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Introduction and Genetic Diversity (L. Panella and R.T. Lewellen)""; ""1.7 History of Sugar Beet Breeding (E. Biancardi)""; ""References""; ""2. Objectives of Sugar Beet Breeding""; ""2.1 Introduction (E. Biancardi)""; ""2.2 Polyploidy (G.N. Skaracis and E. Biancardi)""; ""2.3 Monogerm Seed (E. Biancardi and G.N. Skaracis)""; ""2.4 Male Sterility (G.N. Skaracis and E. Biancardi)""
""2.5 Annual and Biennial Growth Habit, Bolting Resistance (G. Steinrucken)""""""2.5.1 Annual Growth Habit""; ""2.5.2 Biennial Growth Habit""; ""2.5.3 Bolting and Flowering Regulation""; ""2.5.4 Major Flowering Pathways""; ""2.5.5 Flowering Traits in Breeding""; ""2.5.6 Breeding for Bolting Resistance""; ""2.6 Self-fertility and Self-incompatibility (M. De Biaggi)""; ""2.6.1 Self-incompatibility""; ""2.6.2 Self-fertility""; ""2.7 Seed Quality (E. Biancardi and M. De Biaggi)""; ""2.8 Root, Hypocotyl, and Leaf Color (E. Biancardi)""; ""2.9 Morphological and Physiological Traits (E. Biancardi)""
""2.10 Resistance to Parasites""""""2.10.1 Introduction (E. Biancardi)""; ""2.10.2 Viruses""; ""2.10.2.1 Curly Top (L. Panella)""; ""2.10.2.2 Beet Yellows (M. De Biaggi)""; ""2.10.2.3 Beet mosaic (R.T. Lewellen and E. Biancardi)""; ""2.10.2.4 Rhizomar~ia (M. De Biaggi)""; ""2.10.2.5 Beet soilborne virus (M. De Biaggi)""; ""2.10.3 Bacteria""; ""2.10.3.1 Bacterial vascular necrosis and rot (L.G.C ampbell)""; ""2.10.3.2 Yellow wilt (R.T. Lewellen and E. Biancardi)""; ""2.10.4 Fungi""; ""2.10.4.1 Cercospora leaf spot (G.N. Skaracis and E. Biancardi)""; ""2.10.4.2 Powdery mildew (L.G. Campbell)""
""2.10.4.3 Downy mildew (E. Biancardi and R.T. Lewellen)""

Sommario/riassunto

The book comes during a time of rapid expansion in molecular technology-based selection approaches that are destined to modify or supplement conventional breeding methodology. The new technologies will allow genetic and physiological factors influencing sugar yield and quality to be assessed in great detail and manipulated. These novel techniques will also reduce the dependence of the sugar beet crop on chemical pesticides and fertilizers by using unique and improved resistance mechanisms against the various abiotic stresses and diseases and by producing varieties that use soil resources more efficiently. A whole chapter deals with the current information on the development of these new techniques and their integration into sugar beet breeding.