Rice (2008) 1:1–2
DOI 10.1007/s12284-008-9010-y

EDITORIAL

From the Editor's Desk

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Published online: 15 August 2008

Rice has long been cultivated as a staple food for nearly a half of the world's population. Cultivated rice, *Oryza sativa* L., which originated from Asia, is now widely propagated all over the world, as it became adapted to local cultivation conditions such as temperature, rainfall, and day length. As a result, there are more than 100,000 rice varieties providing almost one quarter of global per capita energy. Probably, no other domesticated crop plant is as closely linked to the culture in both historical and contemporary settings as rice. From ancient times, rice figured prominently in many cultural activities with religious events and festivals revolving around the cycle from seed sawing to harvesting. Even now, with the establishment of modern cultivation practices, it is still very common to see farming communities engaged in festivals and other traditional activities associated with rice.

Over the past 30 years, the introduction of semi-dwarf strains and hybrid rice permitted rice breeders to meet the ever-increasing demands for rice. However, despite the recent changes in rice production technology, many researchers around the world have yet to address and utilize the current rice breeding and cultivation technologies to increase yield and to satisfy the growing demands. This is evident in the escalating price of rice and shortage of supply in many Asian countries. Although this is largely a result of many environmental factors as well as the political and economic systems, there is no doubt that the inability to translate major advances in rice research to actual farming is a major issue and one that requires immediate action.

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The completion of the accurate, map-based rice genome sequence in 2004 was a significant milestone for rice research. This indispensable tool has already helped rice researchers to identify the genes that are responsible for many important traits associated with rice growth and development. Currently, in addition to genomics, several new fields of study or the so-called "-omics" address various aspects associated with the genome including transcripts, proteins, and metabolites. Genomic approaches can be expected to further promote ground-breaking research that could lead to unprecedented improvement of rice as food or carbon source. Despite the availability of all the modern tools and resources for rice improvement, rice breeding and practical research continue to fall short of meeting the demands for increased productivity. It is clear that the rice research community needs to work together to more effectively apply the genomic knowledge and techniques to solve practical rice breeding problems.

The situation of plant research is now completely different from that of a couple of decades ago. The issue of global warming as a result of drastic increase in atmospheric CO_2 is threatening many aspects of crop production. Agriculture, as practiced for thousands of years, has to adapt to the ever-changing climates with intermittent drought and flooding or extended periods of cold and warm weather. As a result, many countries are now looking for sources of renewable fuels. Thus, many staple crops, such as corn, soybean, and sugarcane, which had traditionally been used as food source, are now being funneled as potential sources of biofuel. Although the potential benefit to the environment is large, the conversion of major crops to biofuel could adversely affect food security. Market prices of corn, rice, and soybean have nearly doubled within a very short period, and almost all of the concomitant food prices have increased all over the world. More than ever, the

research community is called on to address these problems, to contribute to overcoming global warming and to ensure food security through basic and applied research.

While rice research is focused on understanding the mechanisms and complexities involved in crop improvement, major concerns of environmental degradation and food security must also be addressed. We believe that our new journal, *Rice*, will serve an important role in addressing these aforementioned issues. *Rice* will publish review articles, original manuscripts, perspectives on various aspects of rice, reviews of resources available to the community, and updates on various projects and collaborations on rice research. The scope of the journal encompasses rice genetics, structural and functional genomics, comparative genomics, molecular biology and physiology, molecular breeding, and comparative biology with an emphasis on rice genomics. Our editorial team consists of dedicated scientists who are committed to timely and high quality appraisal of all submitted articles. Together, we hope to nurture a scientific publication that will provide a niche for cutting-edge information in rice research and perform a vital role for our future. We ask all of you to take a look at our inaugural issue and help us in our endeavor through offering questions and suggestions as well as contribute to its successful launch by submitting to our journal.