



VARIATIONS IN GERMINATION PERCENTAGE AND RELATED ATTRIBUTES IN CANDIDATE PLUS TREES OF *BUCHANANIA COCHINCHINENSIS* (LOUR.)

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ABSTRACT: Seeds from thirteen candidate plus trees (CPTs) of *Buchanania cochinchinensis* collected from Batkakhapa, Tamia and Dellakhari ranges in Chhindwara district of Madhya Pradesh, India were assessed for germination attributes. Highest germination percentage (76.33%), mean daily germination (3.32), germination value (13.41), vigour index (1196.85) and peak value (4.04) was recorded in seeds of MPC-12. Earliest initiation of germination process was recorded in MPC-2, MPC-3 and MPC-11 after 9 days of seeds sowing. Days taken for completion of germination were observed after 16 days of sowing in MPC-7. Findings of the present study suggested that seeds of CPTs like MPC-12, MPC-7 and MPC-8 performed better on germination attributes. Hence, seeds of these candidate plus trees can be employed to develop quality planting material and conservation of this vulnerable non wood forest produce species.

Keywords: *Buchanania cochinchinensis*, candidate plus tree, chironji, QPM, seed germination, vigour index

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INTRODUCTION

Buchanania cochinchinensis (Lour.) M.R. Almeida, Synonym: *Buchanania lanzan* (Spreng.) (Anonymous, 1996) was first described by Francis Hamilton in 1798, is a small size tree of family Anacardiaceae generally attaining a height upto 18 m and girth upto 1.5m with a straight, cylindrical trunk. This plant is commonly known as 'Almondette' tree in English and 'Char', 'Achar', 'Chironji' and 'Piyar' in Hindi. It is an important no-wood tree species found in deciduous forests throughout the greater part of India. In central India, it is a common associate of teak, sal and mixed forests. It is important for rural and tribal economy. It is used for environmental conservation and in 'agro forestry system'. The greenish white flowering of the tree occurs from January to March and yellowish-red drupe, one seeded, fruits ripen in the month of April-June and remain on the tree for quite a long time (Troup, 1986). The bark is rough and dark grey or black. The leaves are dull green, oblong or elliptical, 10 to 25 cm (4 to 10 in) long, smooth on the margins and leathery. The leaves are crowded at the ends of the branches in an alternate arrangement, and are evergreen or semi

evergreen, depending on the length of the dry season, with the branches left bare for around four to six weeks. The tree is leafless or nearly so, for a very short time during the summer season. *B. cochinchinensis* is a non-wood forest species commonly found throughout the Burma, Nepal and India, (Hemavathy *et al.*, 1988) mostly in Northern, Western and Central India in the states of Madhya Pradesh, Maharashtra, Jharkhand, Chhattisgarh, Uttar Pradesh, and endemic to the dry deciduous forests, up to an altitude of 1200m (Pandey, 1985). It is endemic to tropical dry deciduous forest of India (Siddiqui *et al.*, 2014). During survey this species observed an important Non timber forest produce (NTFP) of deciduous forests throughout the greater part of India especially in Madhya Pradesh. The Chironji kernels contain about 52 percent oil (Anonymous, 1952) which is used as a substitute for olive and almond oils (Kirtikar and Basu, 2005), while the whole kernel is used in sweet-meats or as a substitute for almond kernels (Kumar *et al.*, 2012). It is considered as one of the delicious wild fruits. In Central India, it is a common associate of sal (*Shorea robusta*), teak (*Tectona grandis*), dhok/kaldhi (*Anogeissus*