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Preface

Climate change threatens the sustainability of world agriculture. Its effects are likely to be both rapid and unpredictable, making it particularly difficult for plant breeders, agronomists, and farmers to respond to. As well as direct effects on crops themselves, there will be new pressures from weeds, pests, and diseases. It is essential that everyone involved in sustaining food production is ready to meet this challenge. These matters were discussed at the Association of Applied Biologists meeting on 'Effects of Climate Change on Plants: Implications for Agriculture', held at Rothamsted Research in the UK in November 2008.

The eight papers in this issue review the multidisciplinary approaches that scientists are taking to anticipate the effects of climate change on plants and to provide plant breeders and biotechnologists with the knowledge and tools to produce crop varieties that will feed the world during the coming century. Modelling comes into its own here because we are dealing with a situation that does not exist yet. We also see extensive use of artificial environments, such as those of the free-air carbon dioxide enrichment (FACE) experiments. All-in-all it will be clear to the reader that plant scientists now have an impressive array of techniques and resources to bring to bear on the problem: the situation is definitely not a hopeless one.

How mankind emerges from the coming century or more of predicted major shifts in climate will depend on how well agricultural production can be maintained. Plant scientists have a very important part to play in that and the quality and depth of the papers in this issue give cause for optimism that the challenge can be met.

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