

Governments, Farmers and Seeds in a Changing Africa

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Within the international community there is a growing awareness of the need for a broader and deeper understanding of the relationship between governments and farmers in sub-Saharan Africa. Nowhere in the agricultural sector is this awareness growing more rapidly than in the seed sub-sector. Here the quest for alternatives to the large-scale government seed supply organizations of the 1970s and 1980s is becoming more urgent in the face of Africa's stagnating crop yields and mounting food deficits. This book presents the results of the first study to investigate the African seed sector in detail, using case study material from Malawi, Zambia and Zimbabwe. It provides a new conceptual approach to analysing structural and organizational issues in the seed sector; assesses the likely impact on the seed sector of the two trends of structural adjustment and greater emphasis on community participation; and explains the policy lessons for organising the delivery of inputs such as seeds.

Contents:

- Introduction
- The seed sector in perspective
- The market for modern variety seed
- A framework for seed sector analysis
- From parastatal to multi-national subsidiary: what role for the National Seed Company of Malawi?
- Seed supply in Zambia: life after the provincial co-operative unions?
- The seed co-op and communal farmers in Zimbabwe: friends or foes?
- Conclusions
- Appendix 1: Technical features of seed production
- Appendix 2: Example Seed Project cost-benefit analysis
- Appendix 3: Seed sector statistics for Malawi, Zambia, and Zimbabwe
- Appendix 4: Assumptions used in calculating economics of Malawi smallholder seed multiplication scheme

Readership: Agricultural and development economists and policy makers.

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No-Tillage Seeding: Science and Practice

C J Baker, K E Saxton and W R Ritchie, Centre for International No-tillage Research and Engineering, New Zealand, and *US Department of Agriculture, Washington State University*

During the last thirty years farmers have been strongly encouraged to adopt some form of conservation tillage, primarily for long-term environmental reasons. However, the experience of many farmers of no-tillage suggests greater short-term risk, in the form of reduced seedling emergence or crop yield or even crop failure.

A major aim of this book is to show how the risks in the practice of no-tillage can be reduced. It begins by describing the inter-relationships between soils, machines, seeds and growing plants. Too often in the past the subject has been approached from a purely engineering or a purely soils perspective, neglecting the agronomic viewpoint. The authors of this book focus on the needs of the plants which thus determine the requirements for a no-tillage seed drill. The result of their own research is the inverted T-shaped no-tillage soil slot and the Cross Slot drill™ and planter opener, which are described in some detail. By re-evaluating common assumptions about seed germination in soil, the authors provide a totally new perspective on no-tillage seeding.

Contents:

- The why and what of no-tillage
- The nature of risk in no-tillage
- Slot shape and openers
- The role of slot cover
- Drilling into dry soils
- Drilling into wet soils
- Seed metering and placement
- Fertilizer placement effects
- Residue handling by openers, drills and planters
- Pasture renewal and renovation
- No-tillage drill and planter design
- Managing a no-tillage seeding system
- Techniques and procedures for development

Readership: Professional and academic workers in agronomy, soil science and agricultural engineering.

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Seedborne Diseases and their Control

R B Maude, Horticulture Research International, Wellesbourne, UK

This book describes the principles derived from our knowledge of the biology of seedborne pathogens and how these are applied in the practical control of seedborne diseases. The pathogens covered are seedborne fungi, bacteria and viruses which attack temperate and some tropical field crops.

The main part of the book is concerned with the processes of infection of seeds, the location and the survival of inoculum, and the transmission and spread of seedborne pathogens. The author then describes how, with this knowledge, strategies and methods have been developed and employed at national and international levels to exclude and eradicate seed-transmitted diseases. Effective methods for the detection of seedborne inoculum are necessary throughout and a specific chapter is devoted to these technologies. The book is written for practising plant pathologists as well as for advanced students of plant pathology seeking a general review text of this subject area. It is also highly relevant to workers in this agrochemical industry with special interests in seed treatment and seed treatment methods.

Contents:

- Seed pathology
- The infection of seeds
- Longevity of seedborne organisms
- Seed transmission of disease
- The epidemiology of the spread and survival of pathogens
- Disease control: exclusion and reduction of inoculum
- Disease control: eradication and reduction of inoculum by seed treatment
- Disease control by cultural measures and sanitation practices
- The detection of seedborne organisms

Readership: Practising plant pathologists and advanced students of plant pathology.

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