Basra, A.S. (ed): **Crop Responses and Adaptations to Temperature Stress.** - The Haworth Press, New York 2001. 302 pp. USD 94.95. ISBN 1-56022-890-3.

This book is focused on crop responses and coping with three temperature stresses: chilling, frost and heat (high temperature) stress. These stresses limit cultivation of many crops in different regions of the world. Chill (low temperature above zero) presents a serious problem for cultivation of important crops originated from subtropical and tropical regions (*e.g.* rice, maize, sorghum, soybean, tomato). Frost (temperature below zero) threatens the life of crops in temperate regions, and, last but not least, heat limits crop yield and productivity during growth period in various countries.

The book contains 8 chapters written by leading scientists and experts in each temperature stresses. They lucidly describe how each of temperature stresses affects plants, and namely mechanisms allowing the crop to cope with them. They include ways how to utilize new molecular technology to improve crop resistance to temperature stresses. The first three chapters, dealing with chilling stress, concentrate on induced oxidative stress, antioxidative mechanisms and root system functions during low temperature stress. Two following chapters summarize mechanisms of plant cold acclimation to frost with the emphasis on cold induced genes, proteins and signal system. The last two chapters describe the control mechanisms of thermotolerance, heat shock response system and effects of heat stress on cereal yield and quality.

The book summarizes not only the newest results of basic and applied research of plants under temperature stresses up to date of publication but also the view on the perspective approaches to improve temperature stress tolerance of crops. In the same time this book brings together results of many branches, from physiology, biochemistry, molecular biology to genetics, breeding, agronomy and horticulture. From these points of view the book is useful for researches, students, teachers, breeders, agronomists and all who want to learn more about plant response to temperature extremes at molecular, cellular, whole-plant, and canopy levels.

I. PRÁŠIL (*Praha*)