Standardization of Rose flower Propagation by improving the climatic conditions in India

Abstract:

To get the better quality flowers, the agricultural / Horticultural practices have to be applied at proper time and in proper way. In the present investigation the planting time of rose root-stock was standardized alongwith the way of planting in the soil beds. Planting time was taken as January, February and March because plants are very sensitive to the temperature, photo period and the air moisture. Any deviation in then even a week or a fortnight may affect yield and quality of flowers in ease of flowering plants. Another important factor in plant growth is soil, where root established and moride nourishment to the plant. In this experiment, the rose cuttings were planted on ridges, flat beds. and in polythene bags. The observations recorded showed that cuttings when planted on ridges and in flat bed yielded better flower and good plant growth. February was found to be suitable time for the better and quicker growth time.

Keywords: Rose, root stock, ridges, sprout

Introduction:

Every body like flowers and use them at many occasions for enjoyment, thrill and decoration. Rose is a prominent flower as far as its variety and fragrance is concerned. It is the "Queen of the flowers". In India, it was grown starting from 1840. Mary it is said that, rose growing is the happiest hobby of poor and riches around the world. Rose is a source of sweetness and release tension. Its petals are used for oil extraction. Healthy food preparations. It contains vitamin C Its cultivation was spread near the big cities to a great extent. It is grown mainly by seedlings, own root plants, budded plants where bud of one plant is transferred to other plant. These plants have two parts, the base is called root stock and scion (top shoot) Root stock is fast growing for its roots, shoots, disease free and homogenous growth. The quality of plant and flower will depend on the soil, climate and time of planting. The efforts should be made to minimize the time of growth, reduce the cultivation cost and to get better yield was the aim of this investigation. Many other workers have worked on these aspects earlier also Gorld 1978, Vatsik 1973, Namjan et al 1971, Korobov, 1976, Malik 1974.

Materials and methods

The experiment of standardization was conducted at the Horticultural Research Station of Meerut University during the winter season of 1987-88. The climate area which is stimulated at 29º01' N latitude and 71º43'E longitude of 222 m above sea level, is semi arid with extreme weather conditions. Annual rainfall is 700 mm which occur from may to October. During this research no rain fall was required.

Temperature ranges from 45.8 to 29.4 ºC from May to June and 20.6 to 4.8ºC during December to January.

Treatments :

Method of planting and cuttings:

1. Planting of cutting on ridges - P_1
2. Planting of cutting on flat beds - P_2

3. Planting of cutting in polythene bags - P_3
4. One year old roofed root stocks - P_4

Time of budding:

January - T_1, February T_2, March - T_3

Treatment combinations:

P_1T_1, P_1T_2, P_1T_3, P_2T_1, P_2T_2, P_2T_3, P_3T_1, P_3T_2, P_3T_3, P_4T_1, P_4T_2, P_4T_3

Seven treatments with two factors were laid in 3 replications. So total combinations were 12. The number of cutting planted per treatment were 60 with total cuttings of 720. These were planted in the month of November 1987.

Nursery beds were prepared well by mixing the compost. Root stock (cutting of one-year-old rooted) used in trial were similar in all characters. Healthy and disease free cutting were planted in al beds. Healthy bed cuttings from mother plants were selected with well developed buds.

Cultural Operations

Cuttings were irrigated as and when required taking operations were done by hand after every irrigation to remove weeds.

Characters studied:

A. Root stock characters
   - No. of sprouts per cuttings
   - Length of longest sprout
   - Diameter of thickest sprout
   - No. of leaves per sprout

B. Scion characters
   - Days of bud break
   - Survival percent of buds.
   - Length of longest sprout,
   - Diameter of thickest sprout
   - Average no. of leaves per sprout

C. Flowering characters:
   - Appearance of first flower bud
   - Time between bidding to opening of flower
   - Folding time of the flower
   - Diameter of full open flower
   - No. of flower per sprout

Result and Discussion

The result of rose root stock grow parameters was recorded the different treatments and planting time were recorded in the given table -1

