Enhancing Potato Seed Production Using Rapid | 34562e460462897a27da8ea550e2090

Providing Food Security
Supply and demand for quality potato seed in Indonesia
Solanum tuberosum
Present and Future Strategies for Potato Breeding and Improvement
Vegetable Production in Central Asia
On-Farm Seed Improvement by the Potato Seed Plot Technique
Evolving from farming systems research into a more holistic rural development approach: Experiences in the Andean region
Microbial Strategies for Vegetable Production
Molecular Methods for Potato Improvement
Potato Seed Production for Tropical Africa
Strengthening assets: enhancing impact
Environmental Concerns with Transgenic Plants in Centers of Diversity
Potato and Sweetpotato in Africa
Seed potato technology
Potato production and innovative technologies
Innovative Methods for Propagating Potatoes
Annual Report 2005
Enhancing Seed Production Capacity of Small-scale Farmers
Scientist and Farmer Biotechnologies of Crop Improvement
Volume 1
Manual on quality seed potato production using aeroponics
Proceedings Regional Workshop on potato Late Blight for East and Southeast Asia and The Pacific 24 – 25 August 2004
Yezin Agricultural University Yezin, Myanmar
Production and Utilization of True Potato Seed in Asia
Genetic Resources, Chromosome Engineering, and Crop Improvement
Finance and Management of Small-Scale Seed Enterprises
Potato Seed Production
Potato and Potato Products Cultivation, Seed Production, Manuring, Harvesting, Organic Farming, Storage and Processing
Improvement of Sweet Potato (Impomoea Batatas) in East Africa, with some References of Other Tuber and Root Corps
Putting strategy into action: Implementing the CIP corporate and strategic plan to enhance pro-poor research impacts
Final evaluation of "Enhancing Agriculture Production through Irrigation System Improvement and Strengthening Institutional Capacity"
Virus and Virus-like Diseases of Major Crops in Developing Countries
Vegetable Improvement and Seed Production Research Centre
Virus and Virus-like Diseases of Potatoes and Production of Seed-Potatoes
Focus on partnerships: Enriching the science, expanding the reach, enhancing the impact
Strategic analysis and intervention plan for potatoes and potato products in the Agro-Commodities Procurement Zone of the pilot Integrated Agro-Industrial Park in Central-Eastern Oromia, Ethiopia
Innovative Methods for Propagating Potatoes
Program Report 1995-1996
Potato production and innovative technologies
Potato Breeding: Theory and Practice
Handbook of Potato Production, Improvement, and Postharvest Management
This is a comprehensive up-to-date treatise including information on virus-, viroid-, and phytoplasma-induced potato diseases. The chapters of this book were written by internationally well-known experts and include novel techniques of detection, virus isolation, transmission, and epidemiology of the pathogens.
Rice and potatoes are Afghanistan’s two most staple crops after wheat. Rice production is dependent on water from irrigation canals, with most of Afghanistan’s irrigation infrastructure in disrepair, farmers are vulnerable. Between 2016 and 2018, FAO in Afghanistan (FAOAF) and the Ministry of Agriculture, Irrigation and Livestock (MAIL) rehabilitated irrigation infrastructure and laid the foundations of a virus-free potato seed industry in three provinces (Kunduz, Baghlan and Takhar). The project enhanced food production and contributed to the Government’s agricultural development and food security objectives. The evaluation recommends that future irrigation rehabilitation includes training to demonstrate improved cropping practices to help farmers build their resilience to external shocks. Training of potato farmers and enterprises involved in the industry
will help determine the sustainability of the industry beyond the end of the project. This book comprises the best potato seed production practices and includes details on potato cultivation, classification, and the main structural elements of the successive stages of potato seed production. It presents potato varieties from Russian originators, describes modern technologies involved in the process of potato seed production, and presents special aspects of phytosanitary and process regulations for the cultivation of high-quality potato seed. Additionally, the authors illustrate the statutory regulation of salable quality of potato seed: purity of variety, diseases, pests, and defects. The authors identify Russian quality control methods and certification of potato seed, and consider the packaging and labeling of potato seed that is held for sale. Finally, the authors also clarify the features of foreign potato seed certification systems. During the past 15 years, cellular and molecular approaches have emerged as valuable adjuncts to supplement and complement conventional breeding methods for a wide variety