Oil crops: proceedings of the three meetings held at Pantnagar and Hyderabad, India, 4–17 January 1989
The International Development Research Centre is a public corporation created by the Parliament of Canada in 1970 to support research designed to adapt science and technology to the needs of developing countries. The Centre's activity is concentrated in six sectors: agriculture, food and nutrition sciences; health sciences; information sciences; social sciences; earth and engineering sciences; and communications. IDRC is financed solely by the Parliament of Canada; its policies, however, are set by an international Board of Governors. The Centre’s headquarters are in Ottawa, Canada. Regional offices are located in Africa, Asia, Latin America, and the Middle East.

This series includes meeting documents, internal reports, and preliminary technical documents that may later form the basis of a formal publication. A Manuscript Report is given a small distribution to a highly specialized audience.

La présente série est réservée aux documents issus de colloques, aux rapports internes et aux documents techniques susceptibles d’être publiés plus tard dans une série de publications plus soignées. D’un tirage restreint, le rapport manuscrit est destiné à un public très spécialisé.

Esta serie incluye ponencias de reuniones, informes internos y documentos técnicos que pueden posteriormente conformar la base de una publicación formal. El informe recibe distribución limitada entre una audiencia altamente especializada.
OIL CROPS: 
PROCEEDINGS OF THE THREE MEETINGS HELD AT 
PANTNAGAR AND HYDERABAD, INDIA, 4-17 JANUARY 1989

1. The Brassica Subnetwork-II 
2. The Other Oil Crops Subnetwork-I 
3. The Oil Crops Network Steering Committee-I

Edited by
Abbas Omran
Technical Adviser, Oil Crops Network

Organized by
Indian Council of Agricultural Research, New Delhi, India
G.G. Pant University of Agriculture and Technology,
Pantnagar, India
Directorate of Oilseeds Research, Hyderabad, India
International Development Research Centre, Ethiopia/Canada

Material contained in this report is produced as submitted and has not been subjected to peer review or editing by IDRC Communications Division staff. Unless otherwise stated, copyright for material in this report is held by the authors. Mention of proprietary names does not constitute endorsement of the product and is given only for information.
CONTENTS

Foreword ........................................... v
List of Participants ................................ vi
Introduction ....................................... xi

Part 1. Brassica Subnetwork-II

Opening Remarks. MAHATIM SINGH .................. 2
Recent Development in Oilseed Brassicas. R.K. DOWNEY ................. 4
The Interinstitutional Collaborative Research Program on White Rust
(Albugo candida) Between India (ICAR) and Canada (IDRC) for
Rapeseed-Mustard Improvement. P.R. VERMA ................... 9
Stability Parameters for Seed Characters In Different Species of
Oleiferous Brassica. H. SINGH, D. SINGH, and V.S. LATHER .......... 14
Oilseed Brassica Research in India. P.R. KUMAR .................. 17
Transfer of Technology and On-farm Trials of Rapeseed and Mustard.
BASUDEO SINGH .................................. 24
Status of Breeding Research on Brassica Oil Crops at Pantnagar, India.
G.N. SACHAN .................................. 30
Agronomic Investigations on Rapeseed and Mustard at Pantnagar.
ARVIND KUMAR and R.P. SINGH .................... 35
Disease Problems in Brassicas and Research Activities at Pantnagar.
S.J. KOLTE, R.P. AWASTHI and VISHWANATH .......... 43
Effect of Some Epidemiological Factors on Occurrence and Severity of
Alternaria Blight of Rapeseed and Mustard. R.P. AWASTHI and
S.J. KOLTE .................................. 49
Problems of Insect Pests in Brassicas and Research Work at Pantnagar.
G.C. SACHAN .................................. 56
Economic Performance, Potential and Constraints in Toria Production.
L.R. SINGH .................................. 66
Rapeseed in Egypt. BADR A. EL-AHMAR ................... 70
The Role of High-Yielding Varieties and Production Techniques
on Oilseed Brassica Performance in the Central, South-Eastern
and North-Western Zones of Ethiopia. HIRUY BELAYNEH, GETINET
ALEMAW and NIGUSSIE ALEMAWEHU ....................... 72
The Achievements and Future of Brassica in Kenya. M.J. MAHASI .... 79
Rapeseed Adaptation Trials in Cyprus. A. HADJICHRISTODOULO .... 83
The Rapeseed (Brassica napus L.) Quality Breeding Progress in Shanghai
Academy of Agricultural Sciences (SAAS) for Recent Years.
SUN CHAOCAI .................................. 92
Statement on the Execution of the Sino-Canadian Rapeseed Breeding
Project in 1988. WANG ZAO MU ....................... 94
A Preliminary Study on the Combining Ability and Heritability of Main
Agronomic Characters in B. juncea. WANG ZAO MU and
WANG YAN FEI .................................. 98
LIU CHENG QUING and HONG HAI PING .................. 103
Part 2. Other Oilcrops Subnetwork-I

