

## Rice: Importance and Future

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Cereals are one of the important foods for growing population of human. Approximately 50% of consumed calories by the whole population of humans depend on wheat, Rice and maize [1]. Although rice has the second place because of planted area but it serves as the most important food source for Asian countries mainly in south-east parts where it is an economic crop for farmers and workers who grow it on millions of hectares throughout the region [2]. Historically, rice was cultivated 10000 years ago in the river valleys of South and Southeast Asia and China since it served as the most important food for people. Although Asia is the main place of rice cultivation but it was harvested in other continents like Latin America, Europe, some parts of Africa and even USA [1].

Since rice provides 21% of energy and 15% of protein for human, its quantity and quality requires major attention [1]. Although these two factors could be improved by biotechnological approaches but there are key constraints on production of this economical crop worldwide. Rice pests and diseases cause annually significant loss of rice production. Several insects attack rice including Rice Water Weevil, Rice Stink Bug, Fall Armyworm, Chinch bug, Mexican rice borer, sugarcane borer, grasshoppers, Blister Beetles and Leafhoppers. This is only the half problem because many pathogens also cause severe damages as blast, Rice yellow mottle virus and Bacterial blight [3].

Several biotechnological approaches are adopted to increase quality and quantity of rice as well as its resistance to pests, diseases and environmental stresses [4]. These approaches have now increased quality and quantity of rice production by (i) transfer of economically important traits from genus/species barrier into the rice gene pool, (ii) manipulation of target trait without disruption to the non-target regions of the rice genome and (iii) shortening the breeding cycle [3]. These advantages come from several techniques including DNA marker technology for enhancing precision in rice breeding, genetic engineering for transferring agronomically useful traits across species barrier that cannot be achieved by conventional means and Application of genomic tools for identifying new and useful genes/alleles [3].

Apart from the above mentioned aspect, efficient and safe control of rice pests and diseases are undergoing to prevent any exotic yield loss. Although spraying by chemical insecticides is the main tactic to eliminate presence and damages of pests but several other tactics along with biotechnological control are used by farmers. Because of rising concerns on environmental pollution, resurgence, resistance and

emerging of secondary pests caused by synthetic chemicals, researchers and farmers are seeking for safer and more efficient tactics such as using insect growth regulators, biocontrol agents, sanitation and etc [5]. For example, we have conducted several experiments to elucidate physiological efficiency of *Andrallus spinidens* F. (Hemiptera) and several entomopathogenic to cope population outbreaks of rice striped stem borer in Iran where it has been resistant to diazinon as common used insecticide there [6,7].

Taken collectively, importance of rice not only as a food but also as income leads to bring pile of researches as well. So, OIMICS publication group established a journal entitled "Rice Research: Open Access" to brings all these researches to a unique platform. On the other hands, RR intends to publish complete, reliable and recent sources of information as original articles, review articles, case reports, short communications and etc. RR is proud to announce that first number of journal has successfully been published in 2013 and it wants to continue its way to reach a great reputation among researchers around the world. The submitted manuscripts will be rigorously and rapidly reviewed by experts in rice science. Editorial board of RR is eagerly to have high-quality research results.

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Received November 18, 2013; Accepted November 19, 2013; Published November 21, 2013

Citation: Zibae A (2013) Rice: Importance and Future. *J Rice Res* 1: e102. doi: [10.4172/jrr.1000e102](http://dx.doi.org/10.4172/jrr.1000e102)

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