of crop plants. Biotechnology increasingly plays a role in the creation, conservation, characterization and utilization of genetic variability for germplasm enhancement. For instance, anther/microspore culture, somaclonal variation, embryo culture and somatic hybridization are being exploited for obtaining incremental improvement in the existing cultivars. In addition, genes that confer insect- and disease-resistance, abiotic stress tolerance, herbicide tolerance and quality traits have been isolated and re-introduced into otherwise sensitive or susceptible species by a variety of transgenic techniques. Together these transformative methodologies grant access to a greater repertoire of genetic diversity as the gene(s) may come from viruses, bacteria, fungi, insects, animals, human beings, unrelated plants or even be artificially derived. Remarkable achievements have been made in the production, characterization, field evaluation and commercialization of transgenic crop varieties worldwide. Likewise, significant advances have been made towards increasing crop yields, improving nutritional quality, enabling crops to be raised under adverse conditions and developing resistance to pests and diseases for sustaining global food and nutritional security. The overarching purpose of this 3-volume work is to summarize the history of crop improvement from a technological perspective but to do so with a forward outlook on further advancement and adaptability to a changing world. Our carefully chosen “case studies of important plant crops” intend to serve a diverse spectrum of audience looking for the right tools to tackle complicated local and global issues. This book provides basic knowledge on how to produce, multiply and use propagation material in seed potato production and supply systems worldwide. Healthy, vigorous seed tubers are essential in potato production. Producing them used to be expensive and difficult. Multiplication rates in the field are low, seed-borne diseases are numerous and seed tubers lose quality during storage between growing seasons. Recently, novel methods of multiplication have revolutionised the seed potato industry. This has resulted in a diversity of seed production systems adjusted to the local potential and needs. This book summarises the current knowledge and assesses the efficient use of modern technology in different stages of seed production. It describes in detail what seed quality means, how (pre-)basic seed can be produced, how this can be multiplied, and how seed health is maintained. It also describes diverse examples of seed supply systems in different regions of the world. The book is aimed at agronomists, farm advisors, seed producers, breeders, and at those involved in seed policies, seed programme development and seed trade. Also recommended for (international) students in agronomy, horticulture and plant breeding.
A comprehensive book is the result of the Potato Russia international conference that took place in August 2007 in Moscow. It begins with a series of papers that give an excellent overview of consumer behaviour and marketing with examples from various countries in the world. The quality of processing and ware potato and methods of quantifying it, is addressed by papers that highlight its need and reveal new approaches and techniques. The newest developments in technology, mechanization and storage are highlighted in papers from eastern and western Europe. The importance and benefits of having adequately functioning seed potato systems with up to date rapid multiplication systems is shown in chapters from various countries with a special contribution on the commercial quality standards of the United Nations Economic Commission for Europe (UNECE). Developments of recent agronomic and crop management practices are illustrated with examples of countries in technological and market transition. Innovations in crop protection put special emphasis on diagnostics and detection of resistance levels, among others, against wart. The extensive Russian breeding programmes - with value for the global potato community are highlighted in the breeding section with additional papers from Japan and the Netherlands. The book ends with a series of papers on molecular aspects of innovative breeding. This book is of wide and ongoing interest to stakeholders around the world who are interested in all aspects of the rapidly evolving potato supply chains such as potato producers, breeding, chemical and machinery companies and potato specialists of all disciplines. The basics through practical application—all in one book! Potatoes are a crucial food crop around the world, grown in nearly 150 countries. The Handbook of Potato Production, Improvement, and Postharvest Management compiles everything you need to know about potato crop production in one well-organized reference. Leading internatio...