Safflower Research and Coordination in India. V.RANGA RAO .......................... 144

Highlights of the Second International Safflower Conference Hyderabad, India from January 9-13, 1989. V.RANGA RAO .................... 147

Coordinated Research Efforts and Linseed (Linum usitatissimum L.) Improvement in India. MANGALA RAI ................................. 149

Safflower Research in Eighties in Madhya Pradesh (India). A.R.SAWANT ..................... 154

Nigerseed in India: Present Status of Cultivation, Research Achievements and Strategies. S.M.SHARMA ........................................ 159

Constraints and Opportunities for Increasing the Production and Productivity of Niger in India. S.M.SHARMA ........................................ 166

New Potential Areas of Niger in India. S.M.SHARMA ........................................ 169

Present Production, Research and Future Strategy for Niger in Maharashtra. A.V.JOSHI ......................................................... 171

Niger in Tribal Bihar. H.B.P.TRIVEDI ..................................................... 176

Cultivation and Varietal Improvement of Linseed in India. R.N.DUBEY ..................... 180

Agronomic Management/Agro-Techniques for Improving Production of Niger and Linseed. G.L.MISHRA ........................................ 186

The Present Status of Niger and Linseed Pathology Work in India. G.S.SAHARAN .......................... 192

Safflower, Niger and Linseed in Nepal. B.MISHRA ........................................ 203

Country Paper on Other Oilcrops in Bangladesh. M.A.KHALEQUE and DILRUBA BEGUM .................................................. 208

Country Report on Linseed and Safflower in Pakistan. MASOOD A.RANA, MOHAMMAD SHARI, and ALTAF H.CHAUDHRY ................. 213

Present Status of Safflower in Egypt. BADR A. EL-AHMAR ................................ 218

Progress in Linseed On-station and On-farm Research in Ethiopia. HIRUY BELAYNEH, NIGUSSIE ALEMAYEHU and GETINET ALEMAW ........... 220

Investigations on Some Biochemical Characteristics of Nigerseeds (Guizotia abyssinica Cass). GETINET ALEMAW and HIRUY BELAYNEH ....................... 229

Processing of Oil Seeds in Ethiopia. DEJENE TEZERA .................................... 233

The Status of Linseed, Safflower and Niger Research and Production in Kenya. T.C.RIUNGU ....................................................... 238

Summary and Wrap-up for Other Oilcrops Sub-Network Meeting. HUGH DOGGETT .......................... 241

Discussions and Recommendations .............................................................. 248
Part 3. Oilcrops Network Steering Committee-I

