

February 1999



منظمة الأغذية
والزراعة
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联合国
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Food
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para la
Agricultura
y la
Alimentación

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Item 7 of the Provisional Agenda

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Eighth Regular Session

Rome, 19 – 23 April 1999

CROP-RELATED NETWORKS, SUPPORTED BY FAO

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CROP-RELATED NETWORKS, SUPPORTED BY FAO

1. Global networks

Global Network on Tropical and Sub-tropical Fruit Genetic Resources Conservation and Utilization - (REMUFRUT)

Links initiatives in various parts of the world on tropical and sub-tropical fruits, including under-utilized fruit genetic resources exploration, conservation and utilization.

1998: 2-3 April, Instituto Nacional de Investigaciones Agrícolas (INIA), Madrid, Spain. Technical meeting on the establishment of a structure of an international database on tropical and sub-tropical fruit genetic resources.

Global Citrus Germplasm Network (GCGN)

Established in December 1997 at an International Technical Meeting in Acireale, Italy. The network is strengthening on-going networking initiatives on citrus germplasm conservation and utilization, and is promoting new activities in different regions of the world. Existing regional and inter-regional citrus networks (Inter-America Citrus Network (IACNET), Mediterranean Citrus Network (MECINET) and those under constitution (Asia-Pacific and Sub-Saharan Africa) will participate in the Global Citrus Germplasm Network, as well as the Comité de Liaison de l'Agrumiculture Méditerranéenne (CLAM), and the Network of Services for Citrus Rehabilitation in Asia) and other regional networking initiatives (NeSCRA).

Four Working Groups have been established: conservation strategies; utilization of citrus germplasm, germplasm characterization; and global computerized information.

1998: 29 November - 3 December, Eilat, Israel, International Symposium on Citrus Biotechnology.

1998: activities for the implementation of a common germplasm management database system in Argentina and Uruguay.

International Technical Cooperation Network on Cactus Pear (CACTUSNET)

1997: *Opuntia* genetic resources survey in member countries; collaborative projects, within the framework of national programmes on *Opuntia* germplasm characterization.

1998: May, Peru. International Symposium, "Nopal (*Opuntia* spp.): Its Use and Application to Combat Desertification".

1998: September, Chile. International Symposium, "Cactus pear and nopalitos processing and uses".

1999: February, Angola. Cactus Pear Workshop for African Countries.

Global Mushroom Germplasm Conservation Network

Specific technical activities promoted under the Network include: collection, characterization and utilization studies on species and strains of edible mushrooms and related fungal organisms; development of conservation methodologies for mushroom germplasm; development of molecular techniques as tools (to be applied in association with morphological/taxonomic approaches) for characterization, and as markers for classification and certification of mushroom strains; data base establishment and maintenance.

1998: Bordeaux, France, 9-13 March 1998. International Meeting on the Conservation and Utilization of Genetic Resources of Mushrooms for Food and Agriculture and Second Meeting of the Board of Coordinators of the FAO Global Network on Mushrooms, organized by the Institut National de la Recherche Agronomique (INRA), with the participation of scientists from 14 countries.

Reviewed the mushroom genetic resources situation in different regions and developed a policy and strategy approach, with particular focus on Africa, to build up elements of a coordination mechanism to better guide research, and disseminate technical information.

International Council for Medicinal and Aromatic Plants (ICMAP)

1997: November, Argentina. Second World Conference on Medicinal and Aromatic Plants for Human Welfare.

1998: August. ICMAP Newsletter No. 5.

2. Inter-regional networks

Mediterranean Selected Fruit Inter-country Network (MESFIN)

1997: 5-8 August 1997, Madeira, Portugal. Plant Genetic Resources Meeting on the development of conservation and utilization priorities and an action plan for the promotion of a global cooperative mechanism among national institutions. Establishment of REMUFRUT (q.v.).

Network on Identification, Conservation and Use of Wild Plants of the Mediterranean Region (MEDUSA)

1997: May, Tunisia, second workshop. Eleven country reports received (900 species highlighted).

1997: Preparation of a project for the Common Fund on Commodities on the identification, conservation and utilization of germplasm; promotion of propagation material certification programme in member countries.

1998: 23-30 April, Coimbra, Portugal. Third workshop entitled "From information to practice - case studies".

Mediterranean Citrus Network (MECINET)

1997: 3-5 December, Acireale, Italy. International technical meeting, with the participation of scientists from 15 countries; constituted the GCGN.

FAO/CIHEAM (Mediterranean Agronomic Institute of Zaragoza, Spain) Inter-Regional Cooperative Research and Development Network on Pastures and Fodder Crops

1998: 19-22 October, Tunis, Tunisia. Technical meeting on *Medicago* in the Mediterranean region.

1999: March, Zaragoza, Spain. Technical meeting on fodder crops.

Inter-regional Network on Rice Research in the Mediterranean Climate Areas (MED-Rice)

1998: Promotion of collaborative research effort, and exchange of information and germplasm among rice research programmes in Mediterranean climate areas.

3. Regional networks: Africa**Southern and Eastern African Network for Underutilized Species (SEANUC) (in collaboration with the International Centre for Under-utilized Crops (ICUC) and the Commonwealth Science Council (CSC))**

1997: Information gathering on ten selected species; exploration and collection, conservation, utilization and exchange of genetic resources; collaborative research on prioritized topics.

Regional Network on Wetland Development and Utilization in Sub-Sahara Africa (WEDEM)

Development and utilization of rice-based food production systems in inland valley swamps.

West Africa Tropical and Sub-tropical Fruit Genetic Resources Network (WAFNET)

1998: 15-16 October, Accra, Ghana. First regional meeting, constituting the network, as part of REMUFRUT.

