight of flowers	0.03981	-0.06566	0.08066	-0.02218	-0.16272	0.12278	-0.02092	-0.03878	1.0000	0.03693
10	No of petals/flower	-0.16594	0.00529	0.00591	0.16638	-0.01936	0.03866	0.19523	0.05750	-0.16524	1.000000

RESULT AND DISCUSSION

Environmental correlation has been special significance as they inhibit the expression of genotypic correlation. The correlation was found to 50 character during both the years and results are given in the table.

Environmental correlation was found with certain environmental factor. It had positive correlation with length of leaf (0.18288) number of flower (0.12980) during 1998-99. In the year 1999-2000, diameter of branch showed positive and significant correlation (0.24003) and rest other characters showed positive but non significant correlation with plant height.

Present findings of vegetable growth parameters are in accordance with results reported by Debission and Kletterberg (1955), Oe (1992) Gally and Martinez (1996).

The length of flower (0.09744) and number of petals flower (0.19523) were found to have positive correlation whereas weight of flower gave positive correlation with number of petals per flower (0.11565, 0.03603) during both years of the present investigations.

Flower parameters have also been reported to be in positive correlationship by swarup et al. (1973). Tewari et al. (1995) and viraghawan (1999/2000) in different investigation on rose.

However negative associations of some character has also been observed by wahi and Bhattcharjee (1986) Anwaedha and Gowda (1994) Anamika and Anderson (1991) and De et al. (1995).

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