



VIABILITY AND DORMANCY STUDIED IN LEEA MACROPHYLLA ROXB. AND LAGERSTROEMIA PARVIFLORA ROXB

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ABSTRACT:

The present study deals with the seed propagation in *Leea macrophylla* and *Lagerstroemia perviflora*. Seeds were collected from Solankur, District Kolhapur, Maharashtra, India region. The experiment was carried out to investigate the viability and dormancy. It was observed that The seeds germinability was constant up to 1-6 month in *Leea macrophylla* and seed sowing up to 5 cm was found to favorable to express maximum germinability in both the plant.

Key words: *Viability, Dormancy, Leea macrophylla and Lagerstroemia perviflora.*

INTRODUCTION.

Leea macrophylla commonly known as Gajkarni is an erect shrub. The leaves, seeds and roots are used in ayurvedic preparations since ancient times in the preparation of seasonal tonic modaka preparation Singh and Singh (1981) The leaves are also used in lipoma, gastric tumor, tetanus, goiter Garodia et.al (2007) and in urinary disturbances Nizami et.al (2012), Swarnkar et.al (2008). *Lagerstroemia parviflora* is a medium-sized tree, indigenous to India. The tree is tall around 15-18m. The plant is widely used by tribal women to help them overcome lactation issues. The plant is also efficiently manage coughs, fevers, asthma, and bronchitis Chaudhari (1993), Krishen (2013),

Various methods are used by seed scientists and technologists to break seed dormancy. In wild conditions, it takes at least one year for the germination seeds of *Leea macrophylla* and *Lagerstroemia perviflora*. This indicates the existence of seed dormancy, and the literature describing the seed dormancy breaking methods for both the plants is not available, hence, present study was undertaken during present investigation.



MATERIALS AND METHODS.

The seeds of *Leea macrophylla* and *Lagerstroemia perviflora* were collected from Solankur, District Kolhapur, Maharashtra, India region. Collected seeds were then packed in sterile polythene bags in first week of June.

Those were surface sterilized in 0.1 % H_2Cl_2 solution for 5 min. and thereafter washed with water. The experiment was arranged in randomized design with three replications for each treatment. Seed age 1-6,12,18,24 month ,Depths of sowing were 5, 10,15 and 20 cm and soil types were. Red, Sandy, Black, Loamy. The seeds were sown treatment wise and seed germination was measured daily for 60 days and percent germination was recorded. All plants were harvested at the end of 60 days All plants were harvested to determine percent germination, (Asgharipour, 2011).

RESULTS AND DISCUSSION.

Seeds of *Leea macrophylla* and *Lagerstroemia perviflora* were sown at different age , different depth of the soil and different types of soil and data viability and dormancy were recorded.

Results presented in table 1, clearly indicate that seeds with age 1 Month to 6 Month shows maximum germinability in case of both the plants. The seed germinability was reduce in case of both the seeds. The seeds germinability was constant up to 1-6 month in *Leea macrophylla* and was found reducing in case of *Lagerstroemia perviflora*. Similarly after 6 to 24 months there was reduction in percent germinability in *Leea macrophylla* and *Lagerstroemia perviflora* while total loss of germinability in *Leea macrophylla*.It can thus be concluded that sowing of seed up to 5 cm was found to favorable to express maximum germinability in both the *Leea macrophylla* and *Lagerstroemia perviflora*, while 10 cm depth and beyond their was reduction in seed germinability summarized in table 2

Among the four soil type, red soil and sandy soil supported maximum seed germinability for both the *Leea macrophylla* and *Lagerstroemia perviflora* seeds. The results are given in table 3.



Table 1: Effect of seed age on seed germinability *Leea macrophylla* and *Lagerstroemia perviflora*.

Seeds	Percentage of Germination											
	Seed Age											
	1-6 Month			12 Month			18 Month			24 Month		
	P1	P2	P3	P1	P2	P3	P1	P2	P3	P1	P2	P3
A1	50	14	28	50	06	12	50	04	08	50	04	08
A2	50	10	20	50	05	10	50	00	00	50	00	00

Table 2: Effect of depth of sowing on seed germinability in *Leea macrophylla* and *Lagerstroemia perviflora*

Seeds	Percentage of Germination											
	Depth of Sowing (cm)											
	5 cm			10 cm			15 cm			20 cm		
	P1	P2	P3	P1	P2	P3	P1	P2	P3	P1	P2	P3
A1	50	10	20	50	07	14	50	00	00	50	00	00
A2	50	12	24	50	00	00	50	00	00	50	00	00

Table 3. Effect of Soil types on seed germination and seedling growth in in *Leea macrophylla* and *Lagerstroemia perviflora*.

Seeds	Percentage of Germination											
	Soil Type											
	Red Soil			Sandy Soil			Black Soil			Loamy Soil		
	P1	P2	P3	P1	P2	P3	P1	P2	P3	P1	P2	P3
A1	50	07	14	50	07	14	50	04	08	50	03	06
A2	50	14	28	50	12	24	50	10	20	50	02	04

A1: *Leea macrophylla* **A2:** *Lagerstroemia perviflora*.

P1: Total Number Of Seeds, **P2:** No Of Seeds Germinated, **P3:** Percentage Of Germination.



CONCLUSIONS.

The information generated in this study is crucial to understanding the environmental conditions necessary for seed germination and seedling establishment with environmental factors. These data will help to predict the potential distribution of *Leea macrophylla* and *Lagerstroemia perviflora* in new habitats in the future.

ACKNOWLEDGEMENTS.

Author is grateful to the Principal, Swami Vivekanand Senior College Mantha, Dist. Jalna (M.S.) India, Shri Yashwantrao Patil Science College Solankur District Kolhapur, Maharashtra, India. for providing necessary facilities.

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