In this issue

Richard Strange

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This issue consists of 10 original papers, a conference report and two book reviews.

The first three papers derive from talks given by the authors at a plenary session of the 10th International Congress of Plant Pathology held in Beijing, August 25–30, 2013 (ICPP2013), which had the overall title “Can we improve global food security?” The three speakers considered the question from three environmental perspectives, physical, biological and socio-economic-political.

Jianmin Li and Zhaohu Li discuss the physical limitations and challenges to grain security in China. Limited land and water are the main constraints, particularly in the North China Plain. They advocate, among other matters, the strict protection of cultivated land against encroachment and raising the ratio of the agricultural use of water to other uses.

Considering that the Congress was held under the auspices of the International Society of Plant Pathologists, the next author, Fen Beed, appropriately confined himself to plant diseases as the aspect of food security which should be improved. He promotes the concept of a crop health care system for sub-Saharan Africa (SSA) which would act pre-emptively rather than “belatedly combating large scale epidemics”. Such a system would include, among other items, extension, a subject that is mentioned many times in the pages of this journal. There are illustrated examples of serious plant diseases in SSA, including virus diseases of cassava, which feature later in this issue. A further section of the paper reviews the feasibility of using biological control as a means of managing disease and gives the specific example of the control of toxigenic species of the fungal genus, *Aspergillus*. These are frequent contaminants of food, particularly in tropical climates, and the compounds they secrete, known as

aflatoxins, are not only highly toxic but also potent liver carcinogens.

Ulrike Grote, who took a socio-economic and political perspective, gave the final paper of the plenary session “Can we improve global food security?” She points out that there are no simple answers to this question although many factors could ease the problem, such as increasing the productivity of farming and efficiency of food marketing. However, further pressure is being put on the global food system by the energy and fuel markets, which are becoming increasingly linked to agriculture.

In their prognosis of biophysical threats to agricultural food production during the time frame 2012–2050, Jens Sundström and co-authors pick up many of the points examined by the speakers at ICPP2013. The threats analysed were environmental degradation, climate change and diseases and pests of animals and plants but, as the authors point out, the seriousness of the threats and the damage they are likely to cause vary according to the economic development and climatic zone of the countries concerned.

Menale Kassi and co-authors examined the impact on food security in rural Tanzania of improved maize varieties, which yielded, on average, 1.2 t per hectare compared to 0.5 t per hectare for local varieties. Chronic and transitory food security were reduced from between 0.7 and 1.2 % and between 1.1 and 1.7 %, respectively, for every acre increase in area planted to the improved varieties.

The next paper, “A global alliance declaring war on cassava viruses in Africa” is a roadmap, which resulted from a workshop held at the Rockefeller Foundation Center in Bellagio, Italy last year. Publishing this paper in Food Security is particularly apt as it resonates with Norman Borlaug’s challenge, 16 years ago, to the International Society of Plant Pathology (the joint owners with Springer of this journal) to *do* something about food security, which was the inspiration for the founding of the journal. The

R. Strange (✉)
Birkbeck College, University of London, London, UK
e-mail: r.strange@sbc.bbk.ac.uk

roadmap deals with two virus diseases, Cassava Mosaic Disease and Cassava Brown Streak Disease, previously mentioned in this issue in the paper by Fen Beed. These have become extremely destructive in recent years and are the two worst biological constraints to cassava production in Africa. Both are spread by whiteflies, which have lately become super-abundant. The roadmap details actions that must be taken immediately (1–4 years), in the medium-term (5–10 years) and long-term (11–20 years) to control these pernicious diseases, which are so destructive of a crop that is of major importance in sub-Saharan Africa.

Adam John draws attention to the enormous losses to agricultural production caused by rodents—for example in Asia where, according to one report, the annual amount of food lost would be sufficient to feed 200 million people. In his paper, which focuses on Southeast Asia, the author critiques the current dependency on rodenticides and makes a case for Ecologically-Based Rodent Management (EBRM). One of the EBRM systems relies on barriers and traps, the barrier, plastic fencing, excluding entrance to rice fields except at small gates, which contain the traps.

Giel Ton and co-authors describe the successes of a programme, named Empowering Smallholder Farmers in Markets, has had in 11 countries. Working with National Farmer Organisations (NFOs), many and diverse key issues were identified where strengthening of advocacy contributed to successful outcomes. As a result, the authors suggest earmarking funds for NFO-led research support in order to facilitate the participation of smallholders in the design and monitoring of development policies.

The final two papers are concerned with household food security. The first of these by Nahid Salarkia and co-authors report results of an adapted Household Food Insecurity Access Scale (HFIAS) to study food insecurity in the urban area of Varamin, a city 30 km to the south of Tehran, Iran in 2009. Among the sobering statistics were the findings that

only 21 % of households were food secure and in more than half the households (54.3 %) the ratio of calorie consumption to the Recommended Daily Allowance (RDA) was below 70 %. In the second paper, Raphael Nawrotzki and co-authors examined changes in food security between the years 2004 and 2010 in a rural district in Northeastern South Africa. They found a general improvement up to 2008 when it leveled off, a phenomenon which they attributed to the global food crisis of that year. Some households, such as those of former Mozambican refugees, were particularly vulnerable to food insecurity.

The First International Conference on Global Food Security was held in Noordwijkerhout, The Netherlands from September 29th to October 2nd, 2013 and is reported by Santiago Dogliotti, Ken Giller and Martin Van Ittersum. More than 600 participants from 65 countries attended the conference, which, to quote from the report “brought together many if not all the disciplines involved in global food security”.

This issue is completed by two book reviews. Rebecca Whittle reviews “Hungry for Change: Farmers, food justice and the agrarian question” by A. Haroon Akram-Lodhi. This is a hard-hitting book, which meets head on the contradictions in the food systems by which we have, for example, the co-existence of obesity and undernourishment even in the same person and those people closest to food production i.e. poor peasant farmers being the majority of the world’s hungriest. Ian Gillespie reviews “Strategies and Priorities for African Agriculture: Economy-wide Perspectives from Country Studies” edited by Xinshen Diao, James Thurlow, Samuel Benin and Shenggen Fan. This book, which is available as a free download from the International Food Policy Research Institute, is concerned with the extent to which investment in agriculture contributes to national economies in sub-Saharan Africa and to what extent this results in escape from poverty of the rural poor.