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Foreword

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In 1994, Lester Brown [1] asked a surprising question which brought global attention to food security: "Who will feed China?" China has no choice but to face this problem. China is producing and will have to produce more food to feed herself. According to the predictions of Koppen's model [2], in the 21st century, the production of food energy from cultivated land will still be able to meet the qualitative and quantitative demands of the anticipated world population. Obviously, Koppen's forecasts are optimistic and contrast markedly with Brown's alarming question. This demonstrates that scientific conclusions need to be fully explored and subjected to continual re-evaluation.

Scientists consistently predict that the global population will continue to increase in the coming decades based on the trends over the last 44 years, while the area of arable land continues to decrease [3,4] (Fig. 1). Although the number of poor as a proportion of the world's population shows a downward trend, FAOSTAT data indicate that during 2011–2013, 842 million people around the world were still hungry or under the absolute poverty line [5]. Undoubtedly, the world faces a great challenge to meet the global demand for food and nutritional improvement, and therefore highly efficient and sustainable agriculture is commonly believed to be the key to this predicament.

For most developing countries, there is still a long way to go for them to develop efficient and sustainable agriculture. To reach this goal, many critical problems, such as over-use of land and water resources, abuse of fertilizer and pesticides, and environmental pollution caused by agricultural practice, have to be dealt with effectively [6]. The ultimate strategy for solving these problems will have to be built on tremendous advances in agricultural science and engineering technology.

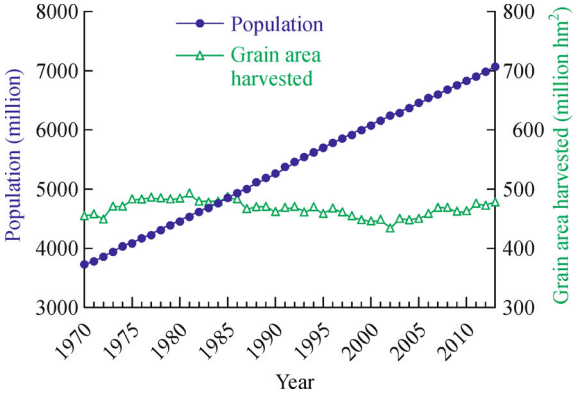

Fig. 1 World population growth and grain area harvested from 1970 to 2013 (Data from USCB, USDA)

As a peer-reviewed international journal jointly founded by the Chinese Academy of Engineering [7], China Agricultural University [8] and Higher Education Press of China [9], *Frontiers of Agricultural Science and Engineering* (*FASE*) provides a high level forum for investigators worldwide to publish their original findings, and to aid others who wish to apply these findings to the benefit of society. It is expected to become an important venue for discussion and dissemination of agricultural science and engineering knowledge.

I would like to thank the readers, authors, reviewers and editors of the journal, without whom the journal could not grow. I do believe that the publication of this English journal will help facilitate the development of agricultural science and engineering research, and help promote the communication among international academics in these areas.

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