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Seed Quality Enhancement

Principles and Practices



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PREFACE

Seed is the source of future plants or foods, is the storage place of culture of history, is the first link in the food chain, is the ultimate symbol of food security. Seed is the source of life. Seeds are basic in crop production. No agricultural practice can improve a crop beyond the limits set by the seed.

Quality seed is the key for successful agriculture, which demands each and every seed should be readily germinable and produce a vigorous seedling ensuring high yield. “Care with the seed and joy with the harvest” and “Good seed doesn’t cost it always pays” are the popular adage which enlightens the importance of the quality seed. The farmers always very much interested in the best seed management practices which are safe, environmentally sound and scientifically proven technologies. Understandably, in view of the importance of quality seeds in Agriculture, both as a product and as a means of establishing a crop, most attention at all levels of investigation has been directed to crop seeds.

Since seed is a biological entity, deterioration beyond harvest is inevitable. The consequences of low quality seeds are poor germination, low and delayed emergence and weak growth leading to poor field stand and ultimately reflecting on reduced yield. Low productivity could be attributed broadly to use of poor quality seeds. At present to overcome this, several seed enhancement techniques are available for quality upgradation. It has two goals; one is related to seed designing and other to seed functioning.

The rationale for pre-sowing seed enhancement techniques is to mobilize the seeds own resources and to augment them with external resources to get maximum improvement in field stand establishment and yield. To achieve this, several physical, physiological and biochemical treatments are available at present to give value addition to seeds.

Physiological seed treatments that improve seed performance are based primarily on seed hydration and dehydration. Among several non physiological seed treatments, coating or pelleting can

also indirectly improve seed germination, stand establishment and crop productivity.

Keeping in view the importance of quality seed and its value addition, this book entitled “Seed quality enhancement: Principles and practices” has been prepared with expertise of seed scientists. The authors of various chapters have made a remarkable job of writing the chapters in a fitting manner.

Contents

Preface

v

1	Seed Quality Enhancement	— <i>G. Sasthiri & S. Kalaivani</i>	1
2	Classification of Seed Quality Enhancement Treatments	— <i>S. Kalaivani, A. Selvakumari & R. Revathi</i>	6
3	Dormancy and Pretreatments	— <i>M. Djanakiraman, & Mallika Vanangamudi</i>	23
4	Dormancy Breaking Treatments in Rice, Wheat, Oats, Cotton, Groundnut, Sunflower, Pulses, Bhendi and Gourds	— <i>S. Vincent, A. Selvakumari & S. Kalaivani</i>	44
5	Seed Fortification	— <i>P. Srimathi & S. Sumathi</i>	66
6	Seed Hardening	— <i>R. Jerlin & S. Sumathi</i>	84
7	Seed Priming	— <i>R. Umarani & R. Vigneshwari</i>	118
8	Fluid Drilling	— <i>V. Manonmani & V. Vijayalakshmi</i>	146
9	Dry Permeation	— <i>V. Manonmani & J. Srinivasan</i>	166
10	Pregermination	— <i>P. Tamilkumar & R. Vigneshwari</i>	171
11	Seed Pelleting	— <i>J. Renugadevi & M. Jayanthi</i>	178
12	Seed Pelleting and Aerial Seeding	— <i>V. Sivakumar, R. Anandalakshmi, Rekha R. Warriar, B. Gurudev Singh & K. Subramanian</i>	207

13	Polymer Seed Coating	— A. Bharathi & J. Srinivasan	233
14	Seed Colouring	— P. Natesan & V. Vijayalakshmi	260
15	Special Treatments for Seed Upgradation: IDS, PREVAC, Specific Gravity Separation and NIR	— V. Sivakumar, S. Kalaivani & R. Revathi	277
16	Electric Seed Treatment	— G. Sasthri, S. Sakthivel & S. Magheswaran	301
17	Magnetic Seed Treatment	— S. Sakthivel, K. Natarajan & S. Magheswaran	308
18	Irradiation Treatment	— S. Lakshmi, S. Sakthivel & S. Mageshwaran	316
19	Protective Seed Treatment	— M.R. Srinivasan, K. Prabakar, D. Sharana Basava Reddy, M. Rajesh & J. Srinivasan	327
20	Biofertilizer Seed Treatment	— K. Kumutha & S. Poonguzhali	356
21	Biocontrol Agents Seed Treatment	— S. Kalaivani & M. Prabhu	386
22	Botanical Seed Treatment	— P.R. Renganayaki & S. Sumathi	401
23	Midstorage Correction Treatment	— P.R. Renganayaki & A. Sripunitha	419
24	Seed Quality Enhancement in Tree Crops	— P. Tamilkumar & S. Sumathi	430
25	Indian Seed Industry and Seed Trade	— V. Sakthirama & R. Dhivya	444
	About the Editors		483