

**Report of a
Working Group
on Forages**

**Held in
Larissa, Greece
7-9 Feb. 1984**

**UNDP/IBPGR EUROPEAN
COOPERATIVE PROGRAMME
FOR CONSERVATION AND
EXCHANGE OF CROP
GENETIC RESOURCES**



International Board for Plant Genetic Resources



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EUROPEAN COOPERATIVE PROGRAMME FOR THE CONSERVATION
AND EXCHANGE OF CROP GENETIC RESOURCES

Forages Working Group

REPORT
of a Working Group held at the
Fodder Crops and Pastures Institute
Larissa, Greece, 7-9 February 1984

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The International Board for Plant Genetic Resources (IBPGR) is an autonomous, international, scientific organization under the aegis of the Consultative Group on International Agricultural Research (CGIAR). The IBPGR, which was established by the CGIAR in 1974, is composed of its Chairman and 16 members; its Executive Secretariat is provided by the Food and Agriculture Organization of the United Nations. The basic function of the IBPGR, is to promote and coordinate an international network of genetic resources centres to further the collection, conservation, documentation, evaluation and use of plant germplasm and thereby contribute to raising the standard of living and welfare of people throughout the world. The Consultative Group mobilizes financial support from its members to meet the budgetary requirements of the Board.

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INTRODUCTION

Following the agreement for Phase II of the European Cooperative Programme for the Conservation and Exchange of Crop Genetic Resources (ECP/GR) to be organized on the basis of crop working groups, priorities were identified by the Scientific Advisory Committee of Phase I and endorsed by the Governing Board meeting in Brussels in October 1982. A high priority was accorded for forage grasses and legumes. Accordingly, a Working Group was convened, at the invitation of the Fodder Crops and Pastures Research Institute, Larissa, Greece, 7-9 February 1984. A list of the participants is shown in Appendix I.

The participants were warmly welcomed by Dr. E.L. Stylopoulos, Director of the host Institute. Dr. J.H.W. Holden, Senior Adviser of the IBPGR was unanimously elected Chairman of the Working Group.

Dr. Holden indicated the need to formulate a detailed work plan for Phase II of the Forages Genetic Resources Programme (1983-86) and also continuing to Phase III (1986-89). The work plan should be the basis of the cooperative work among the member countries and would be recommended to governments by the IBPGR - the operating agency - with request for the implementation by appropriate genebanks or institutes within their countries. The Terms of Reference of the Working Group as defined by the Third Annual Meeting of the Governing Board (December 1982) are set out in Appendix II.

REPORT

A brief summary of the conclusions reached and the Working Group's recommendations to achieve the aims of the programme are set out in following sections.

1. Descriptor lists for grasses and forage legumes

The Working Group considered the draft descriptor lists which had been produced by the subcommittees on grasses and legumes of the EEC Committee on Disease Resistance and better use of Gene Banks and by the IBPGR. These descriptor lists resulted from lengthy discussions by the experts on the two subcommittees and the Chairman proposed that the Working Group should, if possible, adopt them as the basis for their work, on the understanding that they were subject to amendment if this became necessary in the light of practical experience.

In addition, the Secretariat presented a joint grass/legume descriptor list in which all passport data had been amalgamated and the characterization and evaluation sections were presented separately.

The Working Group discussed the merits of the combined and separate presentations and it was recommended that the matter be left to IBPGR/EEC who would finance the publication of the descriptor lists.

Various criticisms and suggestions were made regarding passport descriptors. These comments were designed to improve the accuracy and value of the recorded data and were noted by the Secretariat for inclusion wherever possible in the published lists.

A lengthy discussion took place on the characterization and evaluation sections of the legume descriptor list. The relevance and utility of certain descriptors was questioned and agreement was reached on a minimum number of amendments to the EEC/IBPGR draft.

2. Forages directory

The Directory of Germplasm Resources - Forages (Grasses, Legumes,) prepared by Mr. Ellis Davies, IBPGR Forages Officer, was presented to the meeting and considered and recommended for publication after necessary updating. In addition, an abstract of the

entries relating to European Collections was given as a working paper (Appendix III). This was considered in detail and updated where necessary. The view was expressed that, in a number of cases where a very large number of accessions were recorded, the figure probably included breeders' lines and that while the summary gave an impression of the scale of European forage holdings, the true picture would only emerge following registration of individual lines in the data bases.

