PREFACE

Tobacco, a leading non-food crop, was introduced in India by Portuguese about 400 years back, is a major economic crop. It is by and large a rain fed but can withstand drought and weather vagaries. In India, which accounts for 10 percent of world production, 80 percent of tobacco produced belongs to non-cigarette types and only 20 percent belongs to cigarette types.

Apart from the conventional uses of tobacco for smoking and chewing, scientists world over are working on its alternate uses. Tobacco is an excellent source of several phytochemicals of pharmaceutical and industrial importance. Nicotine (an alkaloid), Solanosol (a trisequiterpene alcohol) and organic acids (malic and citric) are identified as potential chemicals, which can be converted to value-added products beneficial to mankind. Researchers have also focused their attention on reduction of harmful constituents in smoke viz. tar, nicotine, carbon monoxide and Tobacco Specific Nitrosamines (TSNA).

In this background several strategies are employed such as breeding, manipulation of agronomic practices and post-harvest processes for the improvement in quality and quantity of tobacco. In this regard use of male sterile lines in plant breeding programme has become a promising practice. Researches are oriented to generate new lines of male sterile mutant. The present work on MS-NPN-190 contributes some vital information on mechanism of male sterility, which can be introduced in other tobacco lines by genetic engineering technique.
The present thesis is divided into six chapters. Chapter-I is an introductory to male sterility in general. Chapter-II deals with review of literature on male sterility. Chapter-III describes materials chosen and methods followed in the present work. The results, supported by illustrations, are given in chapter-IV. Chapter-V deals with discussion and conclusions. In chapter-VI summary of the present work is given. At the end the literature cited in the present work is listed.

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(PRAKASH GOUDA)