

Editorial

Science challenge to feed the world and sustain environment

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Scientific innovation, automation and biotechnological progress, such as the development of extensive and economical irrigation methods, the use of fertilizers and pesticides and the application of scientific knowledge to agriculture allowed to increase the yield of some cereal crops threefold since 1950 (Trewavas, 2002). However, due to exacerbated climate change, we would be confronted to a food crisis and malnutrition in the next decades, at least in some places in the world. To avoid mass hunger, global food production should be doubled by 2050 (World Food Programme, 2009). The production of food with acceptable quality and quantity will be among the most challenging issues for scientists, farmers and policymakers in the upcoming years. Anthropogenic activities, unsustainable practices and irresponsible management play major roles in the prospected environmental and food crisis. The limited surface of arable lands and the desertification of currently cultivable lands would aggravate the problem. The dependence on fossil fuels and plant-based fuels, with the loss of genetic variability within plant species adapted to their environment are tangible factors we are facing today with the challenge of plant vulnerability to multiple and simultaneous biotic and abiotic stresses. The scarcity of food and fossil fuels will dramatically increase the price of food and fuels, and would generate important waves of migration from one place to another, within countries and/or between countries, which would create some pressure and conflicts for the remaining resources. The capitalist and financial neoliberalization, the

preference of youths for office and technology-based jobs to the detriment of agriculture and field work wouldn't help to alleviate the challenge of food scarcity. With such considerations in mind, we need to emphasize the need to seek for genuine and efficient solutions to feed growing population and retreating cultivable lands. The solution is not necessarily technical only, based on techniques and scientific approach only, but also it should include a panel of policies of equal distribution, human cohesion and collaboration. A combination of old and new approaches, the innovation at agriculture and plant biology levels in term of improving plant varieties and breeding approach and fair food distribution policies are integral parts of the solution. More importantly, it would be crucial to opt for sustainable production system in respect of the environment to reduce waste of water, land and energy. There is certainly a place and food for everyone on this immense and rich planet, but to get it decently we would need a deep revision of the current policies of food production, conservation, distribution, and trade laws towards more human equity and less greediness.

In this context, it would be well to recall that the main needs of human (food, oxygen, clothing and shelter) are all strictly based on, or associated with, plants which in turn impacted by the environment and their ability to tolerate biotic and abiotic stresses.

It is for these interests that we will strive to

focus on in the *Abiotic and Biotic Stress Journal* (Absjournal). Our aim is to make Absjournal as an open and free forum for scientists, policymakers and researchers in plant biology, agriculture and environmental sciences to meet and exchange their expertise and results towards improving food production and sustain agriculture practices and resources.

Absjournal will be a catalysis tool for the dissemination of scientific knowledge and findings that would advance our comprehension about how plant adapt to their harsh environment and how to maintain their productivity while sustaining natural resources and reducing environmental wastes. Under exacerbate climate changes, scarcity of water and arable lands, we think that Absjournal should have an important role to play by its specific and important emphasis on plant adaptation to all kinds of environmental stresses, food security and environmental sustainability.

Contributors are encouraged and welcome to handle any specific or general approach, original idea, hypothesis, viewpoint and any kind of scientific input within the large scope of Absjournal. It is by sharing new thoughts and

reflections, and building constructive and critical views that we can face the challenge of food security and wellbeing for all. The task is not easy at global level, but with the efforts of each of us, we would make an enhanced step in the long path towards developing plant varieties that should resist to environmental fluctuations and secure food reserves for human generations. The Editors of Absjournal are engaged to take their part of responsibility in facilitating the exchange of scientific information and findings in the fairest and quickest way possible while maintaining the highest standards possible.

Readers and authors from around the world are welcome to take advantage and part of Absjournal in raising the challenge to feed the world and sustain environment and agriculture.

References

- Trewavas A. Malthus foiled again and again. *Nature*. Aug 8 2002; 418 (6898): 668-670.
- World Food Programme, <http://www.wfp.org/content/world-must-double-food-production-2050-fao-chief> Accessed on 14 July 2014.