tremendous and much of the accumulated knowledge to diminish the crop losses has not filtered through, or cannot be applied. This book is focused on the important crops. Each chapter on a specific crop will include inter alia, geographical distribution, the viruses – symptoms, damage, detection – a brief description of the viruses concerned, and present and future ways for their control. Experts from India, Nigeria, UK, USA, France, Germany, Peru, Japan, Australia, Netherlands, Venezuela, Kazakhstan and Israel (many of them from the International Research Institutions) have contributed chapters to this book. Sweetpotato and potato are expanding faster than any other food crops in sub-Saharan Africa. There is growing investment in research to address bottlenecks in value chains concerning these two crops, and growing interest from the private sector in investing in them. This book addresses five major themes on sweetpotato and potato: policies for germplasm exchange, food security and trade in Africa; seed systems; breeding and disease management; post-harvest management, processing technologies and marketing systems; nutritional value and changing behaviours. With the current Second Growth and Transformation Plan (2015-2020), the Government of Ethiopia expects the agro-industrial sector to play key role in economic growth of the Country. Accordingly, the creation of Integrated Agro-Industrial Parks has been identified as one of the key mechanisms for accelerating the development of the sector and the structural transformation of agriculture. Agro-industrial parks will play a significant role in transitioning Ethiopia from an agricultural-led into an industrial-led economy. In view of that, the development of Integrated Agro-Industrial Parks has been prioritized in Ethiopia’s national development strategy and four Agro Industrial Growth Corridors have been selected for piloting the establishment of four Integrated Agro-Industrial Parks. The initiative aims at driving the structural transformation of the Ethiopian economy while reducing rural poverty and creating a better environment for increased investments in agro-processing and allied sectors. Since 1981, FAO has been a strong partner of the Government of Ethiopia towards the achievement of national food security and economic growth goals. FAO is working closely with the Ministry of Agriculture and Natural Resources to empower value chain actors and to promote inclusive, efficient and sustainable agricultural value chains. The present document is the fourth one of a series of detailed analyses of prioritized commodities, which will lead to inclusive, sustainable and stronger agricultural value chains in the Agro-Commodities Procurement Zone of the pilot Integrated Agro-Industrial Park in Central-Eastern Oromia. Nothing provided Potato (Solanum tuberosum L.) is the fourth-largest food crop produced in the world with approximately 370 million tonnes. This product is a staple in many diets throughout the world and the underground swollen tubers of the plant are rich sources of proteins, carbohydrates, minerals (K, Mn, Mg, Fe, Cu and P), and vitamins (C, B1, B3, B6, K, folate, pantothenic acid). Improvement of new potato cultivars resistant to biotic and abiotic factors is extremely important, as these are the main reasons for decreased potato production. Seed tuber production and tuber storage under healthy conditions after harvest are two important issues in potato cultivation. As such, this book discusses the importance of the potato plant and examines ways to increase its production and develop new cultivars resistant to stress factors via conventional and biotechnological methods. The potato (Solanum tuberosum) is the world’s fourth most important food crop after maize, rice and wheat with 377 million tonnes fresh-weight of tubers produced in 2016 from 19.2 million hectares of land, in 163 countries, giving a global average yield of 19.6 t ha⁻¹ (http://faostat.fao.org). About 62% of production (234 million tonnes) was
in Asia (191), Africa (25) and Latin America (18) as a result of steady increases in recent years, particularly in China and India. As a major food crop, the potato has an important role to play in the United Nations "2030 Agenda for Sustainable Development" which started on 1 January 2016 (http://faostat.fao.org). By 2030 the aim is to "ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round". By then, the world population is expected to reach 8.5 billion and continue to increase to 9.7 billion in 2050. For potatoes, the need is to increase production and improve nutritional value during a period of climate change, a key aspect of which will be the breeding of new cultivars for a wide range of target environments and consumers. The aim of the book is to help this endeavour by providing detailed information in three parts on both the theory and practice of potato breeding. Part I deals with the history of potato improvement and with potato genetics. Part II deals with breeding objectives, divided into improving yield, quality traits and resistance to the most important diseases and pests of potatoes. Part III deals with breeding methods: first, the use of landraces and wild relatives of potato in introgression breeding, base broadening and population improvement; second, breeding clonally propagated cultivars as a way to deliver potato improvement to farmers' fields; third, as an alternative, breeding potato cultivars for propagation through true potato seed; and fourth, gene editing and genetic transformation as ways of making further improvements to already successful and widely grown cultivars. Included are marker-assisted introgression and selection of specific alleles, genomic selection of many unspecified alleles and diploid F1 hybrid breeding. This book