Oil Crops: Brassica Subnetwork

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A BRIEF REPORT ON THE BRASSICA SUB-NETWORK

Basudeo Singh

Oil-producing Brassica species commonly known as rapeseed and mustard contribute over 13.2% to the world's total edible oil production. At present, it is the third most important edible vegetable oil source after soybean and palm. These crops have very wide adaptation in terms of soil and atmospheric temperatures, day length, altitude and geographical areas. The important rapeseed/mustard growing countries in the world are China, India, Pakistan, Bangladesh, Nepal in Asia; Canada, in North America; Czechoslovakia, Denmark, France, Germany, Poland, Sweden and U.K. in Europe. Australia and United States and perhaps South America may also become important countries for Brassica in the future if suitable varieties with disease resistance, quality oil and seed meal become available. The oilseed economy of many countries mentioned above is dependent upon oleiferous Brassicae.

Oilseeds economy of South Asia with the exception of Sri Lanka is linked with the fate of rapeseed-mustard research, development and production. As per the data reported in FAO year book 1988, the contribution of China, India, Pakistan and Bangladesh to the total area and production of rapeseed-mustard in Asia is well over 99% and to the total area and production in the world is 55.69 and 41.16%, respectively. This shows the importance of rapeseed-mustard as an edible vegetable oil source as well as its weakness in the productivity ranging from the low 594 (Bangladesh) to 1072 kg/ha (China). The relative contribution to the production is not commensurate with area. Hence, greater efforts are needed to enhance the productivity and stability at higher production levels by developing hybrids/synthetics with higher yields and greater resistance to important diseases and pests.

At the third Oilcrops Network Workshop held at Addis Ababa in October 1986, Dr. Geoffrey Hawtin, Director, AFNS, IDRC, raised two major questions:

- "Is the geographic and crop coverage too broad? Would it be better to concentrate on fewer countries and/or fewer crops? Perhaps more focussed "sub-networks" could be considered?"

- "Is it desirable to include crops such as rapeseed, on which much research has been done, together with relatively under-developed crops such as niger, sesame and linseed? Would it be more effective for rapeseed scientists to link more closely with other international associations on this crop?"

As a follow up action of the above two important suggestions made by Dr. Hawtin, a special Brassica Meeting was held at Swedish University of Agricultural Sciences, Uppsala (Sweden) on May 6-7, 1987. Nine scientists from 8 countries participated in the meeting, besides Dr. Hawtin, Dr. Ken Riley and Dr. Abbas Omran from IDRC. The main objectives of the meeting were to identify major rapeseed productivity constraints in Asia and Africa, facilitate germplasm exchange, identify common problems for collaborative efforts, determine the training needs of the member countries and constitute a Brassica Sub-network and its Steering Committee. The details of the deliberations and recommendations made at that meeting are included in the IDRC Manuscript Report - MR 168e. The progress made under each of the items of work plan was reported at the Fourth Oilcrops Network Workshop held at Njoro (Kenya) in January 1988 and included in the Manuscript Report - IDRC MR 205e, pp. 301-303.

The second Brassica Sub-Network meeting was held in India at Pantnagar on 4-6 January, 1989, attended by 29 participants from 10 countries including IDRC officers and local participants. All the country presentations and discussions were divided into 7 sessions. Detailed discussions took place on updating of priority problems from 1st meeting (MR
Sub-Network activities (follow-up on recommendations of 1st meeting), germplasm exchange, nurseries, training (breeding/agronomy, plant protection, quality, post-harvest technology and biotechnology), newsletter, Brassica bibliography, etc. The manuscript report is under preparation. The recommendations made at that meeting are listed below:

- Follow-up of the review on "Screening Breeding Techniques for Aphid Resistance in Oleiferous Brassicae."
- Prepare a review on "Screening and Breeding Techniques for Alternaria Resistance in Rapeseed and Mustard."
- Prepare a review on "Screening and Breeding Techniques for Drought Resistance in Rapeseed-Mustard."
- Prepare a "Coloured Technical Bulletin for Diseases and Insects of Rapeseed-Mustard."
- Report on Orobanche from Ethiopia to be shared with Nepal and Egypt.
- One-month training course on research methodology in rapeseed-mustard breeding to be organised at Pantnagar, India, 4-29 December, 1989. In all, 17 scientists from China, India, Bangladesh, Pakistan, Nepal, Bhutan, Kenya, Ethiopia and Egypt participated in the training. Future training needs were also discussed.
- Seeking nomination for one contact person for Brassica Sub-Network from each country.
- Next Network meeting to be held in China along with the China International Symposium on Rapeseed during April 1990.

Follow-up Actions on Various Recommendations

A. Reviews:

- "Review on Screening and Breeding for Aphid Resistance" has been written, published and supplied to Oilcrops Network Advisor for distribution.
- The reviewers for "Alternaria Resistance", "Drought Resistance" and "Coloured Bulletin on Rapeseed-Mustard Diseases and Insects" have been contracted and the writing is in progress. The manuscripts are likely to become available by June 1991.

B. Orobanche Report:

Orobanche report of Ethiopia has been shared with Nepal and Egypt.

C. Training:

As per recommendation, a training course on "Research Methodology in Agronomy and Breeding of Rapeseed-Mustard" was organized at Pantnagar, India, 4-29 December, 1989. In all, 17 scientists from China, India, Bangladesh, Pakistan, Nepal, Bhutan, Kenya, Ethiopia and Egypt participated in the training. Future training needs were also discussed.

D. Nomination of Contact Person:

Each member country of the Brassica Sub-Network was requested to nominate a contact person for Brassica Sub-Network. Nominations have been received from each country.

E. Third Brassica Sub-Network Meeting:

The third Brassica Sub-Network meeting scheduled for April 1990 in China is now being held as per the schedule for which all of us have assembled here today.

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