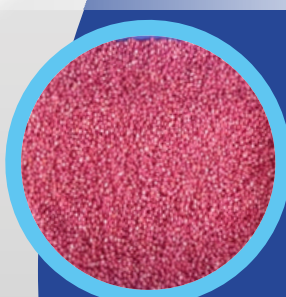


Manual of Hybrid Seed Production Technology in Maize



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Manual of Hybrid Seed Production Technology in Maize

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उप महानिदेशक (फसल विज्ञान)

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FOREWORD

The growing population across the globe has resulted in increase of investment in agricultural research and development to ensure food security. In that context, seed has become a basic and important input in agriculture at large besides fertilizer and water. As of now, in our country, there is a need of around 1.94 lakhs tones of hybrids maize seeds for nearly 9.72 mha maize area. This is a great opportunity for maize researchers and seed growers working throughout the country. Seed *per se* can make a significant difference, if it is available at right time and of good quality as well as at affordable price. The parameters of seeds that define its good quality are physical and genetic purity, germination, seed vigor and health. In order to ensure the production and supply of good quality seed, efforts have been made globally including India to establish a robust seed production, certification and marketing system. In the last five years, the hybrids maize seed requirement has been increased nearly @ 2.4 % per year.

In order to meet the growing demand for maize in the country, production and productivity of maize needs to be enhanced by increasing area under single cross hybrid maize. The increasing area under the single cross hybrids will create a high demand for hybrid seeds in near future. It will also improve the food security, incomes and livelihoods of millions of smallholder farmers and seeds growers. The preparation of **“Manual of Hybrid Seed Production Technology in Maize”** would be very useful step to meet the needs of maize researchers and seed growers for good quality hybrids seeds production in the country. I congratulate the Director, ICAR-Indian Institute of Maize Research, Ludhiana and his team for bringing out this compilation, which I am sure, will be of immense use in quality seeds production and processing.


(T.R. Sharma)

April 13, 2021
New Delhi



PREFACE

Globally maize is an important cereal crop for food, feed, fodder, and also a raw material for various food and non-food-based industries. The area, production, and productivity of maize are increasing continuously in India and the World. However, the rate of increase and level of productivity across different countries varies. The major reason for the variation in maize productivity across countries is the varying degree of adoption of improved technologies. To meet the growing demand for maize in the India and world, production and productivity of maize need to be enhanced which can be achieved by the increasing area under hybrids and by using improved packages and practices for its cultivation. The increasing area under the hybrids maize will create a high demand for hybrid seeds in near future. Hybrid technology is one such technology that has impacted significantly on the increase of maize productivity across the globe. In India, the area covered under hybrid technology is around 70% of the total maize area of the country. There is tremendous scope to bring more and more area of maize under hybrid technology. In this context, the Manual of hybrid seed production technology in maize published by the ICAR-Indian Institute of Maize Research is a significant contribution for accelerating quality seed production in the country. The seed production manual covers all aspects of maize hybrid seed production. The manual briefly introduces to the readers the bird-eye view of the global and Indian scenario of the hybrid seed market, current status, future scope, and system of seed production that existed in India and elsewhere. It covers the biology of maize which is a basic requirement in terms of understanding the crop per se before taking up hybrid seed production. The manual covers the major aspects of seed production like important considerations before taking up hybrid seed production, standardizing seeds production techniques for a new site, techniques of hybrid seed production, various agro-techniques involved in hybrid seed production, and crop protection. It also covers the procedure involved in seed certification. This manual of hybrid seed production in maize would serve as an important resource material for all those who are actively involved in maize hybrid seed production.

The support and encouragement from Secretary DARE and DG ICAR, DDG CS and inputs of AICRP partners and the most importantly the financial help received from ICAR for bringing out this publication is duly acknowledged. The authors expect this manual to be a ready reckoner for hybrid seed production in maize for field experimenters, seed agencies, students and scientists.

Authors

CONTENTS

Sr. No.	Particulars	Page No.
1	Introduction	1
2	Maize scenario	3
3	Biology of maize	11
4	Consideration for hybrid seed production of maize	17
5	Standardization of hybrid seed production techniques in a new area	22
6	Hybrid seed production techniques	24
7	Agro-techniques for management of seed production	31
8	Seed production of parental lines	34
9	Major diseases of maize and their control measures	36
10	Major insect pests of maize and their management	43
11	Seed certification	49
12	References	53
	Annexures	55
Annexure I	Seed certification Standards for maize hybrid seed production	55
Annexure II	Modification of isolation distances for certified seed production	57
Annexure III	List of recently released public bred hybrids for seed production (since 2017).	59
Annexure IV	List of fungicides/insecticide/bactericide used in maize crop	69



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