Character association study in curry leaf (*Murraya koenigii* (L.) Spreng.) genotypes

K. Vithya[1]* and N. Shoba[2]

[1]* Research scholar, Department of Spices and Plantation Crops, HC & RI, TNAU, Coimbatore

[2] Professor, Department of Spices and Plantation Crops, HC & RI, TNAU, Coimbatore

Corresponding author mail id: vithyassv@gmail.com

Theme – Crop Improvement and Biotechnology

Introduction

- Curry leaf - small perennial spice tree, but cultivated as a shrub for its scented leaves
- Commercial cultivation – South India and mainly in Tamil Nadu and Karnataka
- Evaluation of yield performance – effective method of selection of suitable genotypes with good yield
- Association between morphological characters – essential to identify the desirable traits for yield improvement in curry leaf

Materials and Methods

- Study carried out at the department of Spices and Plantation, **HC & RI, TNAU**, Coimbatore
- Eight curry leaf genotypes – TPMK 1, TPMK 2, ANMK 3, KMMK 4, KMMK 5, KMMK 6, KMMK 7 and KMMK 8
- Experimental design - **Randomized Block Design** with three replications

Morphological characters observed

1. Plant height (cm), 2. Inter-nodal length (cm)
3. No. of matured shoots/ plant
4. Length of matured shoots (cm)
5. Weight of matured shoots (g)
6. No. of compound leaves/ matured shoot
7. No. of leaflets/compound leaf
8. Fresh leaf yield/plant (g)

- Yield performance and correlation coefficients - computed by using statistical software SPSS 20.0

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Results

Figure 1. Yield performance of curry leaf genotypes

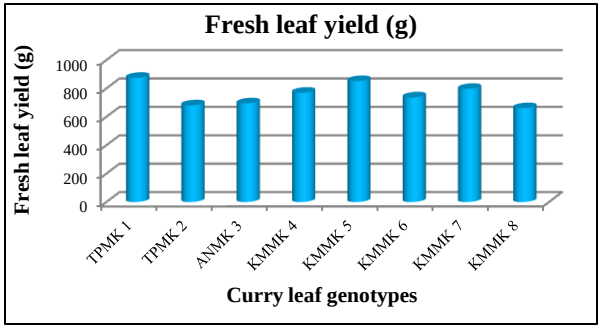

Table 1. Character association analysis in curry leaf genotypes

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1	1	-0.005	0.520*	0.296	-0.048	0.567**	0.775**	0.010
X_2		1	0.040	-0.415*	-0.317	-0.389*	-0.446*	0.425*
X_3			1	-0.072	-0.595**	-0.248	0.228	0.484*
X_4				1	0.109	0.719**	0.773**	-0.225
X_5					1	0.398*	0.079	0.002
X_6						1	0.821**	-0.364
X_7							1	-0.520*
X_8								1

X_1- Plant height (cm) X_2- Inter-nodal length (cm)
X_3- No. of matured shoots/ plant
X_4- Length of matured shoots (cm)
X_5- Weight of matured shoots (g)
X_6- No. of compound leaves/ matured shoot
X_7- No. of leaflets/compound leaf
X_8- Fresh leaf yield/plant (g)

Conclusion

- **TPMK 1** - more no. of matured shoots and fresh leaf yield/ plant followed by KMMK 5
- Inter-nodal length and no. of matured shoots per plant exhibited positive correlation with **fresh leaf yield/ plant**
- **Inter-relationship** between plant characters measured by correlation coefficient analysis and **genetic yield improvement** would be determined by that selected and correlated characters (Panwar *et al.*, 2019)
- No. of matured shoots/ plant, no. of compound leaves/ matured shoot and no. of leaflets/ compound leaf recorded positive and significant correlation with **plant height**
- **Length of the matured shoots** showed positive correlation with no. of compound leaves/ matured shoot, no. of leaflets/ compound leaf.
- **Weight of matured shoots/ plant** recorded positive correlation with no. of compound leaves/ matured shoot
- **No. of compound leaves/ matured shoot** recorded positive and significant correlation with no. of leaflets/ compound leaf

Reference

Panwar, N. K., Swarup, I., Jain, M., Gour, L., & Katara, V. K. (2019). Association biometrical analysis of yield and yield attributing determinants in Vigna mungo (L.) hepper. *IJCS*, *7*(3), 2512-2516.