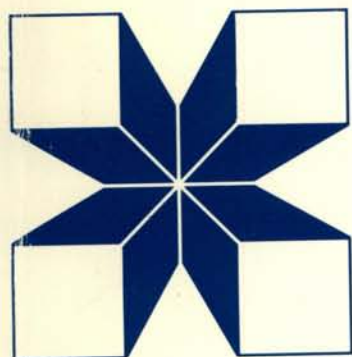


IDRC
CRDI
CIID



C A N A D A

**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.

Le Centre de recherches pour le développement international, société publique créée en 1970 par une loi du Parlement canadien, a pour mission d'appuyer des recherches visant à adapter la science et la technologie aux besoins des pays en développement; il concentre son activité dans six secteurs : agriculture, alimentation et nutrition; information; santé; sciences sociales; sciences de la terre et du génie et communications. Le CRDI est financé entièrement par le Parlement canadien, mais c'est un Conseil des gouverneurs international qui en détermine l'orientation et les politiques. Établi à Ottawa (Canada), il a des bureaux régionaux en Afrique, en Asie, en Amérique latine et au Moyen-Orient.

El Centro Internacional de Investigaciones para el Desarrollo es una corporación pública creada en 1970 por el Parlamento de Canadá con el objeto de apoyar la investigación destinada a adaptar la ciencia y la tecnología a las necesidades de los países en desarrollo. Su actividad se concentra en seis sectores: ciencias agrícolas, alimentos y nutrición; ciencias de la salud; ciencias de la información; ciencias sociales; ciencias de la tierra e ingeniería; y comunicaciones. El Centro es financiado exclusivamente por el Parlamento de Canadá; sin embargo, sus políticas son trazadas por un Consejo de Gobernadores de carácter internacional. La sede del Centro está en Ottawa, Canadá, y sus oficinas regionales en América Latina, Africa, Asia y el Medio Oriente.

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.

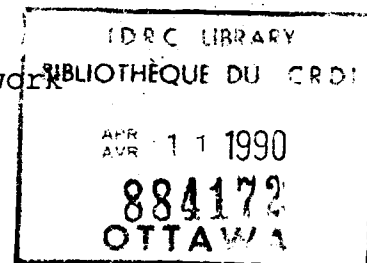
IDRC-MR252e
February 1990

**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 (<i>Albugo candida</i>) 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 ALEMAYEHU	72
The Achievements and Future of Brassica in Kenya. M.J.MAHASI	79
Rapeseed Adaptation Trials in Cyprus. A.HADJICHRISTODOULOU	83
The Rapeseed (<i>Brassica napus</i> 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 <i>B. juncea</i> . WANG ZAO MU and WANG YAN FEI	98
Report on the Execution of Sino-Canada Research Breeding Project. LIU CHENG QUING and HONG HAI PING	103

A Review of Orobanche Problem in Nepal. M.L.JAYASWAL	106
Oil Crops in Bhutan. TAYAN RAJ GURUNG	119
Brassica Production and Research in Pakistan. REHMAT ULLAH KHAN and MASOOD A.RANA	127
Summary and Wrap-up for Brassica Sub-Network Meeting. HUGH DOGGETT ..	130
Report on a Tour to Oilseed Brassica Growing Areas of India. GETINET ALEMAW	136
Discussions and Recommendations	138

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 (<i>Linum Usitatissimum</i> 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 (<i>Guizotia abyssinica</i> 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

HIGHLIGHTS OF THE SECOND INTERNATIONAL SAFFLOWER CONFERENCE HYDERABAD, INDIA FROM JANUARY 9-13, 1989

V. Ranga Rao

The Second International Safflower conference was held in India, the world's largest safflower growing country, from January 9-13, 1989 i.e. a gap of more than seven years after the first conference in Davis, University of California, USA (July, 1981). The venue of the conference was the historical city of Hyderabad, the capital city of Andhra Pradesh located in the heart of the country's safflower belt. The conference was organized by the Directorate of Oilseeds Research (ICAR) under the joint auspices of Indian Society of Oilseeds Research, a professional body of Oilseeds Workers engaged in research, development, processing, marketing and utilization of various oilseed crops. A number of international and national organizations like the International Development Research Centre, Food and Agriculture Organization, Cargil, MAHYCO, Indian Tobacco Company Limited and Bombay Oil Industries both from Private and Public Sectors co-sponsored the conference.

