



Extension For Horticultural Technologies

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ICAR- Indian Institute of Horticultural Research (IIHR)
Hessaraghatta, Bengaluru, Karnataka

&

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EXTENSION FOR HORTICULTURAL TECHNOLOGIES

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This e-book is a compilation of resource text obtained from various subject experts of ICAR- Indian Institute of Horticultural Research, Bengaluru & MANAGE, Hyderabad on Extension for Horticultural Technologies. This e-book is designed to educate extension workers, students, research scholars, academicians related to Horticulture and extension methodologies for promotion of hortipreneurship, for value addition and doubling farmer's income. Neither the publisher nor the contributors, authors and editors assume any liability for any damage or injury to persons or property from any use of methods, instructions, or ideas contained in the e- book. No part of this publication may be reproduced or transmitted without prior permission of the publisher/editor/authors. Publisher and editor do not give warranty for any error or omissions regarding the materials in this e-book.

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MESSAGE

National Institute of Agricultural Extension Management (MANAGE), Hyderabad is an autonomous organization under the Ministry of Agriculture & Farmers Welfare, Government of India. The policies of liberalization and globalization of the economy and the level of agricultural technology becoming more sophisticated and complex, called for major initiatives towards reorientation and modernization of the agricultural extension system. Effective ways of managing the extension system needed to be evolved and extension organizations enabled to transform the existing set up through professional guidance and training of critical manpower. MANAGE is the response to this imperative need. Agricultural extension to be effective, demands sound technological knowledge to the extension functionaries and therefore MANAGE has focused on training program on technological aspect in collaboration with ICAR institutions and state Agriculture/Horticulture Universities, who having expertise and facilities to organize technical training program for extension functionaries of State Horticulture Department.

In India, Horticulture sector contributes the nutrition security, and steady income in case of perennial crops, utilising the marginal lands which otherwise could not have been used for demanding crops, their contribution to the nutrition security of the society cannot be discounted. The export earnings from different horticulture products and their value addition are also noticeably contributing to the National income. Amongst the Horticulture farmers the horticulture farmers suffer from glut and, during corona the direct marketing channels are yet to be structured and poor marketing facilities have led to their low income. These raised the issue of sustainability of horticulture production and marketing in spite of high demand of horticultural products. In this context the value addition in Horticulture ensures profitability and sustainability.

It is a pleasure to note that, Indian Institute of Horticultural Research, Bengaluru and MANAGE, Hyderabad is organizing a collaborative training program on “Extension for Horticultural Technologies” during 27-29 July, 2021 and coming up a joint publication as e-book on “Extension for Horticultural Technologies” as immediate outcome of the training program.

I wish the program be very purposeful and meaningful to the participants and also the e-book will be useful for stakeholders across the country. I extend my best wishes for success of the program and also I wish Indian Institute of Horticultural Research, Bengaluru many more glorious years in service of Indian agriculture and allied sector ultimately benefitting the farmers. I would like compliment the efforts of Dr. Shahaji Phand, Center Head (EAAS) & Program Coordinator (AC&ABC), MANAGE and Director, Indian Institute of Horticultural Research, Bengaluru for this valuable publication.

A handwritten signature in black ink, appearing to read 'P. Chandra Shekara'.

(Dr. P. CHANDRA SHEKARA)
Director General, MANAGE



FOREWORD

Although Indian Horticultural production has surpassed Agricultural production at a record 326mt last year ending 2019-20, and In financial year 2020, fresh fruits was the leading horticulture product exported from India based on value of over 54 billion Indian rupees. Over 819 thousand metric tons of fruits were exported that year from the south Asian country. Farmers could not get the expected prices and therefore the income increases are yet to be realised against the potential. Value addition in Horticulture through transfer of Horticultural technologies to develop hortipreneurship is a focussed area which contributes to value addition, increase in income and export oriented income through diversification, handling storage, processing and packing. The Indian Institute of Horticultural Research, hessaraghatta, Bengaluru has commercialised more than 300 technologies, through technology transfer, hortipreneurship and development of value added products for domestic and export through training, business incubation and acceleration these products and their associated technologies should be communicated to a larger audience.

In this context, ICAR-IIHR is conducting a free online training program on “**Extension for Horticultural Technologies**” sponsored by the National Institute of Agricultural Extension Management (MANAGE), Hyderabad for the Extension officials of state/central horticulture departments, Horticulturists, faculty of SAUs/KVKs/ICAR institutes, etc. during 27-29th July 2021 through Cisco Webex Online Platform. The lectures of this online course are exactly designed to expose the participants to various aspects of hortipreneurship and value addition opportunities through extension methodologies tailor made for Horticulture technology transfer which is a different game per se, both through virtual and Real time modes of technology delivery and dissemination. I hope that the participants from different parts of the country would be immensely benefitted from this online course by interactions with expert resource persons selected for the training. I have no doubt that the course will be intellectually rewarding to the participants.

I would like to take this opportunity to congratulate MANAGE and ICAR- IIHR for their fruitful collaboration towards benefits to farmer community, and stake holders in Horticulture I also congratulated course directors and course coordinators for their untiring work, and high level of enthusiasm.

A handwritten signature in blue ink, appearing to read 'BNS Murthy', written in a cursive style.

(BNS MURTHY)
Director, ICAR-IIHR

PREFACE

This e-book is an outcome of collaborative online training program on “**Extension for Horticultural technologies**” from 27-29 Jul, 2021. The editors’ main aim is to provide insights to all extension workers, faculties, researchers and students about Horticultural technology and their transfer to the stake holder’s right from production to value addition and export. The extension people should know the entire value chain of Horticultural produce. They can be benefitted from getting knowledge of various Horticultural technologies and products. The current information in product development will help them to do well in the extension field.

The editors felt that all the experience of resource persons of this training should be clubbed together to form a unique proposition on Horticultural Extension. Horticultural science is subjects which have different magnitudes, scale and direction coordinating both subjects from a common point was indeed a challenging job. The experts and resource persons in Horticultural science contributed immensely and tirelessly to develop various chapters of this e-book in very short span of time. They all deserve applaud. The editors extend their sincere thanks to all the experts who have contributed valuable time and put sincere efforts to produce this e-book.

The editors also thank MANAGE, Hyderabad for the financial support to the training program. The editors express gratitude towards the director, ICAR-IIHR for the constant encouragement for this training and e-book creation for the participants. The editors hope that this e-book will help participants as well as other extension people across the country to gain valuable information on horticultural production, handling, storage, processing and value addition for domestic and export markets

Editors

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