

REPRODUCTIVE PHENOLOGY OF JACKFRUIT: A CRITICAL DIMENSION OF PLANT FUNCTION

Kundan Kishore^{1*} & Ankita Sahu²

¹Central Horticultural Experiment Station (ICAR-IIHR), Bhubaneswar, India

²ICAR-Central Institute for Women in Agriculture, Bhubaneswar, India

kkhort12@gmail.com*, sahuankita29@gmail.com

ABSTRACT

Jackfruit (*Artocarpus heterophyllus* Lam.) is one of the important underutilized tropical fruits of India. The importance of jackfruit has increased substantially due to its nutritional value and low glycaemic index. In spite of high food value and market potential, jackfruit is one of the poorly researched crops and there is a dearth of information about its reproductive phenology which is considered as the most important component of fruit production. Reproductive phenology (RP) was studied in the jackfruit genotypes under eastern tropical region of India. RP signifies the sequential occurrence of flowering, fruit development and fruit and seed maturation. The RP of jackfruit describes the development of specialised reproductive shoots (411-419), inflorescence (spike) development (511-519), flowering (611-619), fruit development (711-719) and fruit maturation (811-819). The distinguishable phases of RP are defined and described by the extended BBCH scale which helps in identification of critical stages and their interaction with environmental factors. Jackfruit is a monoecious species bearing male and female inflorescence (spike) separately. It has unique character of producing specialised reproductive shoots called footstalks which emerge on the trunk and old branches during the reproductive phase. Synchronization in male and female phase is crucial for crop production. Pollination in jackfruit is a complex biological phenomenon owing to the spatial separation of both the form of sex and temporal variation in their maturation. Wind and insects are important agents for pollination. Development of syncarp (multiple fruit) completes in four months however during this period perceptible changes occurred in fruits and seeds. Harvesting at optimum maturity ensures better fruit quality. The phenological study acts as an effective tool for providing a consensual unified approach for standardisation of various events, as well as for efficient orchard management for ensuring higher yield and fruit quality. Moreover, crop phenology is considered as an indicator of climate change.

Keywords: Jackfruit, *Artocarpus heterophyllus*, Phenology, BBCH scale, Flowering