

# **Agricultural Biotechnology and Intellectual Property**

## **Seeds of Change**



**Edited by  
Jay Kesan**

# Contents

<b>Contributors</b>	ix
<b>Preface</b>	xiii
<b>Acknowledgements</b>	xv
<b>Seeds of Change: A Link among the Legal, Economic and Agricultural Biotechnology Communities</b> <i>J.P. Kesan</i>	xvii
<b>I Introduction</b>	
<b>1 Agricultural Innovation after the Diffusion of Intellectual Property Protection</b> <i>B. Wright</i>	1
<b>2 Seed Biotechnology, Intellectual Property and Global Agricultural Competitiveness</b> <i>P.D. Goldsmith, D.K. Nauriyal and W. Peng</i>	19
<b>II Law</b>	
<b>3 History and Trends in Agricultural Biotechnology Patent Law from a Litigator's Perspective</b> <i>E.J. Sease</i>	38
<b>4 Rules versus Standards for Patent Law in the Plant Sciences</b> <i>M.D. Janis</i>	44
<b>5 Constitutional Implications of State Seed-saving Statutes</b> <i>A.B. Endres</i>	55
<b>6 Patented Inventions and Externalities: Hohfeldian Legal Relationships as They Apply to Pollen Drift and Other Inadvertent Use</b> <i>M.M. Banik and P.J. Thomassin</i>	71

<b>III Technology</b>	
<b>7 Legal Constraint of Genetic Use Restriction Technologies</b>	83
<i>D.L. Burk</i>	
<b>8 Cereal Offenders: Access and Equity in Trade Negotiations on Knowledge Resources</b>	97
<i>A. Taubman</i>	
<b>9 Public Provision of Knowledge for Policy Research: The Agricultural Biotechnology Intellectual Property Database</b>	132
<i>J.L. King and P.W. Heisey</i>	
<b>10 Network Analysis for Interpreting Patent Data: A Preliminary, Visual Approach</b>	141
<i>W. Lesser and C. Gomes</i>	
<b>IV Business</b>	
<b>11 The Impact of Intellectual Property Rights in the Plant and Seed Industry</b>	161
<i>T. Dhar and J. Foltz</i>	
<b>12 Dynamic Pricing Mechanism to Achieve Pareto Optimality in a Seed Production Contract</b>	172
<i>S. Umeno and J.P. Kesan</i>	
<b>13 The Economic Incentive to Innovate in Plants: Patents and Plant Breeders' Rights</b>	190
<i>G. Moschini and O. Yerokhin</i>	
<b>14 The Strength and Structure of Intellectual Bio-property Markets</b>	204
<i>S. Buccola and Y. Xia</i>	
<b>V Comparative Studies</b>	
<b>15 Insecure Property Rights and Plant Varieties: The Effects on the Market for Seeds and on Farmers in Argentina</b>	216
<i>J.P. Kesan and A.A. Gallo</i>	
<b>16 The Regulatory Regime and its Impact on Innovation Activities in Agro-food Biotechnology in the EU and USA</b>	231
<i>K. Menrad</i>	
<b>17 The Political Economy of Intellectual Property: Re-examining European Policy on Plant Biotechnology</b>	244
<i>G.D. Graff and D. Zilberman</i>	
<b>18 Reality and Problems of Plant Protection under Patent Law and Seed and Seedlings Law in Japan</b>	268
<i>Y. Hiraki</i>	
<b>19 Plant Variety Protection in the Republic of Korea</b>	273
<i>K.-S. Yoon</i>	

<b>20</b>	<b>Economic Impact Assessment of Intellectual Property Rights Regulation: The Case of Egypt</b>	281
	<i>J.F. Oehmke and K.M. Maredia</i>	
<b>VI</b>	<b>International Regulation</b>	
<b>21</b>	<b>Social and Economic Consequences of Genetic Use Restriction Technologies in Developing Countries</b>	293
	<i>G. Dutfield</i>	
<b>22</b>	<b>Agricultural Biotechnology under TRIPS and Beyond: Addressing Social Policies in a Pro-patent Environment</b>	304
	<i>C.M. Ho</i>	
<b>23</b>	<b>To Sow or Not to Sow: Dilemmas in Creating New Rights in Food</b>	320
	<i>S. Ragavan</i>	
<b>24</b>	<b>Biodiversity and Biotechnology: A Misunderstood Relationship</b>	347
	<i>J. Chen</i>	
	<b>Index</b>	373