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**FUNGAL DISEASES OF RICE AND
THEIR MANAGEMENT**

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FUNGAL DISEASES OF RICE AND THEIR MANAGEMENT

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CHAPTER 5

Computational Deciphering of Blast Resistance Genes in Rice

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ABSTRACT

Rice blast disease caused by *Magnaporthe oryzae* has hindered the global production and yield of rice. Hence, it is crucial to study the intricate details of the plant defense mechanism and understand how plants acquire full or partial resistance against the species of *M. oryzae*. Plants encoding nucleotide-binding site leucine-rich repeat (NBS-LRR) like proteins have characteristics of plant-disease resistance genes. This review summarizes the computational analysis trying to decipher and analyzes the underlying role of different blast resistance genes in resistant and susceptible rice cultivars and identifies resistance proteins helpful in developing molecular markers linked to resistance genes.

5.1 INTRODUCTION

Rice is one of the most important crops and staple primary source of food to meet the dietary requirements of people globally (Ngangkham et al., 2010). Therefore, any fungal disease affecting rice plants, be it resistant

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