

Fruit maturation and germination in *Ficus auriculata* Lour. A Lesser known multipurpose tree species in Kumaun Himalayan Region

Jyotsna¹, Ashish Tewari^{*2}, Shruti Shah³, Krishna Kumar Tamta⁴ and Nandan Singh⁵

Department of Forestry and Environmental Science, D. S.B. Campus, Kumaun University, Nainital, India

(Received 17 July, 2019; accepted 25 September, 2019)

ABSTRACT

Globally there are 750 species of *Ficus* belonging to the family Moraceae. *Ficus auriculata* Lour locally known as Timul, commonly occurs throughout the hills especially in Chir-Pine dominated forests up to 1700m from the foothills. The study focused on fruit maturity timing and seed germination of *F. auriculata*. Absence of seedlings and saplings of *F. auriculata* was a conspicuous feature across all studied sites. Fruit production peaked in the month of June - July, while the male fruit crop peaked 2-3 months before female fruit production. Across all the sites fruit size between first to last collection varied between 246.45 ± 3.76 and 2063.21 ± 7.38 mm² and seed size ranged between 0.42 ± 0.03 and 2.02 ± 0.12 mm². The maximum germination varied between 82.60 ± 1.05 and 86.11 ± 0.77 % when fruit moisture content was between 36.67 and 40.50 % and seed moisture content was 33.34 and 37.84 %.

Key words : Fruit, Fruit maturation, Seed germination, Moisture content

Introduction

Ficus (Moraceae) is one of the largest plant genera, with more than 750 described species distributed worldwide. The fruits of *Ficus* are considered to be key plant resources in tropical rainforests due to their rich and continuous production, providing food for frugivorous (especially birds) when the availability of other fruits is less (Pothasin *et al.*, 2014). The pollination of fruits by specific wasps is arguably the most widely known example of mutualism relationship between trees and their pollinators (Machado *et al.*, 2001).

Ficus auriculata (syn *Ficus roxburghii*) is a wild edible fruit belonging to the family Moraceae, commonly known as timul, timla, is a medium-sized tree up to 20 m tall, becoming shortly buttressed.

The species occur throughout the hills especially in Chir- Pine dominated forest of Uttarakhand, some north eastern states and Pakistan to South China up to an elevation of 1700m from the foothills (Osmaston, 1927; Troup, 1921; Pandey *et al.*, 2018; Chaudhary *et al.*, 2012). The fruit is pinkish or red at maturity. The leaves are used as a fodder during the winter season and liked by cattle and also used as plates by stitching 3-4 leaves together for taking food during special occasions commonly in villages (Parmar and Kaushal, 1982).

The regeneration of the *Ficus* tree species is highly variable under natural conditions. The indicator of poor regeneration in a forest is scarcity of seedlings and saplings. Regeneration of species, survival and growth of seedling depend upon biotic and abiotic factors like human disturbance, cattle

*Corresponding author's email: atewari69@gmail.com

^{1,4,5} Research Scholar, ^{2*} Associate Prof., ³ Research Associate)