3. Definition of minimum passport data for preliminary identification of duplicates in different collections

After a critical discussion it was agreed by the Working Group that only eight passport descriptors were necessary in the first instance, for the identification of replicates due principally to exchanged accessions between genebanks. The Working Group recognized that the problem of replication of identical material in different collections was probably not as serious in forage grasses and legumes as in some other crops, but that, nevertheless, a step-by-step approach to the registration and processing of data should be adopted. As a second step it is envisaged that registration of full passport data should follow for selected accessions, and in this way the registration and processing of unnecessary data will be avoided.

4. Transfer of data from collections to a central data base

The problem of easy and rapid transfer of data from collections to the species/genus data base was examined and the Working Group made the following recommendations:

4.1 A minimum passport data sheet (Appendix IV) be circulated from ECP/GR Secretariat through Country Contacts to all institutions having forage collections.

4.2 That for collections of less than 200 accessions the data should be transcribed manually on to these forms and sent direct to the nominated species data base as directed on the form.

4.3 For collections of more than 200 accessions, data should be sent:

4.3.1 on diskettes between institutes with fully compatible hardware;

4.3.2 on magnetic tape (9 track, 1600 b.p.i. and IBM format) between institutes with incompatible hardware. An explanatory note will be attached to the minimum passport data sheet giving necessary instructions for correct reading by data bases; and

4.3.3 for institutes with equipment which is incompatible with that in the species data base, and which lack facilities for transferring data to magnetic tape, that (i) where the data is recorded on Apple II equipment it should be sent on diskettes to IBPGR for transfer to magnetic tape and (ii) where it is registered in other types of equipment, the ECP/GR Secretariat should be notified. They will make other arrangements for conversion on to tape.

4.4 Cases of data transfer which are not covered by the arrangements outlined above should be referred to the Secretariat for advice and assistance.

4.5 It was further recommended that data bases should be active in stimulating genebanks to provide the necessary data so that the momentum of the programme can be maintained.

4.6 A survey of computer facilities available in countries and institutes was compiled from the knowledge of members of the Working Group and is given in Appendix V. The purpose of this survey was to enable the Working Group and collaborating institutes to predict the occurrence of incompatible interactions between equipment in institutes holding collections and the data base in the transfer of data in computerized form.

5. Central data bases for species or genera

Having regard to the known interests of institutes or genebanks for particular species or genera and to the computer facilities available at these institutes, the Working Group recommends that the Secretariat requests the following organizations to assume responsibility for the registration and processing of the preliminary passport data of the species or genera as listed below:

5.1 Forage Legumes:

Medicago sativa, M. falcata, M. media, Institut National de Recherche Agronomique (INRA), France; alternativa, Institute of Plant Introduction and Genetic Resources, "K. Malkov" Sadovo, Bulgaria.
Medicago annual species, Instituto Nacional de Investigaciones Agrarias, (INIA), Badajoz, Spain.

Trifolium pratense, Federal Research Station of Changins, Switzerland; alternativa, Nordic Gene Bank (NGB), Lund, Sweden.

Trifolium repens, Welsh Plant Breeding Station, (WPBS), Aberystwyth, Wales, UK.

Trifolium subterraneum, INIA, Badajoz, Spain.

Vicia sativa and other Vicia spp., INIA, Zaragoza, Spain; alternativa, Aegean Regional Agricultural Research Institute, (ARARI), Izmir, Turkey.

5.2 Grasses:

Lolium perenne, L. multiflorum, WPBS, Aberystwyth, Wales, UK.

Lolium annual species, Laboratorio del Germoplasma, Consiglio Nazionale delle Ricerche, (CNR), Bari, Italy.

Dactylis spp., Plant Breeding and Acclimatization Institute, (IHAR), Radzikow, Poland.

Festuca spp., IHAR, Radzikow, Poland.

Bromus spp., Research Centre for Agrobotany, Institute for Plant Production and Qualification, (RCA) Tapioszele, Hungary.

Poa spp., Gene Bank Federal Research Centre of Agriculture, (FAL), Braunschweig, Federal Republic of Germany

Phleum spp., Nordic Gene Bank (NGB), Lund, Sweden.

Phalaris tuberosa, Laboratorio del Germoplasma, CNR, Bari, Italy, alternativa, INIA, Badajoz, Spain.

The EGP/GR Secretariat should endeavour to obtain agreement to these proposals by June 1984.

The Working Group hopes that the institutes listed above will continue to assume responsibilities for the designated species in the subsequent registration of complete passport data.

6. Identification of duplicates

The Working Group expects that after the registration of preliminary passport data, which should be completed by January 1985, obvious duplicates will be identified by the data bases. The next stage will be the registration of full passport data using descriptors from the IBPGR/EFC lists for all accessions except those obvious duplications which have resulted from seed exchange between genebanks.