4. Regional networks: Near East**West Asia and North Africa Network on Plant Genetic Resources (WANANET)**

1997: 3-4 September, (International Centre for Agricultural Research in the Dry Areas ICARDA, Aleppo, Syria. Steering Committee.

1998: 9-11 February, International Plant Genetic Resources Institute (IPGRI)-CWANA (Office for Central and West Asia and North Africa), Aleppo, Syria. Meetings of horticultural crops, industrial crops and *in situ* biodiversity workings groups.

1998: 27-28 June, IPGRI-CWANA, Aleppo, Syria. Steering Committee meeting.

5. Regional networks : Asia and Pacific

Underutilized Tropical Fruits in Asia Network (UFTANET) (in collaboration with ICUC and CSC)

1997: Jackfruit consultation meeting; newsletter and other documents published; information distributed in electronic format; cooperative research activities on pummelo genetic resources in seven member countries.

Asian Network on Medicinal and Aromatic Plants (ANMAP)

1997: Expansion into upstream and downstream research and development on medicinal and aromatic plants, including utilization and technology transfer.

Tropical Asia Maize Network (TAMNET)

Regional, cooperative hybrid maize trials carried out annually. Two issues of a newsletter are published yearly.

1998: 27-29 October, Hanoi, Vietnam, TAMNET Meeting.

6. Regional networks: Europe

European System of Cooperative Research Networks in Agriculture (ESCORENA)

Nuts

1997-98: National participating institutions have collected and maintained *ex situ* collections of cultivars and wild relatives of seven nut species: almond, hazelnut, walnut, pistachio, pecan, chestnut and stone pine. Characterization and evaluation of accessions according to IPGRI descriptors for almond, walnut and pistachio. Where no internationally standardized descriptor lists are available, existing guidelines are followed (hazelnut, chestnut, pecan and stone pine). Information being compiled on existing germplasm collections. Germplasm inventory published in 1997, and three other catalogues (hazelnut, pistachio and walnut) being prepared.

Rice

1997: 11-13 September, Thessaloniki, Greece, Genetic Resources Workshop held with the participation of eight rice-producing countries of the Mediterranean Basin. During 1996 and 1997, European rice varieties tested as for resistance to pyriculariosis. Micro-satellites being used to characterize varieties. Genotype exchange and agronomic field-testing of new varieties carried out on a yearly basis, among participating countries.

Flax

1998: The Network has a Working Group on Breeding and Plant Genetic Resources, based in the Czech Republic. The International database on flax, prepared presently with 1416 accessions from eleven countries (Bulgaria, Czech Republic, France, Germany, Ireland, Netherlands, Poland, Romania, Russia, Ukraine and the USA). Twenty-eight European institutions cooperate in maintaining flax collections. New accessions are characterized by morphological and agronomical

characteristics as well as tolerance to *Fusarium* wilt. The Network links three institutes, which maintain an industrial hemp collection of 726 accessions.

Olives

1998: Olive collections of 11 Mediterranean countries being studied as to their varietal identity; databases on existing genotypes generated; research and development of molecular techniques, to distinguish genotypes; existing accessions in the “Banco de Germoplasma Mundial de Olivo” are being studied by oil characteristics, such as lipids composition, polyphenolic compounds and vitamin content. Three-hundred-and-twenty-four varieties each represented by four trees in two localities, are being evaluated, by seven different research teams, for pomological, agronomical and technological characteristics.

Cotton

1998: 6-12 September, Athens, Greece. Working Group on Biotechnology.

Sunflower

1998: Collection of wild sunflower species, in Yugoslavia, contains 900 populations; additional collections maintained in Bulgaria, France, Romania and Spain. Twenty-four hybrids newly obtained from Bulgaria, France, Hungary, Romania, Turkey, Yugoslavia and the USA were field tested in sunflower-cropping areas of Europe, Asia and North America. Wild *Helianthus* species continue to be evaluated for tolerance to drought, fungal pathogens, *Orobanche*, oil content and composition, to improve cultivated sunflower.

Oats

1998: Epidemiological studies conducted for eight years on the six major pathogens of oats in continental Europe and the Mediterranean Basin. From an accession of *Avena sterilis*, four genes have been identified that confer resistance against all pathotypes of crown rust, the major limiting factor in the production of oats for grain world-wide. Newly generated varieties are annually tested for resistance to major pathogens.

7. Regional networks: Latin America and the Caribbean

Technical Cooperation Network on Plant Biotechnology (REDBIO)

1998, 1-5 June, La Habana, Cuba. III Latin American Meeting on Plant Biotechnology. Objective: food security and plant biotechnology in Latin America and the Caribbean.

Latin American Network on Tropical Fruits (RELAFRUT)

1998: October, Cuba. Regional workshop for the establishment of RELAFRUT, under the aegis of FAO. A Sub-network on Tropical Fruits Genetic Resources was created. RELAFRUT will be an active member of REMUFRUT, and represented in its board.

Inter-American Citrus Network (IACNET)

1998: June, Cuba. A workshop on “Diagnosis and management of citrus diseases in support of the citrus certification programmes”.

1998: Preparation of thematic papers for a meeting of GCGN South American countries planned for June - July 1999 in Argentina.

Caribbean Committee for Management of Plant Genetic Resources for Food and Agriculture (CMPGR)

Network of national programmes in the Caribbean. Established the Caribbean Seed and Germplasm Resources Information Network (CSEGRIN).

Hybrid Rice Working Group in Latin America and the Caribbean (GRUTHA)

Promotes collaborative research among hybrid rice researchers, in Latin America and the Caribbean.