Table 1. Effect of root dipping treatments on yield and yield parameters of rice

Treatments	No. of productive tillers/hill	No. of grains/panicle	No. of filled grains/panicle	1000 grain wt. (g)	Grain yield/ hill (g)	Harvest index (%
IBA-25 ppm	8.92	131.30	105.81	20.26	18.73	44.20
NAA-25 ppm	8.08	125.40	98.40	19.97	15.90	40.80
Mepiquat chloride-10 ppm	8.56	129.57	103.37	20.20	17.70	43.40
CCC-10 ppm	7.56	121.70	95.90	19.84	14.50	37.50
Alar-25 ppm	7.33	120.22	94.20	19.85	14.35	37.30
Thiamine-10 ppm	8.36	131.20	102.90	19.86	17.20	43.20
Ascorbic acid-10 ppm	8.80	126.20	98.80	20.05	16.00	40.80
Resorcinol-25 ppm	8.30	129.50	100.80	20.15	16.73	42.20
$ZnSO_4$-2.5%	8.13	128.60	102.20	20.12	16.62	42.00
Azospirillum slurry	8.28	125.72	92.70	19.88	16.34	42.00
Transplanted crop	8.10	124.00	98.50	20.20	15.96	40.10
Control (broadcasted crop without treatment)	6.98	120.20	89.60	19.70	13.51	36.80
CD (0.05)	0.068	1.136	1.004	0.179	0.131	0.344
SEd	0.135	2.260	1.950	0.357	0.261	0.685

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Research Notes

Influence of season on success of wedge grafting under propagatio structure (Mist chamber) in tamarind (*Tamarindus indica* L.)

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Season of grafting plays a paramount role among different factors involved in success of top wedge grafting. If the season is not conducive, the favourable effects of other factors are likely to be nullified, resulting in lower success. As the success of grafting is dependent upon weather conditions as reported by many workers in different crops, the present investigation was taken up at the University of Agricultural Sciences, Dharwad in 2000-01 to know the seasonal influence on graft success in tamarind.

The experiment was conducted on th rootstocks of similar age maintained in th polythene bags. Rootstocks were grafted in th first fortnight of every month. Polythene bag of 400 gauge thickness and size of 20 x 1 cm were used for raising rootstocks. Pottin mixture containing red earth, farmyard manur (FYM) and coir dust in 1:1:1 (v/v) proportio was used. Selected healthy, large sized seed were sown flat on the medium at a shallo depth. Five-month-old seedlings were used fo

Table 1. Influence of season on success of grafting (%), average number of sprouts, average sprout length in tamarind

Treatments	Weather parameters			90 days after grafting		
		Temperature (°C)				
	Relative humidity (%)	Minimum	Maximum	Graft success (%)	Average no. of sprouts	Average sprout length (cm)
T_1 August	84	20.2	27.2	33.00 (35.03)	3.54	6.12
T_2 September	83	20.3	29.0	22.03 (27.93)	4.19	5.43
T_3 October	83	20.1	29.4	20.05 (26.38)	4.62	2.35
T_4 November	72	16.9	30.4	26.19 (30.75)	3.05	2.67
T_5 December	64	13.4	29.2	12.03 (20.16)	3.02	2.53
T_6 January	66	14.9	29.8	48.16 (44.17)	3.56	4.21
T_7 February	59	16.7	34.0	38.79 (38.48)	3.22	3.73
Mean				28.67 (31.84)	3.60	3.86
S.Em+				1.64	0.21	0.55
CD at 5%				5.06	0.65	1.69

Figures in parentheses indicate arcsine transformed values

grafting. Staggered sowing of the seeds was done to get stock of same age in every month on which grafting was tried. Grafting was undertaken from August-February. Scions from the clone Dharwad tamarind selection-1 (DTS-1) were collected in the morning hours (8.00 to 9.00 a.m.) on the day of grafting and defoliated with sharp secateur. The scions so prepared were further used for grafting on the same day. Top wedge method of grafting was followed. The top growth of the rootstock was decapitated with a sharp knife or secateur. Then a longitudinal cut of 5 cm length was given from the terminally pruned rootstock. A scion shoot of same thickness and length of about 8 to 10 cm was selected and the cut end of the scion was mended into a wedge shape of 5-6 cm long by chopping the bark and a little portion of wood from two opposite sides. Care was taken to retain some bark on the remaining two sides. The wedge of the scion was inserted into the 'V' shaped cleft of the stock plant taking care that the cambium layers of stock and scion come in perfect contact with each other. The graft joint was wrapped properly and firmly with 150-gauge polythene strip. The graft joint

was covered with small transparent tubular bag to prevent water entering the grafted portion and to avoid desiccation of the scions by creating humidity in the microclimate near and above the graft union region. The grafted plants were transferred immediately to the mist chamber and maintained there for 30 days. Then they were shifted to shade house. Randomized block design was followed with three replications. Observations on per cent graft success was calibrated at 30,45,60 and 90 days after grafting (DAG).

Present investigation revealed that season of grafting plays a paramount role among different factors involved in top wedge grafting success. The average percentage of success noted after 30 days varied from 24.98 per cent in grafts prepared during September to 92.49 per cent in grafts prepared during February. The highest percentage of success (92.49%) was recorded in the grafts prepared in the month of February followed by January (58.57%). The lowest percentage of success (24.98%) was recorded in the grafts made during September. In the present studies, the relative humidity (RH) ranges between 59 per cent in February to 84 per cent in August. It was observed that the relative humidity gradually declined during the period of experiment (Table 1) i.e., from August to February. The minimum mean temperature was recorded in the month of December, while in other months there was not much fluctuation between mean minimum and maximum temperatures. After 90 DAG, the highest graft success (48.16%) was recorded in the grafts prepared during January followed by February (38.79%) grafts, while the lowest graft success of 12.03 per cent was recorded in the grafts prepared during December. A fair degree of grafts success recorded in each month in which grafting was tried may be due to the high relative humidity coupled with high temperature that prevailed during initial stages of graft union as the grafts were kept under mist house conditions. The highest percentage of success was favoured by optimum atmospheric humidity (60-65%) coupled with higher maximum temperature (34°C), the higher minimum temperature (16.7°C) after a drop in Decembe These factors might have been favoured increase cell activity and better cambium union betwee the stock and scion. Similar observations wer made by Pampanna and Sulikeri (2000) i sapota under Dharwad conditions. The lowe graft success in December grafts may be du to very low minimum temperature in the winte which proved very low for union. Asante an Barnett (1998) stressed the effect of tempertatur on graft union formation in mango, reporte that the grafts failed to develop at 15 an 20°C in mango, while at 38°C unions forme 20 DAG. Number of sprouts observed wa significant. After 90 DAG highest number o sprouts (4.62) were recorded in the graft prepare during October, while the lowest number o sprouts (3.02) were recorded in the grafts prepare during December. The average sprout numbe recorded after 90 days were found statistical on par with the graft prepared in August (3.5 September (4.19) and January (3.5 (Table 1).

Similarly, the sprout length was foun significant. After 90 days of grafting maximu sprout length (6.12 cm) was recorded in Augus followed by September (5.43 cm) and Januar (4.21 cm).

The longest sprouts developed in Augus and September prepared grafts may be du to the higher relative humidity which in tur reduced the transpiration and thereby helpin in the vegetative growth.

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