It was found that the treatment P_1T_2, P_2T_2 and P_4T_2 grave maximum survival of root stocks which was 88.66, 88.33 and 83.88 respectively. Except polythene bag planting all three methods of February planting showed better results. Bud break time break time was also less in treatments mentioned above than other treatments i.e. 12.4, 12.6 and 10.4 days respectively. The mean number of sprouts per cutting and length sprout showed the maximum value in P_1T_2, P_2T_2, P_3T_2 and P_4T_2 treatments. But the sprout diameter and sprout thickness did not give any regular pattern. The number of

leaves per sprout were more in P_1T_3, P_2T_1, P_2T_3, P_4T_1, P_4T_2, P_4T_3 treatments in comparison to other treatment P_1T_3, P_2T_2, P_2T_3, P_3T_2, P_3T_3 and maximum sprout thickness was observed in treatments P_4T_1 (6.50 cm), P_4T_2 (7.3 cm) and P_4T_3 (7.50 cm) (Table-1)

Sprouting character of the root stock observed was in the month of March, 1988. It was one-year-old on different growth parameters.

Buds growth character:

The longest sprout was obtained in treatment P_4 (one-year-old root stock))18.63 cm) and smallest in polythene bags (4.15cm) similarly the budding of February (T_2) showed better growth than other planting time (16.79 cm) sprout thickness (7.18 cm), average no. of leaves (11.99) were also more in P_4 treatment and in February planting (Table-2). In these treatments the flower bud appears first at 47 and 46 days in one-year rot stock and February planting respectively.

The time taken to open the flower from bud was also less than other treatments in one-year root stock planting (53 days) and February planting (52 days). Similar observations were recorded for yielding time of flower was higher in treatment P_4 (6 days) and T_2 (7 days). Diameter of flower showed the better dimensions in these treatments than other which was (6.99 cm) and 6.55 cm in P_4 and T_2 treatments respectively. The number of flowers however has not shown the better yield. (Table-2)

Table-1: The effect of planting method and time of planting on rise root stock growth and related parameters

Treatments	Percent survival	Bud break time (days)	Mean sprout no. per cutting	Longest sprout length/ cutting (cm)	No. of leaves per sprout	Thickest sprout diameter (cm)
P_1T_1	50.00	24.6	1.75	4.5	10	1.26
P_1T_2	88.66	12.4	1.97	7.16	13	2.83
P_1T_3	10.00	25.2	5.33	12.33	16	3.73
P_2T_1	43.33	24.2	2.50	6.60	16	1.20
P_2T_2	88.33	12.6	2.84	11.66	13	2.83
P_2T_3	33.00	25.4	8.33	24.17	15	3.66
P_3T_1	08.33	26.2	1.73	4.7	10	1.16
P_3T_2	06.66	22.4	2.33	9.33	13	2.30
P_3T_3	08.66	21.2	4.00	7.83	11	2.16
P_4T_1	51.66	12.5	6.67	41.63	25	6.50
P_4T_2	83.38	10.4	7.66	41.70	33	7.35
P_4T_3	55.00	20.9	7.63	56.50	37	7.50

Table-2: The effect of method and time of planting on different parts of rose cutting and root stock growth.

Treat-ments	Longest sprout length (cm)	Thickest sprout diameter (cm)	Average no. of leaves per sprout	Days needed to appear flower bud	Time taken from budding to open flower	Fielding time of flower (days)	Flower dia-meter (cm)	No. of flower per sprout (No.)
P_1	16.38	5.25	10.35	48	54	5	6.83	5*
P_2	11.31	5.19	9.55	51	56	5	6.26	3
P_3	4.15	3.17	5.66	53	58	4	4.83	1
P_4	18.63*	7.18*	11.99*	47*	53*	6*	6.99*	3
T_1	15.86	4.17	8.4	49	56	5	6.30	4
T_2	16.99*	6.03*	10.41*	46*	52*	7*	6.55*	4*
T_3	7.05	4.29	8.99	49	55	5	5.39	2

Conclusion

In the present work the "Standardization of rose propagation" conducted to check the proper planting time of root stocks as well as the cutting of rose the way of planting in the soil for a better and quick growth of plant and bigger size of rose flowers. The better survival of cutting was found to be February planting. It is because at that time the sun shine is not more. The survival percent was poorest in the month of March either on ridges or in polythene bags due to the increasing temperature and loss of humidity in the following months. This time developed the outbreaks of buds, reduced the sprout numbers, length also. However, the sprout length was better when cuttings were planting on ridges and root stocks were used in the month of February. Sprout diameter, no. of leaves reduction is budding time and flower diameter was also more in case of root stock planting in the month of February. Our results are in accordance with the yielding of other people (Mottos et al 1971), Raj as 1972, and Thebcult 1978, Singh 1978.

Conference disclaimer:
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