

**“TO COMPARE THE EFFECT OF *VRIKSHAYURVEDA* AND  
MODERN TECHNIQUES ON GERMINATION OF *ASHOKA* AND  
*GAMBHARI*”**



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# TO COMPARE THE EFFECT OF VRIKSHAYURVEDA AND MODERN TECHNIQUES ON THE GERMINATION OF ASHOKA AND GAMBHARI

## ABSTRACT

**Background:** The germination response pattern of seeds is also regarded as a prime feature in plant life history strategy. The common means of regeneration and propagation of medicinal plants include seed-based, clonal and micropropagation method. Seed-based multiplication is the most effective, realistic and convenient means for most species. Destructive and non-sustainable collection methods coupled with low regeneration and habitat destruction have posed serious threats to the survival and availability of *ASHOKA AND GAMBHARI*. *ASHOKA* in traditional medicine and in *ayurveda* is used to treat *rakta pradara*. *Gambhari* is a *tridosh shamaka* and it is an important constituent of *dashmoola* and mainly of *bruhat panchmoola*. The species is generally propagated by seeds but its germination rate and viability is very low due to seed abortion which limits its natural propagation. the seed set is poor and seed viability is low. Problems related with natural propagation and indiscriminate exploitation for medicinal purpose have pushed *ASHOKA AND GAMBHARI* to the list of endangered plant species of india. These various seed priming processes have been carefully designed in *Vrikshayurveda* to allow early germination, to obtain good quality of seedlings by following the classical techniques explained. Hence the present study is intended to compare the effects of *Vrikshayurveda* and Modern cultivation techniques on germination of *ASHOKA AND GAMBHARI*.

### Aims and Objectives:

1. To compare the effect of *vrikshayurveda* and modern techniques on germinations of *ASHOKA* (*Saraca asoca*)
2. To compare the effect of *vrikshayurveda* and modern techniques on germinations of *Gambhari* (*Gmelina arborea*) Seeds.

**Methodology:** Following are the Groups: Group 1 (Control group) was without any seed treatment, Group 2 i.e. standard treatment was treated with 1% conc H<sub>2</sub>SO<sub>4</sub> for about 50 minutes, Group 3 procedure explained in *Vrikshayurved* was followed i.e. sprinkled with Milk and dried for 5 days. It is then smoked with Mustard (Brassica

campestris) and *Vidanga (Emblica ribes Burm)*, group 4 seeds were soaked in milk Milk, rubbed with cow dung, dried and profusely smeared with Honey and *Vidanga (Emblica ribes Burm)*. Germinability, emerging index and relative seed germination will be calculated. Results were calculated statistically considering ANNOVA test and unpaired t-test.

**Results:** Overall results indicates that Group 4 treatment i.e. seeds were soaked in milk Milk, rubbed with cow dung, dried and profusely smeared with Honey and *Vidanga (Emblica ribes Burm)* showed maximum germination percentage compared to all other groups. And it is statistically significant in comparison with group 3 and group 4.

**Conclusion:** Maximum germination percentage was observed in group 4. Estimation of *ASHOKA AND GAMBHARI* contents in the seeds from the plants grown by various treated seeds revealed that, group 4 is qualitatively better than standard and has the added advantage of safety over the standard (Acid treated) group. Present study revalidates the germination behavior of dormant seeds of *ASHOKA AND GAMBHARI*. However further studies need to be carried to standardize the treatment procedures in terms of the proportion, duration of soaking or fumigation to get better results. Other methods suggested in *vrikshayurveda* also need to be studied.

**Keywords:** *Vrikshayurveda*, germination, *ASHOKA, GAMBHARI*, seed treatment, seed Dormancy