

BIOTECHNOLOGY, PLANT PROPAGATION AND PLANT BREEDING

Dr. Sushil Kumar



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Contents

<i>Preface</i>	<i>v</i>
1. Introduction	1
Biotechnology in Plant Cell	1
Application of DNA Technology in Plants	7
Investments in Plant Biotechnology	10
Producing Clones: Plant Life	16
The Critics of Agriculture	17
Critics of Agricultural Biotechnology	26
2. Applications of Gene Biotechnology	54
The Baconian Legacy	54
Improvement of Plants and Adaptability to Harsh Environmental Conditions	57
Action of Genes in Development	61
Genetically Engineered Life-Forms in the Environment	81
3. Techniques in Seed Propagation	85
Seed Plants	85
Seed Structure Development	88
Propagation of House Plant Cutting	92
Propagation to Repair Damaged Woody Plants	95
Dividing and Propagating in Herbaceous Plants	95
4. Cloning Propagation in Plant Biotechnology	110
Biotechnology: Putting Clones in Context	110
Plant Gene Cloning	113
Producing Genetically Improved Seedlings	123
Technical Advances in Cloning	125
5. Propagation System in Seed and Plants	126
Seed Propagation	126
Seed Plants	127
Sexual Propagation in Plants	130
Germination of Sexual Seed Propagation	131

Seed or Sexual Propagation	133
Seed Germination and Seed Propagation	134
6. Plant Breeding System	145
Scope of Plant Breeding	145
Monoploids in Plant Breeding	148
Methods of Plant Breeding	155
Hybridizing Plants Grown from Seeds	158
Breeding Perennial Grains	183
7. Biotechnology and Agriculture	196
Revolutionized Research	196
Agriculture Biotechnology Food	199
Use of Biotechnology in Agriculture	215
Factory Farming	220
8. Genetic Engineering in Plant Breeding	228
Applications of Genetic Engineering	228
The Importance of Plant Breeding Collections	230
Plant-breeding Project and Technique	232
Conventional Methods of Plant Breeding	236
Genetic Engineering	243
Insect Digestive Enzymes in Biological Basis	248
9. Genetically Identical in Plants Clonal Propagation	260
Advantages of Clonal Propagation	260
Method of DNA Cloning and Manipulate DNA	269
<i>Bibliography</i>	271
<i>Index</i>	273

BIOTECHNOLOGY, PLANT PROPAGATION AND PLANT BREEDING

Plant breeding is the art and science of changing the traits of plants in order to produce desired characteristics. Plant breeding can be accomplished through many different techniques ranging from simply selecting plants with desirable characteristics for propagation, to more complex molecular techniques. Recombinant DNA and cell fusion techniques may soon allow man to change food crops from inside out with great speed and precision, shaping life to fit the environment. The image presented of biotechnology is that the new knowledge of life processes will enable humans to live in a sustainable fashion where economic and ecological efficiency are optimally met. Genetically identical plants derived from an individual are called clones. Processes that produce clones can be put under the term 'cloning'. This includes all the methods of vegetative propagation such as cutting, layering, and grafting. Propagation by tissue culture also helps in producing clones. Using the shoot tip, it is possible to obtain a large number of plantlets. This technique is used extensively in the commercial field for micropropagation of ornamental plants like chrysanthemum, gladiolus, etc. and also crops such as sugar cane, tapioca, and potato. Thus an unlimited number of plants that are genetically similar or are clones can be produced in a short span of time by tissue culture. The book has been written strictly according to the syllabus. The systematic and graded approach adopted in their text will be of immense help to all sections of the students irrespective of their academic caliber. The book has been written in lucid and readable manner.

Contents: Introduction; Applications of Gene Biotechnology; Techniques in Seed Propagation; Cloning Propagation in Plant Biotechnology; Propagation System in Seed and Plants; Plant Breeding System; Biotechnology and Agriculture; Genetic Engineering in Plant Breeding; Genetically Identical in Plants Clonal Propagation.

About the Author



Dr. Sushil Kumar did B.Sc. (Agriculture) in 2000 from N.D. College, Shikohabadh (U.P.) affiliated to B.S. Dr. B.R.A. University Agra U.P. He qualified Exam. conducted by Dr. B.R.A. Agra University, and joined M.Sc. Agriculture Genetics & Plant Breeding Degree programme at R.B.S. Agriculture College, Bichpuri, Agra University, (U.P.) India. He completed M.Sc. Agriculture Genetics & Plant breeding degree in 2002 with specialization in Plant Breeding. He joined Ph.D. programme and Ph.D. Viva with specialization in Genetics and Plant Breeding in the Department of Genetics & Plant Breeding, S.V.P. University of Agriculture & Technology, Meerut (U.P.). He did his Post Doctoral Fellowship in 2010 Award from UGC New Delhi. He joined Post Doctorate Fellow two year Programme, specialization in Genetics and Plant Breeding and Biotechnology, at the Deptt. of Genetics & Plant Breeding, S.V.P. University of Agric. & Tech., Meerut (U.P.).

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