

BOOK REVIEW

Mass Screening Techniques for Selecting Crops Resistant to Disease

M. SPENCER, and A. LEBEDA (eds)

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Well established crop breeding schemes for a long time have allowed the development of tolerant and/or resistant varieties of valuable food crops. However, these programmes are often laborious and long. They are made as advances in mutation breeding, biotechnology and gene techniques. More rapid and cost efficient screening methods are needed to enhance the efficiency and success rate of resistance breeding programmes.

This book contains a total of 20 chapters. Numerous list of references is included in each of the chapters. The first two ones review the impact of induced mutations and *in vitro* selection on breeding of disease and pest resistant cultivars. Various aspects must be considered while choosing the most suitable *in vitro* selection technique for a given plant-pathogen interaction. The choice of selection agent is very much dependend on their origin, method of preparation, content of active substances, and effective use for screening or *in vitro* selection. Furthermore, the book covers radiation induced mutations, *in vitro* and *in vivo* mass screening methods developed for fruits, legumes, vegetables and tuber crops, and with greater emphasis on banana (*Musa* spp.). One of the most significant tools in breeding is inducing mutation by exposure to radiation, especially for vegetatively propagated crops and perennial orchard trees.

There are well covered methods of screening against the most deadly disease of banana (Black sigatoka and Fusarium wilt), which are a great thread to sustainable banana production. The book also includes various screening techniques (*in vitro* selection against Black sigatoka in banana using fungal toxin juglone) for the selection against the deadly diseases of crops such as vegetables (melon and other cucurbits, onion, tomato, lettuce), industrial crops (black pepper), legumes (chickpea, peas, soybean), fruits (apple, pine apple), and tropical crops (cassava, cowpea, maize, and yam).

This publication provides all specialists in plant disease studies and plant breeding, and the latest information on methods used in screening techniques for selecting crops resistant to diseases. The book will be valuable source of theoretical and methodological information to researchers and plant breeders engaged in resistance breeding, as well as for university students, lecturers, professionals in governmental institutions and staff from international organisations will benefit also from this resource. In conclusion, this book summarises important recent information about methodology for selecting crops resistant to diseases.

Karel Veverka (Prague, Czech Republic)