People + Appropriate Organizational Changes + Strategic Thinking, where “shared purpose” is defined as Vision + Communication. Considering that 21st Century leaders will face increasing complexity, uncertainty, and extremely challenging problems, selection and development of visionary leaders must be done with great care and definite plans for transition. In summary, since “there is no more powerful engine driving an organization toward excellence and long-range success than an attractive, worthwhile, and achievable vision of the future, widely shared”, this book should be required reading for anyone who is or aspires to be a leader.

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Wheat (Triticum spp.) science is changing rapidly, and the world’s most important crop deserves a compilation of recent research advances. The latest treatise, the ASA-CSSA-SSSA monograph Wheat and Wheat Improvement, is already 13 yr old. Purported barriers to yield improvement of wheat in some regions, scientific progress in many areas, and steady gains in world population easily justify an update. Recent literature on field ecology and physiology and their application to improvement of wheat are reviewed. Four sections, “Wheat Physiology”, “Wheat Ecology”, “Wheat Production Systems”, and “Breeding to Further Raise Wheat Yields”, indicate the scope of the book. Each section contains four to six chapters by distinguished authors.

The first section discusses the development of the wheat plant, yield components, N nutrition, and grain quality and their importance in wheat improvement. Wheat plant development is considered in terms of the major phases and their interactions with environmental effects. All the yield components are described, and kernel number, the major determinant of yield, is emphasized. The chapter on N outlines assimilation of the nutrient, its relationship to plant growth, and genetic improvement of fertilizer use. The present understanding of grain quality and factors that affect it are well summarized.

“Wheat Ecology” includes chapters on planting date; plant density; the effects of weeds, insects, and diseases; and poly culture of wheat. Planting date studies in England and Australia are emphasized. The chapter on plant density considers effects of plant number on yield, yield components, and winter hardiness. Diseases and pests are reviewed in terms of their importance in wheat production. Weeds are discussed and their control. Their effects on wheat quality, and interactions with other factors. Intercropping of wheat with other species and blends of cultivars are discussed.

The second section is summarized.

The third section consists of chapters on grain quality and factors that affect it are well summarized.

The section on breeding to raise wheat yields reviews physiological traits, hybrid wheat, and biotechnology. The first chapters describe genetic gain in wheat in association with yield increases in the past, and more attention might have been given to drought, heat, acidic soils, and other adversities. The section on breeding to raise wheat yields reviews physiology, genetics, and biotechnology. All the yield components are described, and kernel number, the major determinant of yield, is emphasized. The chapter on N outlines assimilation of the nutrient, its relationship to plant growth, and genetic improvement of fertilizer use. The present understanding of grain quality and factors that affect it are well summarized.

The fourth section discusses the development of the wheat plant, yield components, N nutrition, and grain quality and their importance in wheat improvement. Wheat plant development is considered in terms of the major phases and their interactions with environmental effects. All the yield components are described, and kernel number, the major determinant of yield, is emphasized. The chapter on N outlines assimilation of the nutrient, its relationship to plant growth, and genetic improvement of fertilizer use. The present understanding of grain quality and factors that affect it are well summarized.

The fifth section includes chapters on planting date; plant density; the effects of weeds, insects, and diseases; and poly culture of wheat. Planting date studies in England and Australia are emphasized. The chapter on plant density considers effects of plant number on yield, yield components, and winter hardiness. Diseases and pests are reviewed in terms of their importance in wheat production. Weeds are discussed and their control. Their effects on wheat quality, and interactions with other factors. Intercropping of wheat with other species and blends of cultivars are discussed.


This book is intended to be a companion to Forage Seed Production, Volume 1: Temperate Species. Fairey and J.G. Hampton. As stated by the editors of Volume 2, these two volumes “provide the definitive treatment of those concerned with the profitable seed production of grasses and legumes for forage, recreational and amenity use. The two volumes also represent a valuable asset to researchers, seed suppliers, as well as students and lecturers in seed science and natural resource management, range scientists, consultants, donor agencies and policy makers.” The many years of direct experience and authoritative reviews make this book a useful reference for graduate students, agronomists, and breeders who are interested in wheat.