



Standardization of Grafting technique in Curry leaf (*Murraya koenigii* Spreng.)

Sandhya.S¹, Jegadeeswari.V², Shoba.N³ and Jeyakumar.P⁴

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

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

³ Professor, Department of Spices and Plantation Crops, HC & RI, TNAU, Coimbatore

⁴ Professor and Head, Department of Crop Physiology, TNAU, Coimbatore

Introduction

- **Curry Leaf – *Murraya koenigii* Spreng.**
- Family - *Rutaceae*
- Sub-family - *Aurantioideae*.
- Curry leaf is also known as a miracle plant.
- The genus *Murraya* has nearly 14 species worldwide and two genus viz., *Murraya koenigii* Spreng. and *Murraya paniculate* (Jackfruit) are native to India.
- Curry leaf is commercially propagated by **seeds or suckers**.
- Seeds are **recalcitrant** and cannot be stored for long periods (Sivasubramanian *et al.*, 2012).
- Attempts to propagate curry leaf through **air layering** have **not been successful**.
- Grafting studies was carried out in curry leaf to **identify a suitable and drought tolerant rootstock** to get uniform plant population under water deficit condition.

Materials and Methods

- Study carried out at the department of Spices and Plantation, **HC & RI, TNAU**, Coimbatore – 2019 -2020
- Scion used – **Senkambu** - most recognized and cultivable type (Procured 10 days before grafting)
- Rootstocks used (One year old) –
Wild Curry leaf type (T₁), *Limonia acidissima* (T₂), *Aegle marmelos* (T₃) , *Murraya paniculate*(T₄).
- Selection of rootstocks from - ***Rutaceae* family** which are drought tolerant
- Scion collection – at farmers field - Mettupalayam in Coimbatore district of Tamil Nadu.
- Grafting method - **Wedge or Cleft grafting**.
- **Growth parameters observed** –
Graft success Percentage (%), No. of days taken for sprouting, Length of the leaflet(cm), Number of leaves per leaflet (cm).

Results

Graft combinations	Graft success Percentage (%)	No. of days taken for sprouting	Number of leaves / leaflet (cm)	Length of leaflet (cm)
Senkambu grafted on to Curry leaf wild type rootstock (T ₁)	66	12.00	10.6	10.38
Senkambu grafted on to Wood apple rootstock (T ₂)	14	7.54	10.5	6.8
Senkambu grafted on to Bael rootstock(T ₃)	0	6.30	-	-
Senkambu grafted on to Orange jasmine rootstock (T ₄)	6	12.94	7	3
	SP	DAG	NOL/L	LLT
Sed	2.97	1.31	1.03	0.69
CD (p=0.05)	6.30**	2.78**	2.18**	1.46**

Discussion

Graft success Percentage (%) - Senkambu was grafted on curryleaf wild type (66%) followed by wood apple (14%) - Successful grafting (Compatibility between scion and rootstock) was due to cell division in the scion and rootstock at the grafting union , rapid connection between the vascular bundles of the scion and rootstock (Shehata *et al.*, 2000).

Number of days taken for sprouting -

The senkambu scion grafted onto Bael rootstock took least number of days for sprouting (6.3) than other graft combinations. However, this graft combination shows graft incompatibility. Early sprouting was due to higher level of photosynthates and/or dry matter production (Amrita *et al.*, 2019).

Average number of leaves / leaflet (Nos) -

Senkambu scion grafted on to curry leaf wild type rootstock produced higher number of leaves/leaflet (10.6) followed by woodapple (10.5). Increase in number of leaves might be due to the active growth of both rootstock and scion followed by favourable climatic conditions for the cambial activity and in turn favouring growth of grafts (Uchoi., 2012)

Length of leaflet (cm) -

Senkambu scion grafted on to curry leaf wild type rootstock recorded the highest length of the leaflet (10.38 cm) followed by woodapple (6.8 cm). The maximum leaf area in early grafting dates may be due to the early healing of graft union, which in turn produced maximum leaflet area (Rehman *et al.*, 2000).

Conclusion

Among the four rootstocks used, **senkambu scion grafted onto curry leaf wild type rootstock (T₁) showed better graft compatibility and high success percentage (66%)** followed by wood apple (T₂) (14%).Study has to be reconfirmed as this is a first kind of grafting work in curry leaf to see the success percentage.

Literature cited:

- Sivasubramaniam K, Selvarani K. Studies on curry leaf (*Murraya koenigii*) seeds. Current Science 2012; 103:883-885.
- Shehata S.A.M , Salama GM and S.M Eid.. Anatomical studies on cucumber grafting. Annuals of Agri. Sci., 2000; 38(4):2413-2423.
- Noor Rehman, Ijaz Hussain, Ghulam Nabi and Muhammad Affan Khan. Graft Take Success in Pecan Nut Using Different Varieties at Different Timings. Pakistan Journal of Biological Sciences 2000; 3 (1): 166-168.
- Uchoi.J, B.Raju , Debnath A.and Vivela D. Shira. Study on the performance of softwood grafting in jamun (*Syzygium cumunii* SKEEL). The Asian Journal of Horticulture, 2012; 7(2), 340-342.

**Thematic area –
Spice Production Technology**