provides a comprehensive information on basic and applied concepts of microbial strategies adopted for the improvement of vegetables grown in various production systems. The beneficial role of soil microbes including plant growth promoting rhizobacteria (PGPR), nitrogen fixers, and phosphate-solubilizing bacteria in the improvement of vegetables grown both in normal and contaminated soils is discussed. The role of PGPR in tomato production is dealt separately. The impact of heavy metals on different vegetables and abatement of metal toxicity following metal tolerant PGPR and their consequential impact on vegetables grown in metal polluted soil is discussed. Moreover, recent advances in the management of vegetable diseases employing PGPR are addressed. This volume is therefore of special interest to both academics, professionals and practitioners working in the field of vegetable farming/horticulture, microbiology and plant protection sciences. Summarizing landmark research, Volume 3 of this essential series furnishes information on the availability of germplasm resources that breeders can exploit for producing high-yielding vegetable crop varieties. Written by leading international experts, this volume offers the most comprehensive and up-to-date information on employing genetic resources to increase the yield of those vegetable crops that provide a main source of minerals, vitamins, and antioxidants. In eleven succinct chapters, Genetic Resources, Chromosome Engineering, and Crop Improvement: Vegetable Crops, Volume 3 focuses on potato, tomato, brassicas, okra, capsicum, alliums, cucurbits, lettuce, eggplant, and carrot. An introductory chapter outlines the cytogenetic architecture of vegetable crops, describes the principles and strategies of cytogenetics and breeding, and summarizes landmarks in current research. This sets the stage for the ensuing crop-specific chapters. Each chapter generally provides a comprehensive account of the crop, its origin and taxonomy, wild relatives, exploitation of genetic resources diversity in the primary, secondary, and tertiary gene pools.
through breeding and cytogenetic manipulation, and genetic enrichment using the tools of molecular genetics and biotechnology. Certain to become the standard reference for improving the yields of these critical vegetable crops, this book is the definitive source of information for plant breeders, gene-bankers, cytogeneticists, taxonomists, molecular biologists, biotechnologists, and graduate students, researchers, agronomists, horticulturists, farmers and consumers in these fields. Potato ranks fourth position in the world after wheat, rice and maize as non-cereal food crop. Potato is probably the most popular food item in the Indian diet and India is one of the largest producers of potato. It is used in many ways like vegetable, potato wafers/chips, powder, finger chips etc. Potato tubers constitute a highly nutritious food. It provides carbohydrates, vitamin C, minerals, high quality protein and dietary fiber. Potato is a rich source of starch and it is consumed mainly for its calorific value, also contains phosphorus, calcium, iron and some vitamins. Boiling potatoes increases their protein content and almost doubles their calcium content. It is vastly consumed as a vegetable and is also used in various forms such as starch, flour, alcohol, and dextrin and livestock fodder. It is estimated that about 25% of the potatoes, which are spoiled due to several reasons, may be saved by processing and preservation of various types of processed products. The potatoes can be processed for preservation and value addition in the form of wafers/chips, powder, flakes, granules, canned slices. Potato granules are used for the preparation of various recipes, to add to vegetable and non-vegetable recipes and to enhance the quantity as well as to enrich the food value. There is a huge potential for processed potato products such as potato flakes, potato powder, frozen potatoes, frozen French fries, potato chips/wafers are one of the most popular snack items consumed throughout the world. International trade in potatoes and potato products still remains thin relative to production, as only around 6 percent of output is traded. High transport costs, including the cost of refrigeration, are major obstacles to a wider international marketplace. The industry is still growing at a rapid pace where French fries are showing the highest growth followed by potato chips and potato powder/flakes. It is by far the largest product category within snacks, with 85% of the total market revenue. This book basically deals with origin, evolution, history and spread of potato, potato products, quality requirements for processing, morphological, size and shape, defects, biochemical, dry matter, reducing sugars, phenols, inheritance, morphological attributes, tuber shape, growth cracks, hollow heart, internal rust spots, greening, biochemical attributes, glycoalkaloids, dry matter, reducing sugars, enzymic browning, development of varieties for processing, areas suitable for growing processing potatoes, processing quality of Indian potato varieties, processed potato products, dehydrated products at village level, potato chips, French fries and flakes commercial production, grading manual for frozen French fried potatoes for frozen French fried potatoes, areas of production, varieties, receiving, determining the quality and condition of raw potatoes for frying purposes, determining the quality and condition of raw potatoes for frying purposes, etc. The present book covers complete details of potato cultivation and processing in proper manner. This book is an invaluable resource for agriculture universities, students, technocrats and entrepreneurs.

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