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Titolo	The handbook of plant mutation screening [[electronic resource]] : mining of natural and induced alleles / / edited by Khalid Meksem, Gunter Kahl
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Nota di contenuto	The Handbook of Plant Mutation Screening: Mining of Natural and Induced Alleles; Contents; Preface; List of Contributors; Abbreviations; Part I Induced Mutations; 1 Physically Induced Mutation: Ion Beam Mutagenesis; 2 Ds Transposon Mutant Lines for Saturation Mutagenesis of the Arabidopsis genome; 3 Use of Mutants from T-DNA Insertion Populations Generated by High-Throughput Screening; 4 Making Mutations is an Active Process: Methods to Examine DNA Polymerase Errors; 5 Tnt1 Induced Mutations in Medicago: Characterization and Applications; Part II Mutation Discovery 6 Mutation Discovery with the Illumina Genome Analyzer7 Chemical Methods for Mutation Detection: The Chemical Cleavage of Mismatch Method; 8 Mutation Detection in Plants by Enzymatic Mismatch Cleavage; 9 Mutation Scanning and Genotyping in Plants by High-Resolution DNA Melting; 10 In Silico Methods: Mutation Detection Software for Sanger Sequencing, Genome and Fragment Analysis; Part III High-Throughput Screening Methods; 11 Use of TILLING for Reverse

	and Forward Genetics of Rice; 12 Sequencing-Based Screening of Mutations and Natural Variation using the KeyPointTM Technology Part IV Applications in Plant Breeding13 Natural and Induced Mutants of Barley: Single Nucleotide Polymorphisms in Genes Important for Breeding; 14 Association Mapping for the Exploration of Genetic Diversity and Identification of Useful Loci for Plant Breeding; 15 Using Mutations in Corn Breeding Programs; 16 Gene Targeting as a Precise Tool for Plant Mutagenesis; Part V Emerging Technologies; 17 True Single Molecule Sequencing (tSMS)TM by Synthesis; 18 High-Throughput Sequencing by Hybridization; 19 DNA Sequencing-by-Synthesis using Novel Nucleotide Analogs 20 Emerging Technologies: Nanopore Sequencing for Mutation DetectionGlossary; Index
Sommario/riassunto	Induced mutagenesis is a common and promising method for screening for new crops with improved properties. This title introduces the different methods and then focuses on the screening, detection and analysis of the novel mutations. Written by a global team of authors the book is an indispensable tool for all scientists working on crop breeding in industry and academia.