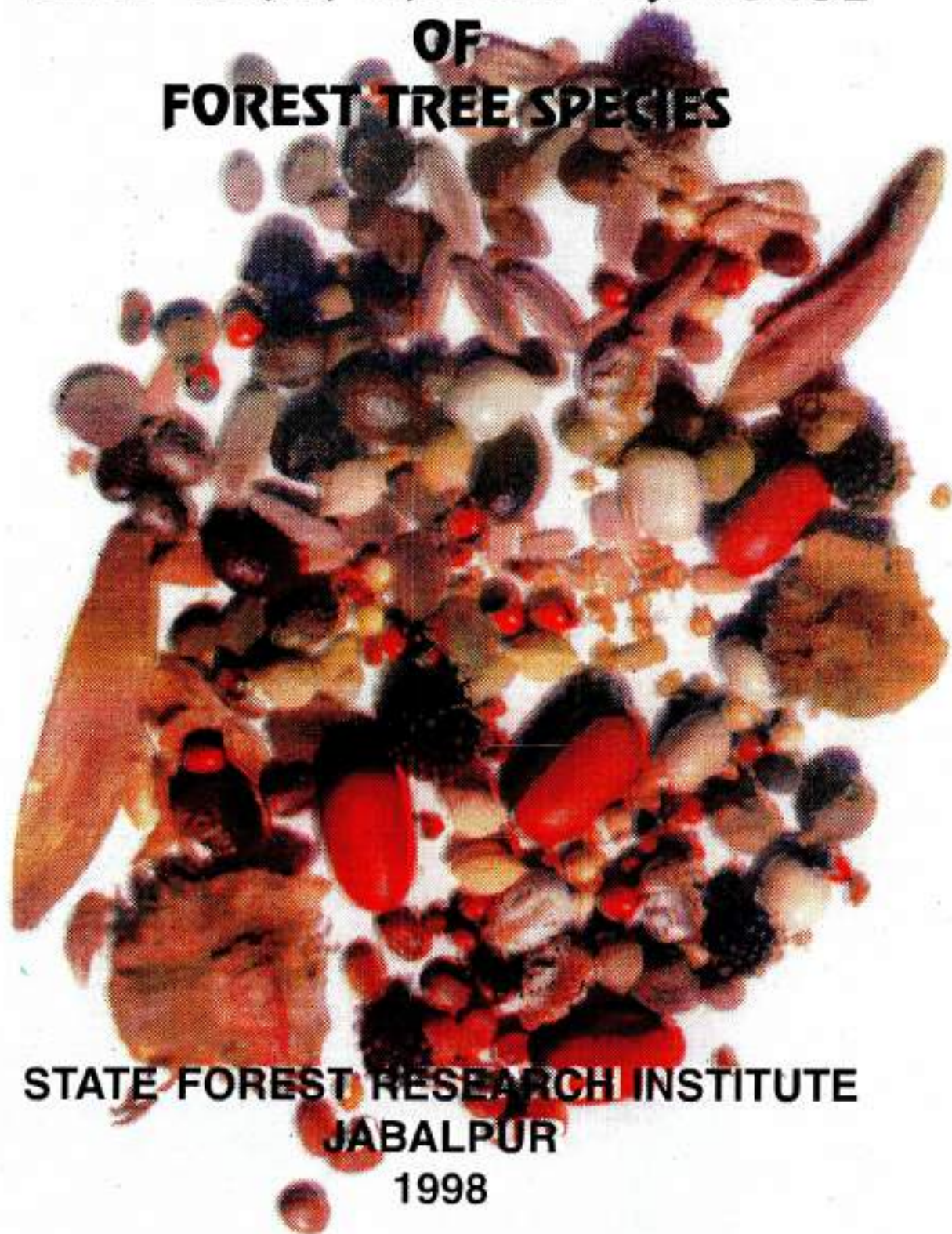


SEED CERTIFICATION PROTOCOL OF FOREST TREE SPECIES



STATE FOREST RESEARCH INSTITUTE
JABALPUR

1998

**SEED CERTIFICATION PROTOCOL
OF
FOREST TREE SPECIES**

**Anjana Rajput
M. C. Sharma
K. P. Tiwari**

**STATE FOREST RESEARCH INSTITUTE
JABALPUR
1998**

CONTENTS

INTRODUCTION

- | | |
|---|---|
| 1. Seed Certification | 3 |
| 2. Objectives of Seed Certification | 3 |
| 3. Evolution of the Concept of Seed Certification | 3 |
| 4. Standards for Certification | 4 |
| 5. General Elements of Certification Programme | 5 |
| 6. Seed Certification and Seed Zoning in India | 6 |
| 7. Seed Certification in SFRI | 8 |

