

## RESEARCH NOTE

### PROGENY ANALYSIS IN CINNAMON

Cinnamon (*Cinnamomum verum*, Berch. & Presl.) is an important tree spice of India. Dried bark (quill) of the tree is the cinnamon of commerce. Leaf oil is also being extracted. At present the domestic need of cinnamon is mostly met by import. High yielding elite trees will be a real incentive to take up large scale cultivation of cinnamon. The tree is generally propagated through seed. Ponnusami *et. al.* (1982) reported high variability for different yield attributes in cinnamon seedling trees. Progeny analysis will help to identify elite trees producing superior offsprings. The present note deals with progeny analysis of 9 elite cinnamon lines.

Seedlings of 9 elite lines (which showed high leaf and bark oil content and high bark oleoresin), main-

tained at the National Research Centre for Spices Research Farm, Peruvannamuzhi, Calicut were evaluated for height (cm), total number of branches, fresh and dry weight of bark (g), as well as percentage recovery of bark. The progenies were planted in 1986 in a randomised block design having 5 replications with a plant to plant and row to row spacing of 3 metres. The first coppicing was done in 1989 and the bark was extracted. Fresh and dry weight as well as percentage recovery of bark of each line was recorded. Height and total number of branches of the progenies were also recorded during 1987 and 1988. The trees were raised with standard package of practices. Mean and coefficient of variations were worked out.

Table—Performance of seedling progenies of different elite lines of cinnamon

Sl. No.	Elite N Line	Height (cm)		Total number of branches		Fresh wt. of bark (g)		Dry wt. of bark (g)		% recovery of bark	
		Mean	CV(%)	Mean	CV(%)	Mean	CV(%)	Mean	CV(%)	Mean	CV(%)
1.	5	88.75 (20)	29.88	1.63 (20)	40.86	77.22 (9)	26.72	31.67 (9)	41.02	40.97 (9)	39.42
2.	44	84.95 (20)	41.98	2.00 (20)	50.00	130.67 (15)	42.21	43.00 (15)	35.11	34.28 (15)	17.36
3.	53	99.00 (20)	33.10	1.87 (20)	28.00	137.08 (12)	42.55	44.58 (12)	39.86	33.51 (12)	20.29
4.	63	107.63 (20)	20.30	1.85 (20)	31.73	112.35 (17)	69.20	40.00 (17)	89.38	34.99 (17)	20.49
5.	65	96.25 (20)	26.41	1.93 (20)	38.87	113.00 (15)	37.91	37.00 (15)	36.40	36.33 (15)	47.72
6.	189	92.00 (20)	37.00	1.85 (20)	26.45	134.5 (10)	54.31	49.50 (10)	54.80	37.45 (10)	24.49
7.	203	104.55 (20)	36.02	1.88 (20)	31.05	100.39 (13)	51.74	39.23 (13)	63.27	37.19 (13)	32.49
8.	310	102.10 (20)	24.69	2.15 (20)	37.02	79.09 (11)	59.02	29.55 (11)	51.58	39.90 (11)	29.23
9.	312	94.40 (20)	32.33	1.70 (20)	32.22	90.00 (16)	43.84	32.81 (15)	52.48	36.35 (16)	27.56

(Figures in parenthesis indicate the number of seedling progenies studied)



The mean and coefficient of variation for the different characters are presented in Table. The data reveal a clear variation in the progeny performance of the 9 elite trees. As regards the variability within the lines, progenies of different lines exhibited different degree of variations for the characters studied. No single line showed consistently less or more variation for all the characters. Progenies of line 63 exhibited highest mean and least variability for plant height, followed by the progenies of line 310. Highest total number of branches were recorded among the progenies of the line 310. However, it had slightly higher variability as compared to lines 53 and 189, which had moderately good number of branches. Progenies of elite lines 44 and 53 have recorded high mean values for fresh and dry weight of bark, as well as percentage recovery of bark with comparatively minimum coeffi-

cient of variation. However, the progenies of the elite line 189 also had higher mean values for fresh and dry bark weight and good recovery percentage, with a slightly higher percentage of coefficient of variation.

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#### REFERENCE

PONNUSAMY, V., IRULAPPAN, I., ANNADURAI, S. and VADIVEL, E. (1982) : Variability studies in cinnamon (*C. zeylanicum* Breyn.) South Ind. Hort. 30 : 159-60.

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#### PREPARATION OF BORDEAUX MIXTURE 1%

Dissolve 1 kg of powdered Copper sulphate crystals in 50 litres of water. In another 50 litres of water, prepare milk of lime with 1 kg of quick lime. Pour the copper sulphate solution into the milk of lime slowly stirring the mixture all the while. Test the mixture before use for the presence of free copper which is harmful to the plants by dipping a polished knife in it. If the blade shows a reddish colour add more lime till the blade is not stained on dipping.

Always use wooden, earthen or copper vessels for the preparation of Bordeaux mixture.

In order to confer sticking qualities to Bordeaux mixture Rosin-washing soda mixture may be incorporated in the mixture. The addition of the mixture is particularly recommended for spraying conducted during rainy season against *Phytophthora* diseases.

For preparing the mixture 10 litres of water out of 100 litres required for preparing Bordeaux mixture may be kept apart. Boil 10 litres of water preferably in an earthen pot and add 500 g of good quality washing soda (sodium carbonate). Boil again until the solution becomes slightly of dark colour. Add 1 kg of powdered rosin (Arpoos) in the boiling washing soda solution. Reduce the flame for avoiding frothing, foaming and spilling over. Boil the solution for 5-10 minutes till black bubbles appear. Cool down the solution until the temperature reaches before 45 C. The cool mixture (10 litres) is then added slowly to the prepared Bordeaux mixture (90 litres) under vigorous stirring.

#### PREPARATION OF BORDEAUX PASTE

Dissolve 100 g of Copper sulphate and 100 g of quick lime each in 500 ml of water separately. Mix together to make one litre of the paste.