The Oilcrops Network for East Africa and South Asia, Achievements and Future. ABBAS OMRAN .................................................. 256
Recent Developments in The Oil Crops Network and the ORU. HUGH DOGGETT 265
IBPGR’s New Concept for the Conservation and Utilization of Germplasm; Global Crop Networks. J.M.M.ENGELS ................................. 272
Technology Mission on Oilcrops for Self-Reliance in Vegetable Oils in India. MANGALA RAI ................................................................. 274
Oilseeds Research in India: Network, Its Set Up, Organization, Past Achievements and Current Research Thrusts. V.RANGA RAO ........... 283
Groundnut and the Oilcrops Network. S.N.NIGAM ................................. 286
Oilcrops Production in Ethiopia Current Status and Future Prospects. SEME DEBELA ................................................................. 288
The Vegetable Oil/Protein System in Kenya Summary Report-Phase I. C.ZULBERTI and J.LUGOGO ......................................................... 293
Brassica Sub-Network Achievements and Activities, 1987-88. HIRUY BELAYNEH ................................................................. 320
The Present Situation and Main Achievements of Sesame Production in East Africa. MOHAMMED EL-HASSAN AHMED ............................... 324
Constituion of the Oil Crops Network (Second Draft). MASOOD A.RANA and ABBAS OMRAN ................................................................. 330
IBPGR'S NEW CONCEPT FOR THE CONSERVATION AND UTILIZATION OF GERMLASM; GLOBAL CROP NETWORKS

J.M.M. Engels

Recently the mandate of the International Board for Plant Genetic Resources (IBPGR) was expanded and has been formulated as follows:

"To further the study, collecting, preservation, documentation, evaluation and utilization of the genetic diversity of useful plants for the benefit of people throughout the world. IBPGR shall act as a catalyst both within and outside the CGIAR system in stimulating the action needed to sustain a viable network of institutions for the conservation of genetic resources of the plants".

In order to meet this mandate, it was necessary to reorganize and restructure the programs of IBPGR drastically and to add a new dimension to its operations, strategic research.

The New Basic Program Structure

Administrative Program, comprising directorium, publications and public affairs.

Field Program, embracing the global genetic resources network, germplasm acquisition, germplasm characterization and evaluation, documentation and training.

Research Program, including in-vitro culture and cryopreservation research, genetic diversity studies and seed conservation research.

As part of the field program a network of eight regional offices have been created, each headed by a Regional Coordinator. In the region of the Brassica and Other Oilcrop Sub-Network the following offices are involved: Nairobi for Eastern Africa, Rome for the Mediterranean + Northern Africa + West Asia, New Delhi for South and Southeast Asia and China for East Asia.

The Global Crop Networks

In order to cope better and more efficiently with the changing demands and needs for germplasm conservation, IBPGR recently developed a new concept for the conservation and utilization of plant genetic resources. Instead of designating a genebank to assume global responsibilities for the conservation of germplasm of a given crop it is proposed to form a global network of germplasm curators, plant breeders, research workers and others dealing with a given crop. Such network can be represented through a crop advisory committee and should be given the responsibility to set priorities, to coordinate/initiate activities in the field of:

- Germplasm collection: "gaps" in to be identified existing collections and setting priorities for collection, including wild related species, if relevant;

- Germplasm conservation: make proposals where the global base collection(s) should be kept and where active collections are required i.e. on a regional basis;

- Characterization and evaluation: develop or revise descriptor lists relevant to curators and users; set priorities for characterization and evaluation work; define "hot spots" for disease resistance screening, etc.;

- Documentation: make proposals for global crop data bases, comprising information on the existing
collections, evaluation of data, etc.;

- Research: formulate priorities of research work needed in order to conserve and utilize germplasm more effectively;

- Training: identify areas where more training is required and make proposals how to fill such gaps.

IBPGR will support and assist in the establishment of such crop networks wherever possible. At present, eight crops have carefully been selected to start "pilot network" in order to gain experience and to channel the limited resources in a more concerted manner. These crops chosen for the initial stage are: maize, barley, sugar beet, groundnut, banana, sweet potato, medic (forages) and okra. Although the field activities of the coming year will be mainly geared towards these crops no possible opportunity should be left out to start networks for other crops.

The Brassica and other Oilcrop Sub-Networks, sponsored by IDRC are excellent "crystallization points" which can serve as the initial stage for global networks. It is therefore, proposed that the present Brassica and Other-Oilcrop Sub-Networks Meetings consider the possibilities to take the initiative and to make proposals for the establishment of the respective global germplasm networks.