OBJECTIVES OF PRESENT STUDY 11

MATERIAL AND METHODS 12

OBSERVATION AND RESULTS 14

CONCLUSION 39

REFERENCES 42

APPENDIX 43

PREFACE

In past few decades greater emphasis is being given to raise large scale plantation under various schemes which entails use of large quantity of seeds. In India lesser importance has been given to quality of seed being used in plantation work, however most of the developed countries great emphasis is laid on the use of quality seeds. The genetic quality of seeds controls the growth behaviour and form of the plants during their entire life. The "green revolution" in agriculture has been possible mainly because of use of quality seeds. So if we want to increase the productivity from our planted forests, we will have to use quality seeds. In order to ensure that only seeds of best quality available are used for raising plantations, it is necessary to introduce seed certification. Seed certification essentially implies techno-administrative control right from their production to final use in the field. A comprehensive certification is being adopted by various forest departments,

Since establishment of the first official seed testing station in the world in Germany by Friedrich Nobbe, seeds testing have come a long way and developed in to an independent subject know as Seed Technology. The credit for bringing Seed Technology to its present status goes mainly to the International Seed Testing Association (ISTA) which came into existence in 1924. The object of Association is to develop, adopt and publish standard procedures for testing seeds and to promote research in all aspect of seed technology. The chief publication of this association is Seed Science & Technology.

The significance of testing seeds is to ensure that only quality are certified and passed for use in raising plantations. There are two type of seed laboratories one dealing with research on seeds problems and the other with certification. The two types of laboratories are complimentary to each other

The objective and goal of seed research laboratories are ,

- (1) To develop and standardize methods of testing various types of forest seeds on the principles laid down by ISTA and to frame rules which can be used by seed certification laboratories dealing with certification
- (2) To form identification keys of seeds which will help in purity analysis
- (3) To suggest minimum standards which will enable certification laboratories to grade seeds into quality classes and
- (4) To improve existing methods and procedures for various crops of seed testing taking into account local availability of equipments.

The objective of seed certification laboratories is routine testing and certification of seeds on the lines recommended by Research Seed Technologies. Their Procedure involves :-

- (1) Sampling
- (2) Purity analysis,
- (3) Biochemical tests for viability,
- (4) Germination and moisture tests
- (5) Seed health testing and
- (6) Certification.

The success and quality of future plantation rest on the efficiency of the personnels of seed research and seed certification laboratories.

In India the use of forest tree seeds is not subject to different degrees of control depending on the needs and resources of the different provinces and territories. There is no "Seed Act" And "Manual" for uniform standards for testing physical quality of tree seed. There is lack of new seed testing techniques to provide accuracy and reliability in test results. Provincial or territorial department responsible for forestry do not have mechanism to ensure that the seeds and seed sources within their jurisdiction are properly used. Indian State forest Service do not have delegated authority to certify and regulate tree seeds. And finally, regulation were not designed to safeguard forest renewal by setting basic rules for labelling, establishing services for identification of seed origin and testing seed quality, monitoring long distance movement of seeds and controlling undesirable importations.

Under the Indo-Danish Project, a seed certification cell has been created in State Forest Research Institute, Jabalpur in 1981. The Seed Certification Cell received seeds of various forest tree species from different sources. Taking into consideration of available data from last 12 years, seed certification protocol of 36 forest tree species have been dealt in this bulletin. We regret lack of comprehensive data but hope that information given in this bulletin will be useful to reserachers as well as to forest deptt, and persons engaged in raising plantations. Present bulletine will also help us to overcome shortcomings and draw future course of research action.

Sincere thanks are due to Dr. Pravez Jalil, who had been associated to seed testing laboratory of the institute, for long time. The authors also thankful to Ms. Seema Grover for computer help and neat typing.

AUTHORS