As compared to the limited participation in the first conference (total number of participants = 79), a large number of safflower growing countries in the world (17) both from the ancient centers of culture and recently adopted homes/centres in the five continents were represented in this conference; these include:

America: Canada (2), USA (3);
Oceania: Australia (2);
Asia: Pakistan (3), Turkey (1), Iran (2);
Africa: Kenya (1), Tanzania (1), Morocco (11), Egypt (1);
Europe: Italy (2), U.K. (1).

Dr. M. V. Rao, Special Director

General, ICAR, inaugurated the conference. One of the highlights of the opening session on 9th January was the presentation of a key note address "Global Perspectives of Safflower" by world's renowned scientist and the father of safflower Dr. P.F. Knowles, formerly Professor of Eminence (Agronomy), University of California.

The deliberations of the conference were spread over 7 technical sessions and covered a wide range of aspects, viz., (1) safflower in different countries (2) genetic resources conservation (3) genetics and breeding (4) agro-production (5) agro-protection (6) marketing, processing, utilization and production development and (7) food chemistry and nutrition.

Besides these, the program also provided for two panel discussions on areas of topical interest, viz., development of hybrid safflower; current status, problems, prospects and future priorities/thrusts (10th Jan.) and global perspectives of combating diseases with specific reference to alternaria leaf spot; current status, approaches and priorities (12th Jan.).

The conference indeed elicited a good response. There were in all 66 presentations of which 52 were oral presentation and others in the form of posters. The bulk of the presentations referred to above were in Session-I (16); III (15); V (8). The conference indeed provided a good forum for indepth discussions and exchange of ideas, information and experiences on various facets of safflower research, development, marketing, processing, utilization and production development and

identifying future research thrusts and critical areas of interest for global cooperation.

Based on the five day deliberations the conference made a number of recommendations of a considerable global importance and also suggestions/strategies for the development of safflower in the future. These, interalia, include:

1. Establishment of a global Safflower Advisory Committee on Genetic Resources with representation from major regions/centres of safflower production and genetic diversity.

The newly constituted committee consists of:

- 1) Prof. P.F. Knowles, (USA) Chairman
- 2) Dr. V. Ranga Rao, (India) Secretary
- 3) Prof. Dajue Li (China) Member
- 4) Dr. Hiruy Belayneh (Ethiopia) Member
- 5) Prof. A.Ashri (Israel) Member
- 6) Dr. R. Johnson (USA) Member

The conference empowered the committee to formulate its terms of reference in areas of relevance/interest, viz., coordination of germplasm acquisition and setting priorities for collection, organization of a network of active and base collection, establishment of a network of global data base including information on

collection, characterization and evaluation, revision of descriptors list, establishment of strategic research priorities, identification of training needs etc.

2. Setting up of an institute for all the neglected oil crops other than groundnut and soybean through the initiative and support of IDRC.
3. Organization of international screening nursery and cultivar testing through collaboration and support of IDRC.
4. Publication of updated hand book on diagnostic characteristics of various insect pests and disease of safflower through the support of FAO, IDRC and other funding agencies.
5. Documentation of available genetic resources in the world with the help of Directorate of Oilseed Research, Hyderabad.
6. Bring out safflower newsletter with the support of FAO, IDRC and other interested funding agencies.
7. The conference resolved to hold the 3rd International Conference on Safflower sometime in July/August, 1993 in China (Priority-I) or alternatively Australia (Priority-II).