

**RESULTS OF FRONT LINE DEMONSTRATIONS (2000 to 2007)
AND
TECHNOLOGIES FOR INCREASING SMALL MILLETS
PRODUCTION IN INDIA**



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FOREWORD

Small millets though occupy relatively a lower position among food crops in Indian agriculture; they are quite important from the point of food security at regional and farm level. They further contribute to the widening of food basket, which at present is narrow because of excessive dependence on a fewer food crops. The millet grains are well known for their superior nutritional quality and can contribute to effective nutritional security and human well being. When one looks at the traditional and ethnic food habits in vogue in the country, it would be realized that one or the other small millets dominated in almost every region.

The All India Coordinated Small Millets Improvement Project since its inception in 1986 has developed Agro Production Technologies suitable for different states. Technology on shelf would be of no value unless the extension personnel and farming community are exposed to it effectively. At present the average productivity of finger millet is around 1552 kg ha⁻¹ and that of other small millets is around 500 kg ha⁻¹. Nevertheless, the experimental yield on research stations is of the order of 3000 to 4000 kg ha⁻¹. This indicates a large exploitable potential in the technology generated, which needs to be demonstrated on the farmer's field and effectively transferred.

"Front Line Demonstrations" conducted in different project centres by scientists in many states have convincingly demonstrated the high levels of productivity that could be attained at the farm level. The productivity and income could be substantially pushed up by adopting improved cultivation practices. The yield enhancement could be up to 50% in finger millet, 69% in kodo millet, 34% in foxtail millet, 60% in little millet, 70% in barnyard millet and 75% in proso millet. Compilation of On-Farm data on the potentials of technology package recommended along with information on the varieties and crop management skills in the form of a comprehensive technology bulletin was indeed a necessity. In this context, the efforts made by the Project Coordinator (Small Millets) and his colleagues at the P.C. Unit (Small Millets), GKVK Campus, Bangalore is noteworthy and I compliment their efforts.

I am sure that the bulletin on 'Results of Front Line Demonstrations (2000-2007) and Technologies for Increasing Small Millets Production in India' will be useful to all those engaged in production, popularization and development of these crops in the country.



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PREFACE

Small millets as a group include several grain crops *viz.*, finger millet (ragi), kodo millet (kodo), foxtail millet (kangni), little millet (kutki), barnyard millet (sawan) and proso millet (cheena). These crops are grown in many states in a concentrated pocket and have a long history of cultivation of more than 5000 years. They are known for their suitability to dryland areas, hill and tribal agriculture and contribute to food security of the disadvantaged region. Of the 2.4 million hectares of small millets planted during 2007-08 cropping season, finger millet alone accounts for nearly 57 per cent of the area and 80 per cent of total production in the country. In spite of declining area during the last five decades the production has been more or less maintained by increased productivity particularly of finger millet, which is around 1552 kg ha⁻¹. Nevertheless, the productivity of other small millets has remained stagnant around 500 kg ha⁻¹. In the years to come the productivity of all the crops needs to be substantially increased and this is no exception for small millets. This calls for greater thrust in technology transfer activities in order to motivate farmers to adopt improved varieties and other crop management practices.

The technology generated in the National Agricultural Research System under the umbrella of All India Coordinated Research Projects has vast untapped potential. In order to validate the research results, the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India and the ICAR organized Front Line Demonstrations under the direct supervision of scientists on farmer's fields. These demonstrations have shown the farmers, extension workers and farm scientists that the productivity could be significantly increased by the adoption of improved cultivation package.

On Farm demonstrations provide a unique opportunity to carry proper technologies such as new varieties, agronomic and plant protection practices directly to the doorsteps of farmers. Compilation of such information generated on the farmer's field along with the package of technology recommended is a proven means for effective transfer of technology. The present publication "Results of Front Line Demonstrations (2000 to 2007) and technologies for increasing small millets production in India" is an updated one and includes information on the potential available for enhancing productivity in different regions / states based on results of On Farm verification, recently released

varieties, agro production and protection technologies. It is intended that this publication will serve as a useful reference manual for all those involved in small millets production and development.

The bulletin is the efforts of many scientists working in different agricultural universities and institutes of ICAR and other organizations. My appreciation to all of them. My thanks are due to Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India for supporting the activity on Front Line Demonstrations. My heart-felt gratitude to Dr. A. Seetharam and Dr. K.T. Krishne Gowda, former Project Coordinators (Small Millets) for their encouragement and inspiring suggestions.

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