**Molecular markers: a potential resource for ginger genetic diversity studies**


ABSTRACT

Ginger is an economically important and valuable plant around the world. Ginger is used as a food, spice, condiment, medicine and ornament. There is available information on biochemical aspects of ginger, but few studies have been reported on its molecular aspects. The main objective of this review is to accumulate the available molecular marker information and its application in diverse ginger studies. This review article was prepared by combing material from published articles and our own research. Molecular markers allow the identification and characterization of plant genotypes through direct access to hereditary material. In crop species, molecular markers are applied in different aspects and are useful in breeding programs. In ginger, molecular markers are commonly used to identify genetic variation and classify the relatedness among varieties, accessions, and species. Consequently, it provides important input in determining resourceful management strategies for ginger improvement programs. Alternatively, a molecular marker could function as a harmonizing tool for documenting species. This review highlights the application of molecular markers (isozyme, RAPD, AFLP, SSR, ISSR and others such as RFLP, SCAR, NBS and SNP) in genetic diversity studies of ginger species. Some insights on the advantages of the markers are discussed. The detection of genetic variation among promising cultivars of ginger has significance for ginger improvement programs. This update of recent literature will help researchers and students select the appropriate molecular markers for ginger-related research.



**Keyword:** Advantages and disadvantages; Genetic diversity; Ginger; Molecular markers